

# NORTHEAST FISHERIES SCIENCE CENTER NORTHEAST FISHERIES OBSERVER PROGRAM MANUAL 2013



Photo: Observer measuring a sea robin



Photo: Observer completing data logs



Photo: Observer recording safety information

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Superscript indicates relevant programs for that section:  
N = Northeast Fisheries Observer Program (NEFOP)  
I = Industry Funded Scallop Program (IFS)  
A = At Sea Monitoring Program (ASM)

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## Paperwork Reduction Act Statement

Information collected through the observer program will be used to: (1) monitor catch and bycatch; (2) understand the population status and trends of fish stocks and protected species, as well as the interactions between them; (3) determine the quantity and distribution of net benefits derived from living marine resources; (4) predict the biological, ecological, and economic impacts of existing management actions and proposed management options; and (5) ensure that the observer programs can safely and efficiently collect the information required for the previous four uses. In particular, the observer program provides information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. Most of the information collected by observers is obtained through “direct observation by an employee or agent of the sponsoring agency or through non-standardized oral communication in connection with such direct observations”.

Under the Paperwork Reduction Act (PRA) regulations at 5 C.F.R. 1320.3(h)(3), facts or opinions obtained through such observations and communications are not considered to be “information” subject to the PRA. The public reporting burden for responding to the questions that observers ask and that are subject to the PRA is estimated to average 74 minutes per trip, including the time for hearing and understanding the questions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. However, depending on the fishery and trip duration, the public reporting burden can range from 4-250 minutes per trip. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Amy Van Atten, National Marine Fisheries Service, Northeast Fisheries Science Center, Fisheries Sampling Branch, 166 Water Street, Woods Hole, MA 02543-1026. Providing the requested information is mandatory under regulations at 50 C.F.R. 600.746 for the safety questions and at 50 C.F.R. §600.725, §600.746, §648.11; 16 U.S.C. 1387 §118; 16 U.S.C. 1531 *et seq.*, 16 U.S.C. 742a §222 for the other questions. All information collected by observers will be kept confidential as required under Section 402(b) of the MSA (18 U.S.C. 1881a(b)) and regulations at 50 C.F.R. Part 600, Subpart E. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

## Introduction

The National Marine Fisheries Service (NMFS) Northeast Fisheries Science Center (NEFSC) Fisheries Sampling Branch (FSB) collects, maintains, and distributes data for scientific and management purposes in the northwest Atlantic Ocean. FSB manages three separate but related observer programs: the Northeast Fisheries Observer Program (NEFOP), the Industry Funded Scallop (IFS) Observer Program, and the At Sea Monitoring (ASM) Program. For the purposes of this manual, “observers” refers to any observer/monitor working for the FSB.

In 2011, FSB trained and deployed over 200 observers, provided coverage on a variety of fisheries, and completed over 15,000 sea days. Observed trips are required under many of the region's fishery management plans, and for some fisheries by other federal laws and authorities such as Amendment 16 and Framework 44, Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, the Endangered Species Act, the and the Sustainable Fisheries Act.

The purpose of this guide is to provide FSB observers, as well as end users of NEFSC Observer Program data, with a detailed description of each data field collected. In addition to this manual, the NEFSC Observer Program Biological Sampling and Catch Estimation Manual provides summaries and tables intended to enable observers to quickly determine the correct sampling protocols and methods while at sea.

This manual represents a revision of the data forms, collection procedures, and protocols described in the 1996 NEFSC Observer Program Manual. For documentation of other changes see Documentation of changes made to the NEFSC Fisheries Observer Program Manual, 2013.

### Using this Manual

Each section in this manual corresponds to a data collection log or worksheet. The logs labeled “NMFS NEFSC Fisheries Observer Program” are intended for use on NEFOP and IFS trips, whereas the logs labeled “NMFS NEFSC At-Sea Monitoring Program” should be used on ASM trips. In many cases, the ASM logs represent a subset of the data fields collected on NEFOP and IFS trips. The instructions for each data field are the same for all programs, unless otherwise noted.

At the beginning of each section is a short introduction, including any relevant background information. A short list of definitions may be included. A complete list of definitions can be found in the Glossary. Each log/worksheet is shown three times: the first is coded with numbers and/or letters that correspond to the section instructions; the second is an example of a filled-out log; the third is a blank copy of the log. If a separate ASM log exists for a section, the examples/copies will be included *after* the NEFOP/IFS logs.

The appendices contain useful information such as code lists, charts of statistical areas, and alternate common names for species. This information is the same for all programs, however not all appendices will be applicable to all programs.

## **Why Sample Catches at Sea?**

Landings from commercial fishing trips have been sampled in Northeast ports for more than 100 years. However, identifying the species and numbers of fish landed and sold in our ports is only part of the story. Managing fisheries and the effects of fishing on the ecosystem requires information not only about what is landed, but also about what is not landed. We also need to know when and where and in some cases, how these fish are caught. The objectives of the Fisheries Sampling Branch are to collect operational fishing data, biological data, and economic data from the various fisheries. Additionally, in support of the Marine Mammal Protection Act and the Endangered Species Act, the observer records interactions with protected and endangered species to ensure continued survival of these animals.

## **Estimating Takes of Protected Species**

Marine mammals, sea turtles, and sea birds are protected under a variety of federal statutes intended to reduce the risk of harm to these animals by fishing and other human activities at sea. Chief among these statutes are the Marine Mammal Protection Act and the Endangered Species Act. FSB monitors marine fisheries to identify those that take protected species and, if necessary, help develop ways to reduce these takes. [Note: the term “take” is defined in the Marine Mammal Protection Act as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal”. It has a similar meaning under the Endangered Species Act, which applies to all wild plants and animals, including those in the ocean.] Fisheries observers document each take of a protected species during a fishing trip, as well as other catch and discard information, when possible. Total takes of protected species can be estimated from the samples obtained on observed trips in a particular fishery, and expanded to the whole fleet.

## **Estimating Discard of Fishery Resources**

Catches brought aboard fishing vessels are typically sorted by marketable species and sizes, and the rest of the catch is thrown back, or discarded. Discarding may occur for a number of reasons: fish may be smaller or larger than the allowable legal size, fish may have little or no market value, some species can't be legally possessed (*e.g.*, marine mammals and protected fish species), or the vessel may have already caught its limit for the trip. To get an accurate picture of the status of a fish stock, and the influence of fishing on the ecosystem, it is important to gather biological information not only about what and how much is removed from the ecosystem through landings, but also about what is discarded.

Accompanying fishermen on regular commercial trips is the most reliable method of acquiring data on the quantity and species composition of discards, as well as information on the specific reasons why animals are discarded and under what conditions discarding occurs. With these data, it is possible to better understand the effects of fishing on the whole stock, and to better estimate the potential biological and economic benefits of changes in methods of managing the fishery such as minimum legal sizes and trip quotas for individual species.

## **Getting Biological Information about the Catch**

Biological information form the basis of what we know about fish population changes over time. Examples include weights, lengths, and ages of individual fish. These data are collected annually from fisheries-independent scientific surveys conducted by the Northeast Fisheries Science Center. Information about these scientific surveys can be seen at the NEFSC Ecosystems Survey Branch website. The Fisheries Sampling Branch collects fisheries-dependent data from the discarded as well as retained portion of a vessel's catch. This allows scientists to characterize catch by species, size, age, gender, and frequency, and then use that information, in conjunction with that from other data sources, to compile a picture of the entire population.

## **Monitoring Experiments and Experimental Fisheries**

The fishing industry is always looking for methods to reduce the incidental catch of unwanted species, including protected species. Conducting and evaluating the performance of a novel or experimental gear is

another responsibility of fisheries observer programs. Sometimes it is possible to reduce unintended catch during fishing operations by changing the way gear is constructed and/or used. To properly evaluate new gear types and methods, an experimental version must be tested under a variety of conditions likely to be encountered during a typical commercial trip. Testing not only demonstrates what effects are achieved, but also whether the gear can be safely and efficiently used.

### **Learning about the Economics of Fishing**

What is the economic health of a fishery? Revenue data (*e.g.*, landed value) collected from fishermen and dealers in the ports provide the income side of the economic equation. However, data on the costs of fishing are equally important. Observers gather information from vessel owners and captains regarding the costs of items used on a trip (*e.g.*, ice, fuel, gear, and bait), and fixed costs (*e.g.*, repairs). The intent of these studies is to better understand the economic health and efficiency of fishing. This information is extremely important in the fishery management process, because it allows quantitative analyses of economic impacts of various management options. Federal rules require that the economic benefits of regulation exceed the costs of such measures. Net economic benefits to the nation comprise benefits and costs to the producers (*e.g.*, fishermen), and benefits and costs to the consumers. Fisheries observer programs provide an important source of contact with knowledgeable individuals in the industry best able to provide these data.

### **Measuring Gear Performance and Characteristics**

When fishery observers are deployed aboard commercial vessels, they take measurements of various attributes of the fishing gear, including how it is rigged and deployed. These measurements are important for two reasons. First: by documenting variables such as mesh size, number of hooks, time of trawl tow, hanging dimension (*e.g.*, square vs. diamond mesh) etc., in relation to catch attributes (*e.g.*, quantity, species composition, size distribution of catch) it is possible to conduct statistical analyses of the factors that result in high (or low) rates of discard, species mix, changes in catch rate, etc. Second: gear performance observations, when collected over time, can be used to better calibrate catch-per-unit-effort abundance measures. For example, if the average size of nets, duration of tow, etc., change over time, these may have a direct effect on catch per day fished by the fleet (even for same sized vessels). Given sufficient information, these factors can be included in stock assessment analyses to provide a more complete and accurate picture of fishing intensity and effectiveness.

### **Keeping up with Fishermen**

The fisheries observer programs have always provided an excellent channel for communication between fishermen and fishery scientists. In the 1970s and 1980s, some scientists went along on commercial trips for specific experiments or simply to obtain first-hand knowledge of fishing operations. Although valuable to the scientists, the resulting data came from only a few dozen trips in a year. Today's observer programs are larger and more comprehensive in both the frequency of trips and the types of data collected. The programs remain an important link between scientists and fishermen. Ideas, complaints, and information communicated between observer, captain, and crew are a valuable source of information for all parties.

The fisheries observer program is a proven, valuable source of information on the region's fisheries, unobtainable by any other means. Data acquired by this program have been important in identifying the species and size selectivity of several marine fisheries in the Northeast, and in reducing bycatch of protected species. Furthermore, these data have improved biological and economic assessments of the region's fisheries.

The cooperation of vessel owners, captains, and crew in taking observers onboard and supporting their data collection is instrumental in the success of this program. Most recognize that the goal of the program is to provide managers with the data needed to ensure a sustainable fishery for generations to come.

## Pre Trip Vessel Safety Checklist Log

This Pre Trip Vessel Safety Checklist (PTVSC) is a detailed log of the safety equipment and safety practices onboard a vessel. All fields on this log are required to be completed before the departure of a trip, with the exception of items 4, 18, and 19 which must be completed at the end of the trip.

For your safety, and the safety of others, it is imperative that you record the correct expiration dates for safety equipment. Safety equipment and decal expiration dates for individual vessels are monitored and compared with previous trip data to maintain a consistent and accurate database. Irregularities will be investigated. If the USCG Safety Examination Decal is missing and can't be verified by some other form of legitimate documentation, or has expired **you may not deploy** on the vessel.

In addition, **it is mandatory that the following items be current** (not expired) when onboard a fishing vessel, in order for the observer to deploy:

- personal floatation devices/immersion suits,
- ring buoys or other allowable flotation,
- distress signals,
- fire extinguishing equipment,
- EPIRB, and
- survival craft with sufficient capacity to accommodate the total number of persons, including the observer, that will embark on the vessel.

At any time, the observer has the right to refuse deployment based on any safety concern, regardless of whether it is, or isn't, covered on the PTVSC. If you refuse a trip based on safety concerns/reasons you must follow the Safety Deficiency Reporting procedures.

DO NOT make any markings or notes outside of the designated areas on the front of the log. If you have comments, record them in the appropriate box in the comments section on the back of the log. If information is unavailable or unknown regarding a piece of safety equipment or safety practices, leave the associated box(es) blank and comment in the comments section on the back of the log. DO NOT record partial numbers or partial dates. ONLY make comments regarding legitimate safety and stability concerns or an explanation as to why a field was left blank. All equipment expiration dates are to be recorded in the MM/YY format (2-digit month and 2-digit year). DO NOT put slashes (/) or dashes (—) in any of the boxes when recording expiration dates.

### Instructions

**1. VESSEL NAME:** Record the name of the vessel to which you are deployed. Leave a space between individual words and/or names. Care should be taken to record the correct spelling of the vessel's name.

**2. TRIP ID:** Record your three character Observer Identifier combined with the three character Trip Number and one character Trip Extension.

**3. HULL NUMBER:** Record the number written on the hull of the vessel to which you are assigned. This number will be either the U.S. Coast Guard Documentation Number or the state registration number. This number may have up to eight (8) characters.

**4. DATE LANDED:** Record the month, day and year (MM/DD/YYYY format) that the vessel first arrives in port at the completion of your deployment.

**5. VESSEL ORIENTATION:** Did you conduct a vessel walk through? At a minimum, a safety orientation is required for every deployment. Mark the appropriate checkbox:

Y = Yes.

N = No.

Examples of things to take notice of during a vessel walk through are listed on the back of the log and in the "Vessel Orientation Guide" on page 5.

**6. CURRENT USCG COMMERCIAL FISHING VESSEL SAFETY EXAMINATION DECAL:** Is there a current USCG Commercial Fishing Vessel Safety Examination Decal? Mark the appropriate checkbox:

Y = Yes.

N = No.

Record the Safety Decal Number and the expiration date (MM/YY format). If you cannot obtain the expiration date or number, you must ask the captain for another form of documentation that lists the information to complete the field(s). If the captain does not have any other form of documentation you may contact FSB staff and request they search the USCG database for Safety Examination verification.

**7. EMERGENCY POSITION INDICATING RADIO BEACON (EPIRB):** Is there an EPIRB onboard the vessel? Mark the appropriate checkbox:

Y = Yes.

N = No.

NR = Not Required.

If the EPIRB is contained in a housing unit, ask the captain or a qualified crew member to remove the housing for you. Do not remove the housing or the EPIRB from the bracket yourself. Record the hydrostatic release and battery expiration dates (MM/YY format), issue an EPIRB Visual Inspection Card (EVIC), check off 'Visual Inspection' as the inspection method on the back of the loglog, and record the EVIC number and date issued.

If the EPIRB does not have a hydrostatic release (Category II, manual activation), leave the hydrostatic release expiration date field **blank**, and comment on the back of the log. Category II EPIRBs are only approved for vessels less than 36 feet or vessels manufactured with inherently buoyant material. If the "not required" field is checked leave expiration dates blank.

If a previously issued EPIRB Visual Inspection Card (EVIC) is used to verify the EPIRB expiration dates, leave the expiration date fields blank and fill in the appropriate box on the back of the log with the EVIC number and date issued (MM/YY format). If USCG documentation is used to verify the expiration dates, record the expiration dates in the appropriate fields, check off USCG documentation as the inspection method on the back of the log and make a comment in the comments section.

**8. EPIRB UNIQUE IDENTIFICATION NUMBER (UIN):** Does the alphanumeric UIN code on the NOAA Search and Rescue Satellite Aided Tracking (COSPAS-SARSAT) decal match the UIN printed on the EPIRB or EPIRB paperwork? Mark the appropriate checkbox:

Y = Yes.

N = No.

The UIN on the NOAA COSPAS-SARSAT decal should match the UIN printed on the EPIRB (or EPIRB materials/paperwork from the manufacturer) as this is the only means to linking the EPIRB to the Search and Rescue database.

**9. EPIRB REGISTRATION:** Is the EPIRB registered to the vessel or vessel owner? Mark the appropriate checkbox:

Y = Yes.

N = No.

EPIRB owner information is located on the NOAA COSPAS-SARSAT decal under "Owner", and should match the name of the vessel or vessel owner. When the EPIRB is activated, it will transmit

the UIN, which is used to identify the registration information associated with the EPIRB owner. When an EPIRB is correctly registered, it can greatly enhance Search and Rescue efforts.

Record the NOAA COSPAS-SARSAT registration expiration date (MM/YY format). If you cannot obtain the expiration date, you must ask the captain for another form of documentation which lists the expiration date.

**10. LIFE RAFT(S):** Is there a life raft present onboard the vessel? Mark the appropriate checkbox:

Y = Yes.

N = No.

NR = Not Required.

Record the hydrostatic release and raft service expiration dates (MM/YY format). Record the raft capacity and verify that it is sufficient for everyone onboard. If the life raft is considered "float free" and does not have a hydrostatic release, leave the hydrostatic release expiration date field blank and comment on the back of the log. If the life raft is a hard shell "pod" or "egg" style and there are no annual servicing requirements, leave the raft service expiration date blank and comment.

Vessels are not required (NR) to carry a life raft in the case where ALL three of the following conditions are met:

1. The vessel is operating less than twelve (12) miles from the coast,
2. There are fewer than three (3) people onboard, and
3. The vessel is less than thirty-six (36) feet in length.

All other vessels must have some type of survival craft onboard. If the "not required" field is checked leave expiration dates blank.

**11. LIFE RAFT CONFIGURATION:** Is the life raft configured correctly? Mark the appropriate checkbox:

Y = Yes.

N = No.

NR = Not Required.

If the liferaft has a hydrostatic release, use the picture on the back of the log as a reference for the proper configuration. A "float free" liferaft will not have a hydrostatic release; however, the painter line will instead be attached to a weak link and secured to the deck or cradle with a shackle.

If the vessel does not have a life raft (all previously listed criteria are met) or has a buoyant apparatus, mark the “NR” checkbox.

**12. IMMERSION SUITS AND PERSONAL FLOTATION DEVICES:** Are there enough immersion suits and personal flotation devices for everyone onboard? Mark the appropriate checkbox:

Y = Yes.

N = No.

PFDs are required to be worn by the observer while out on deck.

**13. LIFE RINGS:** Are there life rings onboard the vessel? Mark the appropriate checkbox:

Y = Yes.

N = No.

NR = Not Required.

Vessels less than 26 feet in length are required to have a cushion life ring. Vessels greater than 26 feet and less than 65 feet are required to have one life ring buoy. Vessels greater than 65 feet are required to have three life ring buoys.

**14. FIRE EXTINGUISHERS:** Are there a sufficient number, and type, of fire extinguishers onboard the vessel? Mark the appropriate checkbox:

Y = Yes.

N = No.

NR = Not Required.

Fire extinguishers are not required (NR) on vessels with an outboard motor which are less than 26 feet in length and have a portable fuel tank.

**15. EMERGENCY SIGNALING FLARES:** Are there signaling flares onboard the vessel? Mark the appropriate checkbox:

Y = Yes.

N = No.

If the vessel is operating less than three miles from the coast it is required to have a night light and smoke flares or three day/night flares onboard. If the vessel is operating more than three miles from the coast it is required to have three parachute flares, six hand held flares and three smoke flares. Check number, type and expiration dates.

**16. FIRST AID MATERIAL:** Is there a first aid kit and/or first aid material onboard the vessel? Mark the appropriate checkbox:

Y = Yes.

N = No.

**17. RADIO(S):** Are there marine communication radios onboard the vessel? Mark the appropriate checkbox:

Y = Yes.

N = No.

**18. STABILITY:** Were there any stability concerns/issues, either because of fishing behavior or vessel design, during the trip? Mark the appropriate checkbox:

Y = Yes.

N = No.

On the back of the log are some examples of things to consider when assessing the stability of a vessel. If you answer “Yes”, you must provide comments in the stability comments section on the back of the log.

**19. ADDITIONAL COMMENTS?:** Did you record any safety related comments on the back of the log? Mark the appropriate checkbox:

Y = Yes.

N = No.

If you left any box(es) blank or and any SAFETY RELATED concerns, you must record comments in the comments section on the back of the log.

**20. EPIRB VERIFICATION METHOD:** Indicate which method was used to verify the presence and expiration dates of the EPIRB.

Check off the first box if a visual inspection was completed. If you issue an EVIC after completing your visual inspection, record the number and date (MM/YY format) of the issued EVIC in the boxes.

Check off the second box if a previously issued EVIC was used and record the EVIC number and date (MM/YY format) that was issued.

Check off the third box if approved USCG documentation was used and **do not** issue an EVIC.

### EPIRB Visual Inspection Card (EVIC)

To issue a EPIRB Visual Inspection Card (EVIC), an observer **must** visually inspect the EPIRB and accurately record the hydrostatic release, battery, and NOAA Sarsat expirations dates, and confirm that the UIN on the NOAA Sarsat decal matches the UIN printed on the EPIRB. Record this information on the front of the PTVSC. **Always** ask the captain for assistance to remove the EPIRB from the housing unit or mounting bracket.

Record the expiration dates on the front of the PTVSC (not on the EVIC) by completing the appropriate sections (# 7, 8, and 9). Shade the first box (“visual inspection”) on the back of the PTVSC as the method used to verify the EPIRB dates and record the EVIC number and date issued (# 20).

When completing the EVIC, please note that there are two sections (see Figure 1). Complete the top section if the hydrostatic release, battery, and NOAA Sarsat registration **will not** expire over the next 90 days. Complete the lower section if one or more of those items **will** expire over the next 90 days. Only complete one section. **Only record the expira-**

**tion dates if either of the items expire within 90 days.** Record your observer ID and sign the bottom portion of the EVIC.

Explain the purpose of the card to the captain. Inform the captain that the card is good for 90 days and recommend that the card is kept in an accessible area to show to future observers. The EVIC is for EPIRB information purposes only; no other dates or information should be recorded on this card.

You may visit a vessel the day before departing on a trip to complete the PTVSC and issue an EVIC. Included that information with the trip data, completed per above instructions.

Figure 1: EPIRB Visual Inspection Card (EVIC)

00001

EPIRB VISUAL INSPECTION CARD  
 NMFS NORTHEAST FISHERIES OBSERVER PROGRAM

On \_\_\_\_\_ (mm/dd/yy), onboard the F/V \_\_\_\_\_ (vessel name), I visually inspected the expiration dates for the Emergency Position Indicating Radio Beacon (EPIRB) hydrostatic release, battery and NOAA Sarsat registration. These items will NOT expire during the next 90 days, which will be on \_\_\_\_\_ (mm/dd/yy). I also verified that the UIN on the NOAA Sarsat decal matches the UIN code on the EPIRB.

- - IF ITEMS WILL EXPIRE WITHIN 90 DAYS LIST DATES BELOW - -

EPIRB hydrostatic release : \_\_\_\_\_ (mm/yy)    EPIRB NOAA Sarsat registration: \_\_\_\_\_ (mm/yy)

EPIRB battery expiration date: \_\_\_\_\_ (mm/yy)

---

Observer Id: \_\_\_\_\_    Observer signature: \_\_\_\_\_

This card is for the vessel's records and may be presented to subsequent observers when completing their PRE TRIP VESSEL SAFETY CHECKLIST and safety orientation. Observers are not to open or handle the EPIRB to obtain these dates. Observers are not to record the expiration dates for other safety equipment on this form. The captain or other designee must handle the EPIRB. The USCG encourages monthly inspections of your EPIRB. OMB Control No. 0648-0593 thru 11/30/2015



## Vessel Orientation Guide

The following is a list of examples of important things to consider while doing a vessel walk through. It is a requirement for the captain or a designated crew member to conduct at least one of the following for an observer:

1. vessel orientation,
2. review safety instructions, or
3. conduct a safety drill.

The following list should assist you in determining the relative safety of a particular vessel. The list is not comprehensive, but one that is intended to start you thinking.

- Does the vessel seem well maintained? Is it neat, clean and being maintained by a careful and prepared crew?
- Are there any visible hydraulic leaks?
- Is the vessel being used for the purpose it was originally designed? Have significant changes been made?
- Do obvious hazards exist? Note potentially hazardous areas/conditions. ALWAYS USE CAUTION AROUND WINCHES.
- Identify water tight doors. Can they be secured in case of severe weather or emergencies?
- Are the hatches or passageways blocked or difficult to get to?
- Does the deck gear appear to be in good working condition? Identify unsafe areas. Note overhead wires or rusted/worn shackles or blocks.
- Is the vessel long overdue for a haul out (excessive growth at waterline or hull paint in poor condition)?
- How often is the bilge pump going on?
- How is the fish hold covered? Is hatch readily available and in good condition? Are there other openings in the deck and are good hatches in place or readily available?
- Would anything prevent you from abandoning ship from the living quarters?
- What are the escape routes from every part of the vessel you might find yourself?
- Visualize egress for all possible scenarios (fire, flooding, capsized, dark, etc.) and mentally note landmarks.
- What are the most combustible items on board and where are they stored?
- Are there any exposed exhaust pipes/manifolds that might pose burn hazards?
- Is there heavy equipment on deck that is not latched down?
- Are there any exposed drive chains, pulleys or belts?
- Would you be able to access the life raft if conditions were icy or the wheelhouse was on fire?
- Wood hulls: Rust stains between planks?(may indicate weak fasteners). Protruding planks or inconsistencies in the hull? (may indicate broken frame/fasteners). Wood rot present? (if yes, likely to be worse in unseen areas).
- Are there safety issues involved with boarding?
- Is the number and size of the scuppers sufficient to be effective? Do they become plugged during fishing practices?
- Is there a station bill posted and is your role clear during all shipboard emergencies?
- Are there emergency instructions, or did the captain (or designee) give safety orientation, explaining the following: survival craft embarkation stations; survival craft assignments; fire/emergency/ abandon ship signals; procedures for rough weather; procedures for recovering man overboard; procedures for fighting fire; essential actions required of each person in an emergency?

Vessel name **1**

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Trip ID **2**

--	--	--	--	--	--	--	--	--

Hull number **3**

--	--	--	--	--	--	--	--	--	--

Date landed (MM/DD/YYYY) **4**

--	--	--	--	--	--	--	--	--	--	--	--

Northeast Fisheries Science Center, Fisheries Sampling Branch  
**PRE TRIP VESSEL SAFETY CHECKLIST (PTVSC)**  
 For each safety item shade **■** in the appropriate box.  
*Y = yes, N = no, NR = not required*

It is **MANDATORY** that all safety items on board a fishing vessel that are highlighted in **BOLD** print be current (not expired) in order for an observer to deploy on a trip.

Please comment on any safety or stability related issues in the provided spaces on the back of the PTVSC

**Y N NR**

**5 Vessel Orientation**

**6 Current USCG Commercial Fishing Vessel Safety Examination Decal**

*\*Required for all vessels carrying an observer on board*

Safety Decal Number 

--	--	--	--	--	--	--	--	--

 Expiration 

--	--	--	--

 (MM/YY)

**7 Emergency Position Indicating Radio Beacon (EPIRB)**

*\*Required for all vessels operating beyond 3 miles*

Hydrostatic release service expiration 

--	--	--	--

 (MM/YY)

Battery expiration 

--	--	--	--

 (MM/YY)

**8** Does the alphanumeric code (UIN) on the NOAA SARSAT decal match the UIN code on EPIRB?

**9** Is the EPIRB registered to the vessel or vessel owner? Expiration 

--	--	--	--

 (MM/YY)

**10 Life raft(s)**

*\*Not required for vessels within 12 mi. of coast, ≤ 3 people and length <36'*

Hydrostatic release service expiration 

--	--	--	--

 (MM/YY)

Raft service (repack) expiration 

--	--	--	--

 (MM/YY)

Capacity 

--	--

**11** Is the life raft configured correctly? See back of sheet for figure of the hydrostatic release

**12 Immersion suits and personal flotation devices**

*\*PFDs are required to be worn by the observer while out on deck*

Are there enough for everyone on board? Keep yours easily accessible.

**13 Life rings**

*Vessels <26' = cushion, >26' = 1 life ring buoy, >65' = 3 life ring buoys*

**14 Fire extinguishers**

*\*Not required for vessels <26' with outboard motor(s) and portable fuel tanks*

**15 Emergency signaling flares** *\*Check expiration dates*

*<3mi. = night light and smoke or 3 day/night flares; >3mi. = 3 parachute, 6 hand held, 3 smoke*

**16** First aid material

**17** Radio(s)

**18** Were there any stability concerns/issues, either because of behavior or vessel design, during this trip? *\*See back of sheet for examples. If yes, please comment.*

**19** Did you provide any additional comments?

The following is a suggested list of examples that you should check or consider while doing a vessel walk through. They are listed here to assist you in determining the relative safety of a particular vessel. A more comprehensive list is detailed in the program manual.

- Note potentially hazardous areas/conditions (e.g. winches, overhead wires, rusted or worn shackles and blocks, combustible items, exposed exhaust pipes/manifolds, drive chains, pulleys or belts)
- Visualize egress routes for all possible emergency scenarios (fire, flooding, dark, capsizing) and mentally note landmarks
- Is the life raft and EPIRB located in a float free area? Would you be able to access these items if conditions were icy or the wheelhouse was on fire?
- Is there a station bill posted and is your role clear during all shipboard emergencies?
- Discuss with the captain if safety drills are conducted on this vessel? (May include fire, flooding, abandon ship, etc.) Will one be conducted when you are on board?

The following are examples of things to consider related to the vessel design or fishing practices which may compromise vessel stability.

- Note the roll period of the vessel (quick, snappy roll is more stable than a slow or sluggish roll)
- Does the vessel list excessively?
- Do the fishing practices involve a pattern of towing heavy bags or dumping the catch to one side of the vessel?



**Safety Comments**

**Stability comments**

**WHEN WAS THE LAST TIME YOU CHECKED YOUR PERSONAL SAFETY EQUIPMENT?**

Check the appropriate box for the method that was used to verify EPIRB expiration dates:

- 20  I visually inspected the EPIRB; Record EVIC information below if one was issued  
 EVIC number       Date issued     (MM/YY)
- I used a previously issued EVIC; Record EVIC information below  
 EVIC number       Date issued     (MM/YY)
- I used approved USCG documentation that was issued within the last 90 days (comments & expiration dates required)

Signature \_\_\_\_\_

Date \_\_\_\_\_

05/01/13

Vessel name

V	E	S	S	E	L		N	A	M	E																												
---	---	---	---	---	---	--	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Trip ID

X	9	9	0	0	1		
---	---	---	---	---	---	--	--

Hull number

9	8	7	6	5	4		
---	---	---	---	---	---	--	--

Date landed (MM/DD/YYYY)

0	5	/	0	1	/	2	0	1	3
---	---	---	---	---	---	---	---	---	---

Northeast Fisheries Science Center, Fisheries Sampling Branch  
**PRE TRIP VESSEL SAFETY CHECKLIST (PTVSC)**  
 For each safety item shade  in the appropriate box.  
**Y = yes, N = no, NR = not required**

It is **MANDATORY** that all safety items on board a fishing vessel that are highlighted in **BOLD** print be current (not expired) in order for an observer to deploy on a trip.

Please comment on any safety or stability related issues in the provided spaces on the back of the PTVSC

**Y**  **N**  **NR**

**Vessel Orientation**

**Current USCG Commercial Fishing Vessel Safety Examination Decal**

**\*Required for all vessels carrying an observer on board**

Safety Decal Number 

1	2	3	4	5	6
---	---	---	---	---	---

 Expiration 

1	2	1	4
---	---	---	---

 (MM/YY)

**Emergency Position Indicating Radio Beacon (EPIRB)**

**\*Required for all vessels operating beyond 3 miles**

Hydrostatic release service expiration 

0	3	1	5
---	---	---	---

 (MM/YY)

Battery expiration 

0	7	1	7
---	---	---	---

 (MM/YY)

Does the alphanumeric code (UIN) on the NOAA SARSAT decal match the UIN code on EPIRB?

Is the EPIRB registered to the vessel or vessel owner? Expiration 

0	2	1	4
---	---	---	---

 (MM/YY)

**Life raft(s)**

**\*Not required for vessels within 12 mi. of coast, ≤ 3 people and length <36'.**

Hydrostatic release service expiration 

0	9	1	4
---	---	---	---

 (MM/YY)

Raft service (repack) expiration 

0	5	1	4
---	---	---	---

 (MM/YY)

Capacity 

0	6
---	---

Is the life raft configured correctly? See back of sheet for figure of the hydrostatic release

**Immersion suits and personal flotation devices**

**\*PFDs are required to be worn by the observer while out on deck**

Are there enough for everyone on board? Keep yours easily accessible.

**Life rings**

**Vessels <26' = cushion, >26' = 1 life ring buoy, >65' = 3 life ring buoys**

**Fire extinguishers**

**\*Not required for vessels <26' with outboard motor(s) and portable fuel tanks**

**Emergency signaling flares** \*Check expiration dates

**<3mi. = night light and smoke or 3 day/night flares; >3mi. = 3 parachute, 6 hand held, 3 smoke**

**First aid material**

**Radio(s)**

Were there any stability concerns/issues, either because of behavior or vessel design, during this trip? **\*See back of sheet for examples. If yes, please comment.**

Did you provide any additional comments?

The following is a suggested list of examples that you should check or consider while doing a vessel walk through. They are listed here to assist you in determining the relative safety of a particular vessel. A more comprehensive list is detailed in the program manual.

- Note potentially hazardous areas/conditions (e.g. winches, overhead wires, rusted or worn shackles and blocks, combustible items, exposed exhaust pipes/manifolds, drive chains, pulleys or belts)
- Visualize egress routes for all possible emergency scenarios (fire, flooding, dark, capsizing) and mentally note landmarks
- Is the life raft and EPIRB located in a float free area? Would you be able to access these items if conditions were icy or the wheelhouse was on fire?
- Is there a station bill posted and is your role clear during all shipboard emergencies?
- Discuss with the captain if safety drills are conducted on this vessel? (May include fire, flooding, abandon ship, etc.) Will one be conducted when you are on board?

The following are examples of things to consider related to the vessel design or fishing practices which may compromise vessel stability.

- Note the roll period of the vessel (quick, snappy roll is more stable than a slow or sluggish roll)
- Does the vessel list excessively?
- Do the fishing practices involve a pattern of towing heavy bags or dumping the catch to one side of the vessel?



**Safety Comments**

**Stability comments**

**WHEN WAS THE LAST TIME YOU CHECKED YOUR PERSONAL SAFETY EQUIPMENT?**

Check the appropriate box for the method that was used to verify EPIRB expiration dates:

I visually inspected the EPIRB; Record EVIC information below if one was issued  
 EVIC number 

0	3	1	5	4
---	---	---	---	---

 Date issued 

0	5	1	3
---	---	---	---

 (MM/YY)

I used a previously issued EVIC; Record EVIC information below  
 EVIC number 

--	--	--	--	--

 Date issued 

--	--	--	--	--

 (MM/YY)

I used approved USCG documentation that was issued within the last 90 days (comments & expiration dates required)

Signature Observer Lee

Date 05/01/2013

Vessel name

[Grid for vessel name]

Trip ID

[Grid for Trip ID]

Hull number

[Grid for Hull number]

Date landed (MM/DD/YYYY)

[Grid for Date landed]

Northeast Fisheries Science Center, Fisheries Sampling Branch  
**PRE TRIP VESSEL SAFETY CHECKLIST (PTVSC)**

For each safety item shade **■** in the appropriate box.  
Y = yes, N = no, NR = not required

It is **MANDATORY** that all safety items on board a fishing vessel that are highlighted in **BOLD** print be current (not expired) in order for an observer to deploy on a trip.

Please comment on any safety or stability related issues in the provided spaces on the back of the PTVSC

Y N NR

**Vessel Orientation**

**Current USCG Commercial Fishing Vessel Safety Examination Decal**

**\*Required for all vessels carrying an observer on board**

Safety Decal Number [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Expiration [ ] [ ] [ ] [ ] (MM/YY)

**Emergency Position Indicating Radio Beacon (EPIRB)**

**\*Required for all vessels operating beyond 3 miles**

Hydrostatic release service expiration [ ] [ ] [ ] [ ] (MM/YY)

Battery expiration [ ] [ ] [ ] [ ] (MM/YY)

Does the alphanumeric code (UIN) on the NOAA SARSAT decal match the UIN code on EPIRB?

Is the EPIRB registered to the vessel or vessel owner? Expiration [ ] [ ] [ ] [ ] (MM/YY)

**Life raft(s)**

**\*Not required for vessels within 12 mi. of coast, ≤ 3 people and length <36'.**

Hydrostatic release service expiration [ ] [ ] [ ] [ ] (MM/YY)

Raft service (repack) expiration [ ] [ ] [ ] [ ] (MM/YY)

Capacity [ ] [ ]

Is the life raft configured correctly? See back of sheet for figure of the hydrostatic release

**Immersion suits and personal flotation devices**

**\*PFDs are required to be worn by the observer while out on deck**

Are there enough for everyone on board? Keep yours easily accessible.

**Life rings**

**Vessels <26' = cushion, >26' = 1 life ring buoy, >65' = 3 life ring buoys**

**Fire extinguishers**

**\*Not required for vessels <26' with outboard motor(s) and portable fuel tanks**

**Emergency signaling flares** \*Check expiration dates

**<3mi. = night light and smoke or 3 day/night flares; >3mi. = 3 parachute, 6 hand held, 3 smoke**

First aid material

Radio(s)

Were there any stability concerns/issues, either because of behavior or vessel design, during this trip? **\*See back of sheet for examples. If yes, please comment.**

Did you provide any additional comments?

The following is a suggested list of examples that you should check or consider while doing a vessel walk through. They are listed here to assist you in determining the relative safety of a particular vessel. A more comprehensive list is detailed in the program manual.

- Note potentially hazardous areas/conditions (e.g. winches, overhead wires, rusted or worn shackles and blocks, combustible items, exposed exhaust pipes/manifolds, drive chains, pulleys or belts)
- Visualize egress routes for all possible emergency scenarios (fire, flooding, dark, capsizing) and mentally note landmarks
- Is the life raft and EPIRB located in a float free area? Would you be able to access these items if conditions were icy or the wheelhouse was on fire?
- Is there a station bill posted and is your role clear during all shipboard emergencies?
- Discuss with the captain if safety drills are conducted on this vessel? (May include fire, flooding, abandon ship, etc.) Will one be conducted when you are on board?

The following are examples of things to consider related to the vessel design or fishing practices which may compromise vessel stability.

- Note the roll period of the vessel (quick, snappy roll is more stable than a slow or sluggish roll)
- Does the vessel list excessively?
- Do the fishing practices involve a pattern of towing heavy bags or dumping the catch to one side of the vessel?



**Safety Comments**

**Stability comments**

**WHEN WAS THE LAST TIME YOU CHECKED YOUR PERSONAL SAFETY EQUIPMENT?**

Check the appropriate box for the method that was used to verify EPIRB expiration dates:

I visually inspected the EPIRB; Record EVIC information below if one was issued  
 EVIC number       Date issued     (MM/YY)

I used a previously issued EVIC; Record EVIC information below  
 EVIC number       Date issued     (MM/YY)

I used approved USCG documentation that was issued within the last 90 days (comments & expiration dates required)

Signature \_\_\_\_\_

Date \_\_\_\_\_

## Vessel and Trip Information Log

The following instructions are for recording information regarding a particular vessel and trip. Some data requirements will require questioning the captain of the vessel for the information. Do not record assumptions. If the information is unclear, verify the answers with the captain.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field or check the line or box for unknown. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

If the vessel returns to the dock **after engaging in fishing activities**, does not sell the catch, and then heads back out to fish, see code 13 in TIME LOST REASON (#53) and NOTE under TRIP COSTS heading.

If the vessel returns to the dock **before engaging in fishing activities**, and then heads back out to fish, see code 11 in TIME LOST REASON (#53), third NOTE under STEAM TIME (#31), and NOTE under TRIP COSTS heading.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted.

### Instructions

**\*1. OBSERVER/TRIP IDENTIFIER:** Record your three character Observer Identifier combined with the three character Trip Number and one character Trip Extension assigned to you for this trip. Trip Numbers are sequential by calendar year, based on the date landed. Use Table 1 to determine the correct trip extension. Use this Observer/Trip Identifier on all forms for this trip. For further instructions and specific examples on completing this field refer to [Appendix A: Observer/Trip Identifier Instructions](#).

*Example:* Observer Green, who has been assigned identifier A02, is on her third trip of the calendar year, and it is a limited fish sampling gillnet trip. The observer/trip identifier is recorded as A02003L.

*NOTE:* If your trip sails in December but lands on or after January 1st, it should be assigned Trip Number ‘001’, since it is the first trip to land

in the new calendar year.

*NOTE:* If the catch is not offloaded or partially offloaded when the vessel returns to the dock, and the vessel returns to sea, use the same Observer/Trip Identifier. If **all** of the catch is offloaded, and the vessel returns to sea, use a new Observer/Trip Identifier and complete another Vessel and Trip Information Log.

**Table 1:** Trip extension and corresponding trip type.

Extension	Trip Type
A	Aborted (non-gillnet)
C	Gillnet, complete fish sampling
D	Gillnet, complete fish sampling, aborted
E	Gillnet, set only, complete
L	Gillnet, limited fish sampling
M	Gillnet, limited fish sampling, aborted
N	Gillnet, set only, limited
—	All other

*NOTE:* An aborted trip is defined as when the gear is not used (set, hauled, or washed) regardless of time on the water. An aborted trip is considered to be a unique trip and should be numbered accordingly.

**\*2. PROGRAM CODE:** Record the appropriate program code for the fishing trip by recording a three-digit code.

000 = Standard Sea Sampling Trip

010 = Training Trip

*NOTE:* All other program codes **except** ‘000’ supersede this program code, including ASM program codes. Be sure to record “Training Trip” in the COMMENTS section.

020 = Alternative Platform

042 = Atlantic States Marine Fisheries Commission

043 = Herring, Closed Area I

101 = Pinger Tester Trips

130 = US/Canada Management Area

150 = Regular B-DAS Program

170 = Small Mesh Redfish Exemption

201 = Scallop Access Area, Nantucket Lightship Closed Area

202 = Scallop Access Area, Closed Area I

203 = Scallop Access Area, Closed Area II

204 = Scallop Access Area, Hudson Canyon

206 = Scallop Access Area, Elephant Trunk



- 207 = Scallop Access Area, Delmarva
- 230 = At-Sea Monitoring (ASM)
- 231 = ASM, US/Canada Management Area
- 232 = ASM, Regular B-DAS Program
- 233 = ASM, Closed Area I Haddock Hook SAP
- 234 = ASM, Closed Area II Yellowtail/Haddock Hook SAP
- 235 = Small Mesh Redfish Exemption

**\*3. SECTOR ID:** Record the groundfish sector for the vessel you are observing by recording the appropriate 3-digit code. This information must be obtained from the captain and should be asked at the beginning of the trip. For NEFOP and IFS trips, if you are not observing a sector trip, leave this field blank and fill in FLEET (#4) instead.

- 002 = Common Pool—Groundfish
- 003 = Georges Bank Cod Fixed Gear Sector
- 005 = Sustainable Harvest Sector 1
- 006 = Port Clyde Community Groundfish Sector
- 007 = Northeast Fishery Sector VII
- 008 = Northeast Fishery Sector IV
- 009 = Northeast Fishery Sector VIII
- 010 = Northeast Fishery Sector XI
- 011 = Northeast Fishery Sector XII
- 012 = Northeast Fishery Sector II
- 013 = Northeast Fishery Sector III
- 014 = Northeast Fishery Sector I
- 015 = Northeast Fishery Sector X
- 016 = Northeast Fishery Sector XIII
- 017 = Northeast Fishery Sector IX
- 018 = Northeast Fishery Sector V
- 019 = Tri-State Sector
- 020 = Northeast Fishery Sector VI
- 021 = Northeast Coastal Communities Sector
- 022 = Sustainable Harvest Sector 3
- 023 = Maine State Permit Bank

**4. FLEET:** Record the type of trip you are observing by recording the appropriate 3-digit code. This information must be obtained from the captain and should be asked at the beginning of the trip. If you are observing a sector trip, leave this field blank and fill in SECTOR ID (#3) instead.

- 000 = Standard Observed Trip (*i.e.*, trip does not fit any other code listed below)
- 046 = Limited Access Scallop
- 047 = General Category Scallop
- 049 = Processor Vessel

- 050 = Carrier Vessel
- 999 = Unknown

**\*5. VENDOR I.D. CODE:** Record the 2-digit vendor identification code. This information can be obtained from the Observer Service Provider.

NEFOP Trips

- 17 = MRAG Americas, NMFS Funded

IFS Trips

- 02 = A.I.S. Inc, Industry Funded
- 04 = East West Technical Services, Industry Funded
- 16 = Fathom Research LLC, Industry Funded

ASM Trips, NMFS Funded

- 07 = A.I.S. Inc, NMFS ASM Funded
- 08 = East West Technical Services, NMFS ASM Funded
- 09 = MRAG Americas, NMFS ASM Funded

ASM Trips, Industry Funded

- 11 = A.I.S. Inc, Industry ASM Funded
- 12 = East West Technical Services, Industry ASM Funded
- 13 = MRAG Americas, Industry ASM Funded

*NOTE:* If any additional Observer Service Providers are approved in the future, new codes will be added.

**\*6. INCIDENTAL TAKES:** Record whether a sea bird, marine mammal and/or sea turtle has been incidentally taken on this trip by placing an “X” in the box next to the appropriate code(s):

- N = None
- B = Sea Bird
- M = Marine Mammal
- T = Sea Turtle

*NOTE:* Check all that apply.

**7. AGE STRUCTURES:** Record whether age structures were collected on this trip by placing an “X” in the box next to the appropriate code(s):

- Env. = Dry age structure envelopes (*i.e.*, scales or otoliths)
- Froz. = Frozen samples in a cooler (*i.e.*, vertebrae or heads)

*NOTE:* Check all that apply.

*NOTE:* Do not include whole animals or incidental take samples.

**8. WHOLE FISH:** Record whether whole fish samples were collected from this trip by placing an “X” in

the box next to the appropriate code:

N = No

Y = Yes

**\*9. FIELD DIARY:** Record whether a field diary was completed for this trip by placing an “X” in the box next to the appropriate code:

N = No

Y = Yes

**10. FISHERMEN COMMENT LOG:** Record whether a Fishermen's Comment Log is included with this trip by placing an “X” in the box next to the appropriate code:

N = No

Y = Yes

*NOTE:* This box should only be checked off as “Yes” if a Fishermen's Comment Log is physically in the trip.

**\*11. VESSEL NAME #1:** Record the name of the vessel **to which you are deployed**. Care should be taken to record the correct spelling of the vessel's name.

*Example:* Jo Jo.

**\*12. VESSEL HULL NUMBER #1:** Record the number written on the hull of the vessel **to which you are deployed**. This number will be either the U.S. Coast Guard Documentation Number or the state registration number. This number may have up to eight characters. This is not the same as the NMFS or state fishing permit number.

*Example:*

USCG Documentation Number: 1234567.

State Registration Number: ME1234A or NC1234AB.

**\*13. VESSEL PERMIT #1:** Record the permit number of the vessel to which you are deployed. This number will be different than the VESSEL HULL NUMBER (#12). This information must be obtained from the captain.

**\*14. PORT SAILED:** Record the **name** of the port, **including the state**, where the vessel left to begin the trip. This may be different from the HOME PORT (#25), PORT LANDED (#21), or the port of registry on the vessel's stern.

**15. PORT CODE:** Leave this field blank.

**\*16. DATE SAILED:** Record the month, day, and year that the vessel leaves the dock to go fishing.

*NOTE:* If the vessel leaves the dock to take ice, fuel, pick up crew, *etc.*, at another location,

record the date it leaves the first dock.

*NOTE:* For beach seine trips, record the date that the dory leaves the trailer and heads out through the surf to set the gear.

**\*17. TIME SAILED:** Record the local time, using the 24 hour clock (0000–2359), that the vessel leaves the dock to go fishing.

*NOTE:* If the vessel leaves the dock to take ice, fuel, pick up crew, *etc.*, at another location, record the time it leaves the first dock.

*NOTE:* For beach seine trips, record the local time that the dory leaves the trailer and heads out through the surf to set the gear.

**18. VESSEL NAME #2: (For pair trawl and carrier trips only).** Record the name of the vessel with which you are paired, or from which you are receiving catch, regardless of whether there is another observer onboard. Care should be taken to record the correct spelling of the vessel's name.

*NOTE:* Do not fill in this field (or the next 2 fields) when you are deployed on a vessel that transfers fish to another vessel at sea, except for pair trawl operations.

**19. VESSEL HULL NUMBER #2: (For pair trawl and carrier trips only).** Record the number written on the hull of the vessel with which you are paired, or from which you are receiving catch. See VESSEL HULL NUMBER #1 (#12) for further instructions on recording vessel numbers.

**20. VESSEL PERMIT NUMBER #2: (For pair trawl and carrier trips only).** Record the permit number of the vessel with which you are paired, or from which you are receiving catch. This number will be different than the VESSEL HULL NUMBER #2 (#19). This information must be obtained from the captain.

**\*21. PORT LANDED:** Record the name of the port, **including the state**, where the vessel ends the trip. This may be different from the HOME PORT (#25), PORT SAILED (#14), or the port of registry on the vessel's stern.

*NOTE:* If the vessel offloads its catch at more than one port, record the port where the first offload occurs.

**22. PORT CODE:** Leave this field blank.

**\*23. DATE LANDED:** Record the month, day, and year that the vessel first arrives in port at the completion of your deployment. This is the docking port where the captain intends to sell the majority of this

trip's catch. Record this date whether or not the catch is sold.

*Example:* The vessel returns to a dock on 02/03/14, with catch, but does not sell any fish. The observer remains on the vessel back to the fishing grounds. The vessel returns to the dock on 02/07/14 and arranges to sell its catch. DATE LANDED is 02/07/14.

*NOTE:* For beach seine trips, record the date that the fishing operations have ended and all fish have been picked and sorted.

**\*24. TIME LANDED:** Record the local time, using the 24 hour clock (0000–2359), that the vessel first arrives in port at the completion of your deployment. This is the docking port where the captain intends to sell the majority of this trip's catch. Record this time whether or not the catch is sold.

*NOTE:* For beach seine trips, record the local time that the fishing operations have ended and all fish have been picked and sorted.

**25. HOME PORT:** Record the **name** of the port, **including the state**, where the vessel is usually tied up when not fishing. This may be different from the PORT SAILED (#14), the PORT LANDED (#21), or the port of registry on the vessel's stern.

*Example:* Gloucester, MA.

**26. PORT CODE:** Leave this field blank.

**27. EXPECTED TRIP DURATION:** Record, in whole days, the number of days the captain **expects** to be away from port on this fishing trip.

*NOTE:* This question should be asked **before** the vessel leaves port.

**28. CREW SIZE:** Record the number of individuals working on the vessel, **including the captain**.

*NOTE:* If there is a change in CREW SIZE during a dockage mid-trip, record it in COMMENTS.

**\*29. DEALER'S NAME:** Record the name of the dealer where the captain sold the majority of the trip's catch. If the catch is not sold immediately after arrival in port, obtain this information from the captain.

*NOTE:* See [Appendix P: Dealer List - Sorted By State, Dealer Name, City](#) for a list of dealer names and the city and state they are located in.

**\*30. VTR SERIAL NUMBER:** Record the serial number obtained from the captain's Fishing Vessel Trip Report (VTR).

*NOTE:* If more than one Vessel Trip Report (VTR) log is used during a trip, record the serial number of the first log used on the trip. Record additional VTR numbers used in COMMENTS. Obtain this information from the captain.

*NOTE:* If an Electronic Fishing Vessel Trip Report (eVTR) is submitted for this trip, obtain the eVTR TRIP ID. On ASM trips, record this number under eVTR TRIPID (#30a), otherwise record it under VTR SERIAL NUMBER (#30).

**31. STEAM TIME:** Record, to the nearest tenth of an hour, the time that elapses between the vessel leaving the dock to go fishing, and arriving at the location where the gear is first deployed/hailed.

*NOTE:* If the vessel reaches the location where it will begin fishing but does not deploy/haul the gear because of weather conditions or because it is awaiting the other vessel (*i.e.*, on pair trawl trips), *etc.*, **do not include the time spent waiting to deploy/haul the gear in steam time.**

*NOTE:* If the vessel leaves its original dock to take on ice, fuel, *etc.*, at another dock, do not include the time spent in these activities as steam time, but as time lost; see code 10 in TIME LOST, REASON (#53).

*NOTE:* If the vessel returns temporarily to port before deploying the gear and then heads back out to fish, record the time spent steaming from the dock, and steam time back to the dock in TIME LOST, REASON (#53) and AMOUNT (#54).

*NOTE:* If gear being observed is beach seine, record a dash.

*NOTE:* Include in this field any time the vessel spends "looking" for fish before deploying gear (this could include the purse seine and pair trawl fishery).

*Example:* Vessel departs from New Bedford at 00:01, and arrives at 18:50 on the fishing grounds where the first set will be made. The STEAM TIME is 18.8.

**32. TRIP TYPE:** Record whether one, or more than one **type** of gear is **used** during this trip by placing an "X" next to the appropriate one digit code:

1 = Single Gear.

2 = Multiple Gear.

### Trip Costs

*NOTE:* If the vessel takes on more food, fuel, ice, water, oil, or bait during a dockage mid-trip (when fish are not offloaded), add each amount to the appropriate field's total for the trip.

*NOTE:* If no costs are incurred, record a zero "0" in the appropriate field(s).

*NOTE:* For pair trawl trips, record costs only for the vessel on which you are deployed.

**\*33. ICE USED:** Record, to the nearest **hundredth** of a ton, the estimated amount of ice used during this trip. Include purchased ice and ice made by the vessel. This information should be obtained from the captain at the end of the trip.

*NOTE:* This value may include remaining ice from a previous trip.

**\*34. FUEL USED:** Record, in whole gallons, the **estimated** amount of fuel consumed during this trip. This information should be obtained from the captain at the end of the trip.

**\*35. DAMAGE AND LOSS ESTIMATE:** Record, to the nearest dollar, the captain's estimate of the cost of gear and/or equipment lost or damaged during this trip. Provide a description of the damage or loss in COMMENTS.

*NOTE:* This information should be obtained from the captain at the end of the trip.

*NOTE:* Do not include the cost of normal wear and tear in this estimate.

**\*36. SUPPLIES:** Record, to the nearest dollar, the price paid for supplies purchased for this trip. List the items included in this value in COMMENTS. This information may be obtained from the captain or a crew member.

*Example:* Examples: Gloves, boot liners, knives, picks, hooks, boxes, bags, ties, lobster bands, rags, tape, links/rings, lines/twine/rope, etc.

**\*37. FOOD:** Record, to the nearest dollar, the cost to the crew and captain for food purchased for this trip, **including the observer's food.**

*NOTE:* Drinking water should be included in food costs.

**\*38. ICE:** Record, in dollars and cents, the price paid **per ton** of ice purchased for this trip.

*NOTE:* If the vessel makes its own ice, or if no money is paid for ice, record "0.00".

*NOTE:* If no ice is used, record "0.00".

**\*39. FUEL:** Record, in dollars and cents, the price paid **per gallon** for fuel purchased for this trip. This information may be obtained from the captain or owner before the vessel leaves port.

**\*40. WATER:** Record, to the nearest dollar, the cost of fresh water purchased for this trip.

*NOTE:* If the vessel makes its own fresh water, or if no money is paid for fresh water, record "0".

*NOTE:* This does not include drinking water.

**\*41. OIL:** Record, to the nearest dollar, the cost of **lubricating** oil purchased for this trip.

*NOTE:* The captain may purchase oil for more than one trip. Only record the cost of the oil for the trip you are observing.

**\*42. BAIT:** Record, to the nearest dollar, the cost of bait purchased for this trip.

### Gear Information

**\*43. PRIMARY GEAR:** Indicate the principal gear used during this trip by recording the most appropriate gear name possible, as listed in Appendix C: Gear Codes- Sorted by Gear Name.

*NOTE:* Primary gear is defined as the gear used on the **majority** of the hauls on the trip. If two or more gear types are used for an equal number of hauls, then the primary gear is whichever gear type had the highest number of nets (gillnet) or the greatest amount of kept catch.

**\*44. GEAR CODE:** Record the 3-digit code that corresponds to the PRIMARY GEAR (#43).

**\*45. OTHER GEAR(S):** Indicate any other fishing gear onboard the vessel, soaking, used, or secured by recording the most appropriate gear name possible, as listed in Appendix C: Gear Codes- Sorted by Gear Name.

*NOTE:* For ASM trips, only record gear that was used on this trip. For NEFOP and IFS trips, record all gear, regardless of whether or not it was used.

**\*46. GEAR CODE(S):** Record the 3-digit code that corresponds to the OTHER GEAR (#45).

**47. HAULED/USED:** Indicate whether or not the type of gear(s) listed in PRIMARY GEAR (#43) and OTHER GEAR(S) (#45) was/were hauled by the vessel during this trip by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**48. NUMBER ONBOARD:** Record the number of each type of fishing gear onboard the vessel at the start of the trip. For the following gear types, record the count in the listed units:

- Longline = Number of nautical miles of mainline.
- Pots or traps = Number of individual pots or traps.
- Gillnets = Number of net panels (total for all strings).
- Trawl = Number of nets.
- Scallop = Number of dredges or nets.
- Beach Seine = Number of net panels onboard when dory left trailer to set gear.

*NOTE:* For beach seine trips, this field is only completed if the observer was present for the set.

*NOTE:* For pair trawl trips, only record the number of nets onboard the vessel to which you are deployed.

**49. NUMBER SOAKING:** Record the number of each type of fishing gear the captain has soaking in the water at the beginning of this trip. For the following gear types, record the count in the listed units:

- Longline = Number of nautical miles of mainline.
- Pots or traps = Number of individual pots or traps.
- Gillnets = Number of net panels (total for all strings).
- Beach Seine = Number of net panels soaking prior to observers arrival.

*NOTE:* For beach seine trips, this field is only completed if the observer was not present for the set.

*NOTE:* If gears are not in the water at the start of the trip, record '0'. For all mobile gears (*e.g.*, trawls, dredges) record '0'.

**50. CAPTAIN'S EXPERIENCE:** Record, in whole years, the number of years the captain has operated a vessel **in this fishery with the type of gear recorded in PRIMARY GEAR (#43) and OTHER GEAR(S) (#45).**

*NOTE:* This experience is gear specific, not gear and target species specific.

*Example:*

Correct: How many years have you been gillnetting as a captain?

Incorrect: How many years have you been gillnetting for cod as a captain?

*NOTE:* If this time is less than six months, record "0".

*NOTE:* If the gear type(s) listed in OTHER GEAR(S) (#45) was (were) **not used** during this trip, record a dash in this field.

**\*51. TARGET SPECIES:** Indicate the principal species, or species group, sought with the type of gear recorded in PRIMARY GEAR (#43) and OTHER GEAR(S) (#45) by recording the most appropriate and specific **species name** possible, as listed in Appendix A: Species Names. This information must be obtained from the captain, and should be asked before any gear is set or hauled, and should **not** be based on the results of this trip's catch.

*Example:* Atlantic Cod.

*Example:* Flounder NK.

*Example:* Weakfish & Croaker.

*NOTE:* If the gear type(s) listed in OTHER GEAR(S) (#45) was (were) **not used** during this trip, record a dash in this field.

*NOTE:* On NEFOP and IFS trips, up to 5 unique species names or species groups can be recorded in this field. On ASM trips, record the secondary target species under TARGET SPECIES 2 (#51a).

**52. SPECIES CODE:** Leave this field blank.

### Time Lost

**53. REASON:** Indicate the reason(s) for any amount of **fishing** time the vessel loses during this trip by recording the most appropriate two-digit code as listed below and in Appendix D: Time Lost Reason Codes:

00 = Unknown.

01 = Gear conflict with another vessel.

02 = Gear damage repair.

03 = Engine repair.

04 = Awaiting arrival of other vessel, *i.e.*, pair trawling or offloading.

05 = Coast Guard boarding.

06 = Medical emergency, *i.e.*, medical evacuation.

07 = Weather conditions.

08 = Marine mammal interaction.

09 = Gear loss. Include only time spent trying to retrieve the gear.

10 = Vessel leaves a dock at the start of the trip,

steams to another dock(s) or port(s) to engage in an activity (*i.e.*, refueling, buying ice, picking up crew, *etc.*), and then steams to the fishing grounds. Record the total amount of time spent steaming to, and docked at, the other dock(s).

11 = Vessel returns to a dock after reaching the location where it will begin fishing, but before deploying the gear, OR returns to the dock before reaching the location where it will begin fishing. Record the total amount of time spent steaming out, steaming back to the dock, and at the dock.

12 = Vessel returns to a dock **after completing fishing activities**, but no fish are offloaded. Vessel engages in an activity (*i.e.*, refueling, dropping off crew, *etc.*) and then steams to the dock where the captain intends to sell most of the catch. Record the total amount of time spent at the first dock, plus the time spent steaming to the offloading dock.

13 = Vessel returns to a dock **after beginning** steaming back to the grounds.

99 = Other, record the time lost reason in COMMENTS.

**54. AMOUNT:** Record, to the nearest tenth of an hour, for each reason recorded above (#53), the total amount of fishing time the vessel lost during this trip while using the **primary** gear type.

*NOTE:* Do not include **projected** time lost from the trip if the vessel returns to the dock sooner than planned because of a medical emergency, damaged or lost gear, *etc.*

### Number Of Hauls

**55. TOTAL:** Record the **total** number of hauls during this trip.

**56. UNOBSERVED:** Record the **total** number of hauls **not** observed during this trip.

*NOTE:* An **unobserved haul** is defined as one where complete kept and discard information from the haul is **not** collected.

*NOTE:* All Off-Watch hauls that occurred during the trip should be included in this field.

**57. PRIMARY SPECIES LANDED:** Record the name of the species, as listed in Appendix A: Species Names, which had the **greatest total number of pounds** landed (kept and sold) for this trip.

*Example:* Atlantic Cod.

*Example:* Winter Skate (Wings).

**\*58. PHOTOS:** Record whether photos were taken for this trip by placing an “X” in the box next to the appropriate code:

N = No

Y = Yes

### Scallop Trips Only: Catch Information

**59. SOAKED?:** Record whether, during the trip, any scallop meats were soaked in a solution **other than seawater** by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**60. NUMBER OF BAGS:** Record the **total** number of bags of shucked scallops from this trip. This number should be obtained from the captain.

*NOTE:* If the scallops from this trip are not shucked, record a dash (—), and write “shell stocked” in COMMENTS.

**61. AVERAGE WEIGHT PER BAG:** Record, in whole pounds, the **average** weight of a bag of shucked scallops from this trip. This information may be obtained from the captain or at the dock after the scallop bags are offloaded and weighed individually.

**\*62. DATE BOARDED:** Record the month, day, and year that you arrived at the vessel and put your gear onboard.

**\*63. TIME BOARDED:** Record the local time, using the 24 hour clock (0000–2359), that you arrived at the vessel and put your gear onboard.

**\*64. DATE DISEMBARKED:** Record the month, day, and year that you disembarked from the vessel and removed your gear.

**\*65. TIME DISEMBARKED:** Record the local time, using the 24 hour clock (0000–2359), that you disembarked from the vessel and removed your gear.

### Comments

Record any additional information regarding the trip and associated expenditures below. Include a comment regarding training trip or non-'000' trips (*i.e.*, write "training trip" in comments, etc). If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

### Aborted Trips

If a trip is aborted, much of the information will be unknown. For the following fields, record the values indicated below. For all other fields, record as usual.

**\*29. DEALER'S NAME:** Record "No Catch".

**31. STEAM TIME:** Record a dash (—).

**\*32-42. TRIP COSTS:** Record expenses incurred during deployment. Do not record expenses that would have been used had the trip not been aborted.

**\*43-44. PRIMARY GEAR:** Record the name and code of the gear the captain intended to use.

**53-54. TIME LOST:** Do not record any time lost.

**57. PRIMARY SPECIES LANDED:** Record "None".

**59. SOAKED:** Record a "9" on the line next to the code for "No".

**60. NUMBER OF BAGS:** Record a dash (—).

**61. AVERAGE WEIGHT PER BAG:** Record a dash (—).

**VESSEL AND TRIP INFORMATION LOG  
 NMFS NEFSC FISHERIES OBSERVER PROGRAM  
 OBTRP OBTRG OBTRS 05/01/13**

DATE RECEIVED \_\_\_\_\_  
 EDITED BY \_\_\_\_\_

OBS/TRIP ID 1	PROGRAM CODE 2	SECTOR ID 3	FLEET 4	VENDOR ID 5	INCIDENTAL TAKES N <input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> T <input type="checkbox"/>	AGE STRUCTURES 7	WHOLE FISH 8	FIELD DIARY 9	COMMENT LOG 10
VESSEL NAME # 1 11	VESSEL NUMBER # 1 12	VESSEL PERMIT # 1 13	PORT SAILED (CITY, STATE) 14	CODE 15	DATE SAILED 16	mm/dd/yy	TIME SAILED 17	24 h	
VESSEL NAME # 2 18	VESSEL NUMBER # 2 19	VESSEL PERMIT # 2 20	PORT LANDED (CITY, STATE) 21	CODE 22	DATE LANDED 23	mm/dd/yy	TIME LANDED 24	24 h	
HOME PORT (CITY, STATE) 25	CREW SIZE (INCLUDE CAPT) 26	EXP. TRIP DUR 27 day(s)	DEALER'S NAME 28	VTR SERIAL NUMBER 29	30	STEAM TIME (calc) 31	hrs		

TRIP TYPE Single Gear 32 1	ICE USED 33	FUEL USED 34	DAMAGE/LOSS * Unknown 35	SUPPLIES * Unknown 36	FOOD Unknown 37	ICE (PER TON) Unknown 38	FUEL (PER GAL) Unknown 39	WATER Unknown 40	OIL Unknown 41	BAIT Unknown 42
Multiple Gear 2	_____ in	_____ gal	\$ _____ .00	\$ _____ .00	\$ _____ .00	\$ _____ .00	\$ _____ .00	\$ _____ .00	\$ _____ .00	\$ _____ .00

GEAR INFORMATION (IN USE & STOWED)			TRIP COSTS			TIME LOST *		
PRIMARY GEAR 43	USED? No <input type="checkbox"/> Yes <input type="checkbox"/>	# ONBRD 48	# SOAK 49	CAPT EXP (yrs) 50	TARGET SPECIES 51	CODE(S) 52	REASON 53	AMOUNT 54
OTHER GEAR 1 45	USED? No <input type="checkbox"/> Yes <input type="checkbox"/>	# ONBRD 48	# SOAK 49	CAPT EXP (yrs) 50	TARGET SPECIES 51	CODE(S) 52	REASON 53	AMOUNT 54
OTHER GEAR 2 45	USED? No <input type="checkbox"/> Yes <input type="checkbox"/>	# ONBRD 48	# SOAK 49	CAPT EXP (yrs) 50	TARGET SPECIES 51	CODE(S) 52	REASON 53	AMOUNT 54
OTHER GEAR 3 45	USED? No <input type="checkbox"/> Yes <input type="checkbox"/>	# ONBRD 48	# SOAK 49	CAPT EXP (yrs) 50	TARGET SPECIES 51	CODE(S) 52	REASON 53	AMOUNT 54

# TRIP HAULS 55	# UNOBSERVED HAULS 56	PRIMARY SPECIES LANDED 57	PHOTOS? N <input type="checkbox"/> Y <input type="checkbox"/>	SOAKED? No 0 Yes 1	# OF BAGS 60	AVERAGE WGT/BAG 61
COMMENTS						

DATE BOARDED 62	mm/dd/yy	TIME BOARDED 63	24 h
DATE DISEMBARKED 64	mm/dd/yy	TIME DISEMBARKED 65	24 h

\* Fields that require a comment



**VESSEL AND TRIP INFORMATION LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBTRP OBTRG OBTRS 05/01/13**

DATE RECEIVED	
EDITED BY	

OBS/TRIP ID A 9 9 1 0 1 -	PROGRAM CODE 0 0 0	SECTOR ID	FLEET 046	VENDOR ID 02	INCIDENTAL TAKES N X B M T	AGE STRUCTURES Env. X Froz.	WHOLE FISH X N Y	FIELD DIARY N X Y	COMMENT LOG X N Y
VESSEL NAME # 1 Comorant	VESSEL NUMBER # 1 663242	VESSEL PERMIT # 1 141859	PORT SAILED (CITY, STATE) New Bedford, MA	CODE	DATE SAILED 1 0 / 1 3 / 1 3	DATE SAILED mm/dd/yy	TIME SAILED 15 : 30	TIME SAILED 24 h	
VESSEL NAME # 2	VESSEL NUMBER # 2	VESSEL PERMIT # 2	PORT LANDED (CITY, STATE) New Bedford, MA	CODE	DATE LANDED 1 0 / 2 6 / 1 3	DATE LANDED mm/dd/yy	TIME LANDED 23 : 02	TIME LANDED 24 h	
HOME PORT (CITY,STATE) CODE Cape May, NJ	CREW SIZE (INCLUDE CAPT) 6	DEALER'S NAME Bergie's Seafood Inc.	VTR SERIAL NUMBER 10287421				STEAM TIME (calc)	12 3	hrs

TRIP COSTS										
TRIP TYPE Single Gear 1 Multiple Gear 2	ICE USED 24 . 5 0 in	FUEL USED 6500 gal	DAMAGE/LOSS * Unknown \$ 450 . 00	SUPPLIES * Unknown \$ 1000 . 00	FOOD Unknown \$ 2000 . 00	ICE (PER TON) Unknown \$ 60 . 0 0	FUEL (PER GAL) Unknown \$ 3 . 6 5	WATER Unknown \$ 50 . 00	OIL Unknown \$ 350 . 00	BAIT Unknown \$ 0 . 00

GEAR INFORMATION (IN USE & STOWED)									
PRIMARY GEAR Sea Scallop Dredge	CODE 1 3 2	USED? No 0 Yes 1 X	# ONBRD 2	# SOAK 0	CAPT EXP (yrs) 20	TARGET SPECIES Sea Scallops	CODE(S)	REASON 07	AMOUNT 12 . 8 hrs
OTHER GEAR 1 Handline	CODE 020	USED? No 0 Yes 1 X	# ONBRD 1	# SOAK 0	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)	REASON 02	AMOUNT 3 . 5 hrs
OTHER GEAR 2	CODE	USED? No 0 Yes 1	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)		AMOUNT
OTHER GEAR 3	CODE	USED? No 0 Yes 1	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)		AMOUNT

# TRIP HAULS 273	# UNOBSERVED HAULS 130	PRIMARY SPECIES LANDED Sea Scallops	PHOTOS? N X Y	SOAKED? No 0 X Yes 1	# OF BAGS 340	AVERAGE WGT/BAG 48 lb
---------------------	---------------------------	--	------------------	----------------------------	------------------	--------------------------

COMMENTS									
Damage = new sweep chain Supplies = scallop bgs, wire ties, gloves, tape									
Time lost 07 (weather) - layed to after haul 7 for about 12 hours due to weather									
Time lost 02 (gear damage) - winch broke after haul 114. Crew worked on fixing it from 02:00 to 05:30. Fixed and started fishing again.									
DATE BOARDED 1 0 / 1 3 / 1 3	mm/dd/yy	TIME BOARDED 14 : 45	TIME BOARDED 24 h	DATE DISEMBARKED 1 0 / 2 6 / 1 3	mm/dd/yy	TIME DISEMBARKED 23 : 30	TIME DISEMBARKED 24 h		

\* Fields that require a comment

**VESSEL AND TRIP INFORMATION LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBTRP OBTRG OBTRS 05/01/13**

DATE RECEIVED	
EDITED BY	

OBS/TRIP ID	PROGRAM CODE	SECTOR ID	FLEET	VENDOR ID	INCIDENTAL TAKES	AGE STRUCTURES	WHOLE FISH	FIELD DIARY	COMMENT LOG
					<input type="checkbox"/> N <input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> T	<input type="checkbox"/> Env. <input type="checkbox"/> Froz.	<input type="checkbox"/> N <input type="checkbox"/> Y	<input type="checkbox"/> N <input type="checkbox"/> Y	
VESSEL NAME # 1	VESSEL NUMBER # 1	VESSEL PERMIT # 1			PORT SAILED (CITY, STATE)	CODE	DATE SAILED	mm/dd/yy	TIME SAILED 24 h
VESSEL NAME # 2	VESSEL NUMBER # 2	VESSEL PERMIT # 2			PORT LANDED (CITY, STATE)	CODE	DATE LANDED	mm/dd/yy	TIME LANDED 24 h
HOME PORT (CITY, STATE)	CODE	CREW SIZE (INCLUDE CAPT)	DEALER'S NAME	VTR SERIAL NUMBER	STEAM TIME (calc)				

<b>TRIP COSTS</b>										
TRIP TYPE	ICE USED	FUEL USED	DAMAGE/LOSS *	SUPPLIES *	FOOD	ICE (PER TON)	FUEL (PER GAL)	WATER	OIL	BAIT
Single Gear 1			Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Multiple Gear 2			\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00

<b>GEAR INFORMATION (IN USE &amp; STOWED)</b>									
PRIMARY GEAR	CODE	USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)	REASON	AMOUNT
		No 0 Yes 1							
OTHER GEAR 1	CODE	USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)		
		No 0 Yes 1							
OTHER GEAR 2	CODE	USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)		
		No 0 Yes 1							
OTHER GEAR 3	CODE	USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)		
		No 0 Yes 1							

# TRIP HAULS	# UNOBSERVED HAULS	PHOTOS?	SOAKED?	# OF BAGS	AVERAGE WGT/BAG
		<input type="checkbox"/> N <input type="checkbox"/> Y	No 0 Yes 1		lb

<b>COMMENTS</b>	
DATE BOARDED	TIME BOARDED 24 h
DATE DISEMBARKED	TIME DISEMBARKED 24 h

\* Fields that require a comment

**VESSEL AND TRIP INFORMATION LOG**

**NMFS FISHERIES AT-SEA MONITORING PROGRAM**

**ASMTRP ASMTRG 05/01/13**

DATE RECEIVED	/ /
EDITED BY	

OBS/TRIP ID 1	PROGRAM CODE 2	SECTOR ID CODE 3	VENDOR ID CODE 5
INCIDENTAL TAKES 6 <input type="checkbox"/> N <input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> T	PHOTOS 58 <input type="checkbox"/> NO <input type="checkbox"/> YES	FIELD DIARY 9 <input type="checkbox"/> NO <input type="checkbox"/> YES	
VESSEL NAME 11	VESSEL NUMBER 12	VESSEL PERMIT NUMBER 13	
PORT SAILED (CITY, STATE) 14	DATE SAILED (mm/dd/yy) 16 / /	TIME SAILED (24 hr) 17 :	
PORT LANDED (CITY, STATE) 21	DATE LANDED (mm/dd/yy) 23 / /	TIME LANDED (24 hr) 24 :	
DEALER'S NAME 29	VTR SERIAL # 30	eVTR TRIPID 30a	

**TRIP COSTS**

ICE USED (ton) 33 ____ . ____ <input type="checkbox"/> UNKNOWN	FUEL USED (gal) 34 ____ <input type="checkbox"/> UNKNOWN	DAMAGE 35 \$ ____ . 00 <input type="checkbox"/> UNKNOWN	SUPPLIES 36 \$ ____ . 00 <input type="checkbox"/> UNKNOWN	FOOD 37 \$ ____ . 00 <input type="checkbox"/> UNKNOWN
ICE/TON 38 \$ ____ . ____ <input type="checkbox"/> UNKNOWN	FUEL/GAL 39 \$ ____ . ____ <input type="checkbox"/> UNKNOWN	WATER 40 \$ ____ . 00 <input type="checkbox"/> UNKNOWN	OIL 41 \$ ____ . 00 <input type="checkbox"/> UNKNOWN	BAIT 42 \$ ____ . 00 <input type="checkbox"/> UNKNOWN

**GEAR INFORMATION**

PRIMARY GEAR 43	CODE 44 / / /	TARGET SPECIES 1 51	TARGET SPECIES 2 51a
OTHER GEAR 1 45	CODE 46 / / /	TARGET SPECIES 1	TARGET SPECIES 2
OTHER GEAR 2	CODE / / /	TARGET SPECIES 1	TARGET SPECIES 2
COMMENTS	DATE BOARDED (mm/dd/yy) 62 / /	TIME BOARDED (24 hr) 63 :	
	DATE DISEMBARKED 64 / /	TIME DISEMBARKED (24 hr) 65 :	

**VESSEL AND TRIP INFORMATION LOG**

**NMFS FISHERIES AT-SEA MONITORING PROGRAM**

**ASMTRP ASMTRG 05/01/13**

DATE RECEIVED	/ /
EDITED BY	

OBS/TRIP ID <b>A 9 9 0 0 2 -</b>	PROGRAM CODE <b>2 3 1</b>	SECTOR ID CODE <b>0 1 6</b>	VENDOR ID CODE <b>09</b>
INCIDENTAL TAKES <input checked="" type="checkbox"/> N <input type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> T		PHOTOS <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES	
FIELD DIARY <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES			
VESSEL NAME <b>Fishing Boat</b>	VESSEL NUMBER <b>1234567</b>	VESSEL PERMIT NUMBER <b>123456</b>	
PORT SAILED (CITY, STATE) <b>Point Judith, RI</b>	DATE SAILED (mm/dd/yy) <b>10 / 06 / 13</b>	TIME SAILED (24 hr) <b>03 : 43</b>	
PORT LANDED (CITY, STATE) <b>Point Judith, RI</b>	DATE LANDED (mm/dd/yy) <b>1 0 / 0 8 / 1 3</b>	TIME LANDED (24 hr) <b>23 : 49</b>	
DEALER'S NAME <b>South Pier Seafood</b>	VTR SERIAL # <b>12345678</b>	eVTR TRIPID	

**TRIP COSTS**

ICE USED (ton) <b>4 . 7 5</b> <input type="checkbox"/> UNKNOWN	FUEL USED (gal) <b>950</b> <input type="checkbox"/> UNKNOWN	DAMAGE \$ <b>200</b> . 00 <input type="checkbox"/> UNKNOWN	SUPPLIES \$ <b>75</b> . 00 <input type="checkbox"/> UNKNOWN	FOOD \$ <b>300</b> . 00 <input type="checkbox"/> UNKNOWN
ICE/TON \$ <b>75 . 0 0</b> <input type="checkbox"/> UNKNOWN	FUEL/GAL \$ <b>3 . 4 3</b> <input type="checkbox"/> UNKNOWN	WATER \$ <b>10</b> . 00 <input type="checkbox"/> UNKNOWN	OIL \$ <b>90</b> . 00 <input type="checkbox"/> UNKNOWN	BAIT \$ <b>0</b> . 00 <input type="checkbox"/> UNKNOWN

**GEAR INFORMATION**

PRIMARY GEAR <b>Trawl, Bottom, Otter, Fish</b>	CODE <b>0 5 0</b>	TARGET SPECIES 1 <b>Haddock</b>	TARGET SPECIES 2 <b>Winter Flounder</b>
OTHER GEAR 1	CODE <input type="text"/>	TARGET SPECIES 1	TARGET SPECIES 2
OTHER GEAR 2	CODE <input type="text"/>	TARGET SPECIES 1	TARGET SPECIES 2

COMMENTS <b>Damages = parted wire</b> <b>Supplies = gloves, knives</b>	DATE BOARDED (mm/dd/yy) <b>10 / 06 / 13</b>	TIME BOARDED (24 hr) <b>03 : 15</b>
	DATE DISEMBARKED <b>10 / 09 / 13</b>	TIME DISEMBARKED (24 hr) <b>00 : 15</b>

**Other dealers = Fishy Fish Market and Doc's Fish Inc.**



## Trip Data Release Form

PAPERWORK REDUCTION ACT STATEMENT: The information provided on this form will be used to ensure that the data for a specific trip is not provided to a person who does not have authority to obtain that data under the confidentiality requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Marine Mammal Protection Act (MMPA). Meeting those confidentiality requirements are critical for collecting information that is used in analyses that support the conservation and management of living marine resources and that are required under the MSA, the Endangered Species Act (ESA), the MMPA, the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable laws. The public reporting burden for this form is estimated to average 2 minutes per response, including the time for completing, reviewing, and transmitting the information on the form. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Amy Van Atten, National Marine Fisheries Service, Northeast Fisheries Science Center, Fisheries Sampling Branch, 166 Water Street, Woods Hole, MA 02543-2266. Providing the requested information is required to deliver the copy of the trip to the requested location and to release the trip data. The information on this form will be kept confidential as required under Section 402(b) of the MSA (18 U.S.C. 1881a(b)) and regulations at 50 C.F.R Part 600, Subpart E. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

### Policy for Data Requests of NMFS Observer-Obtained Information

1. The only individuals who may request and receive data include: the owner(s), or the captain acting as an authorized representative for the owner(s), or a vessel participating in the National Marine Fisheries Service (NMFS) Northeast Fisheries Science Center (NEFSC) Observer Program. No other individuals may be issued any data under this policy.
2. Any data request must be submitted in writing on a form letter which may be obtained from a NMFS Observer, or the address below. Two signatures are required on this letter: that of the individual requesting the data, and that of the individual releasing the data. All letters must then be returned to the following address:  
Chief, Fisheries Sampling Branch  
National Marine Fisheries Service  
Northeast Fisheries Science Center  
166 Water Street  
Woods Hole, MA 02543-1097  
Any questions or other requests relating to data release should also be directed to the above address.
3. It should be understood that upon release of the requested data, the recipient then becomes responsible for it.
4. The individual signing the letter as the “releasor” must issue the information in compliance with this policy.
5. Data may not be released upon an oral request, or without first completing and signing the authorized release letter mentioned above.
6. Field diaries do not meet the specifications of releasable data under the policy. No field diaries may be copied for, or reviewed by, vessel owners or captains.
7. Release of data for trips in which more than one vessel participated (*i.e.*, pair trawl trips) may only occur if both vessel owners or captains complete and sign data release letters.
8. Any requests for historical data (*i.e.*, data that an observer has already mailed in) should be forwarded to the address above.
9. All letters should be completed in pen, not pencil.

**NMFS FISHERIES OBSERVER PROGRAM  
TRIP DATA RELEASE FORM**

Request Date \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Observer Trip ID # \_\_\_\_\_

Vessel Name \_\_\_\_\_

USCG Doc # \_\_\_\_\_

Date Landed \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

\_\_\_\_\_  
PRINT Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
PRINT Mailing Address:

Captain  
 Owner

Copies Released By: \_\_\_\_\_ Date \_\_\_\_\_ Edited? Yes\_\_\_ No\_\_\_

**(For NMFS Office Use)**

▼ | **TEAR AT PERFORATION AND RETAIN BELOW SECTION FOR YOUR RECORDS** | ▼

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The data you receive may be preliminary and not yet completely reviewed.

Observer Trip ID # \_\_\_\_\_

Date Requested \_\_\_\_\_

Mail Request To:  
Chief, Fisheries Sampling Branch  
National Marine Fisheries Service  
Northeast Fisheries Science Center  
166 Water Street  
Woods Hole, MA 02543-1097

Questions or Comments:  
Patricia Yoos  
508-495-2338

**NMFS FISHERIES OBSERVER PROGRAM  
TRIP DATA RELEASE FORM**

Request Date 05 / 01 / 13

Observer Trip ID # A99012L

Vessel Name JO JO

USCG Doc # 1234567

Date Landed 05 / 01 / 13

JOHN SMITH

John Smith

PRINT Name

Signature

PRINT Mailing Address:

Captain  
 Owner

PO BOX 1234

GLOUCESTER, MA 01930

Copies Released By: \_\_\_\_\_ Date \_\_\_\_\_ Edited? Yes \_\_\_ No \_\_\_

**(For NMFS Office Use)**

▼ | TEAR AT PERFORATION AND RETAIN BELOW SECTION FOR YOUR RECORDS ▼ |

-----

The data you receive may be preliminary and not yet completely reviewed.

Observer Trip ID # A99012L

Date Requested 05/01/13

Mail Request To:  
Chief, Fisheries Sampling Branch  
National Marine Fisheries Service  
Northeast Fisheries Science Center  
166 Water Street  
Woods Hole, MA 02543-1097

Questions or Comments:  
Patricia Yoos  
508-495-2338



## Common Haul Log Data

This section contains fields that are common to all Haul Logs. Questions that pertain to each fishery are detailed in their respective sections.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted.

### Instructions

**\*A. OBSERVER/TRIP IDENTIFIER:** Record your three character Observer Identifier combined with the three character Trip Number and one character Trip Extension assigned to you for this trip. This combined identifier is the same as OBSERVER/TRIP IDENTIFIER (#1) recorded on the Vessel and Trip Information Log.

**\*B. DATE LANDED:** Record the month and year that the vessel first arrives in port at the completion of this deployment as recorded on the Vessel and Trip Information Log. Record this date whether or not the catch is sold.

*Example: 02/01.*

**\*C. PAGE NUMBER:** Depending on the log, pages are numbered on a per trip or per haul basis. Table 1 provides a brief summary. For specific examples, see Appendix B: Page Numbering Instructions.

*NOTE:* Haul Logs are a “cover” sheet for the logs listed under “Per Haul”.

**Table 1: Page numbering.**

Per Trip
Gear Log (all)
Off-Watch Haul Log
Protected Species Sighting Log
Incidental Take Log
Marine Mammal Sample Log
Sea Turtle Sample Log
Fishermen’s Comment Log
Per Haul
Haul Log (all)
Individual Animal Log
Length Frequency Log
Crustacean Sample Log
Catch Composition Log
Discard Log

**\*D. GEAR CODE:** Indicate the type of gear fished on this haul by recording the appropriate three-digit code as listed in Appendix K: Gear Condition Codes.

**\*E. GEAR NUMBER:** Record the gear number used for this haul as uniquely identified on the appropriate Gear Characteristics Log.

**\*F. HAUL NUMBER:** Record the haul number each time gear is hauled on this trip. Start with “001” for the first haul, and continue numbering sequentially for the following hauls.

**\*G. HAUL OBSERVED?:** Record whether this haul is observed by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* An observed haul is defined as one where all of the catch is recorded, regardless of whether it is kept or discarded. An unobserved haul is defined as one where complete discard information from the haul is not collected.

*NOTE:* During an unobserved haul, discard data is collected only for incidental takes and those species that are recorded on the Individual Animal Log. **Do not record any discard information for unobserved hauls on haul logs**, except in the Paired and Single Midwater Trawl and Purse Seine fisheries.

*NOTE:* A haul may be unobserved because an observer is conducting a marine mammal haul watch, or is below deck for weather related safety reasons, illness, *etc.*

**H. ON-EFFORT?:** Record whether the observer is intentionally present to witness discards during the haulback by placing an “X” next to the appropriate code:

0 = No

1 = Yes

*NOTE:* An observer may be “on-effort” during an unobserved haul; see below examples:

*Example:* Observer on a scallop trip woke up at the end of their off-watch period and decided, since they were fishing in an area that has a high occurrence of turtles, to go to the wheel house to witness the haulback. They would check off ON-EFFORT = Yes.

*Example:* Observer is below deck (off-watch), and hears commotion on deck and goes up to see what is happening, and notices a turtle in the gear (or in the catch). Observer would check off ON-EFFORT = No.

*Example:* Observer was intentionally present on deck when vessel decided to pump leftover fish to the paired vessel. Observer would check off ON-EFFORT = Yes.

**I. CATCH?:** Record whether the gear from this haul holds any catch, whether it is kept or discarded, by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* Catch includes any living or non-living items, such as fish, invertebrates, marine mammals, sea weed, debris, etc.

*NOTE:* If catch is pumped or transferred to a vessel other than the one to which the observer is deployed, CATCH should still be recorded as Yes.

**\*J. INCIDENTAL TAKE?:** Record whether a marine mammal, sea turtle, or sea bird is caught by the gear in this haul by placing an “X” next to the appropriate code:

0 = No.

1 = Yes. If “Yes”, complete a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

*NOTE:* This field cannot be marked as unknown.

**\*K. WEATHER:** Indicate the weather at the beginning of the haul by recording the most appropriate two digit code listed in Appendix J: Weather Codes.

**L. WIND SPEED:** Record, in whole knots, the wind speed at the beginning of this haul. If there is no wind, record “0”.

*NOTE:* This is **not** a range.

**M. WIND DIRECTION:** Record, in compass degrees (0°–359°), the direction from which the wind is blowing at the beginning of this haul. If there is no wind, record “—” (a dash).

**\*N. WAVE HEIGHT:** Record, in whole feet, the wave height at the beginning of this haul. If the wave height is less than six inches, record “0”.

*NOTE:* This is **not** a range.

**O. BOTTOM DEPTH:** Record, in whole fathoms, the water depth at the beginning of this haul.

*NOTE:* This is **not** a range.

**\*P. BEGIN/END LATITUDE/LONGITUDE OR LORAN:** Record the latitude and longitude location, to the **tenth of a minute**, where the set/haul began and ended. If the latitude and longitude location is given in seconds, convert them to tenths of minutes. If lati-

tude and longitude positions are not available, record the LORAN stations and bearings.

*NOTE:* See Appendix I: Conversion Tables for a list of second ranges and corresponding conversions to tenths of minutes.

*NOTE:* This information can be obtained from the captain's logbook or plotter if the set is not observed.

*NOTE:* If **neither** latitude/longitude nor LORAN positions are available, record the statistical area as listed in Appendix N: Overview of the Northeast Statistical Areas. On ASM trips, record statistical area in box P2.

*Example:* 35 23.4 75 16.7 or  
9960X 27054 9960Y 41824

*NOTE:* While **9960–**LORAN chains are the most frequently used chains within this program's jurisdiction, in extreme northern and southern areas other chains may be used, such as:  
Southern North Carolina: **7980–**  
Canadian: **5930–**

**Table 2: LORAN Station Codes**

LORAN Station:	First digit will be:
W	1xxxx
X	2xxxx
Y	4xxxx
Z	6xxxx

**\*Q. TARGET SPECIES:** Indicate the principal species, or species group sought in this haul by recording the most appropriate and specific **species name(s)** possible as listed in Appendix O: Species List and Corresponding Logs. This information must be obtained from the captain, but should be asked before the gear is hauled, and **not** based on the results of this haul's catch.

*Example:* Atlantic Cod.

*Example:* Flounder NK.

*Example:* Weakfish & Croaker.

*NOTE:* On NEFOP and IFS trips, up to 5 unique species names or species groups can be recorded in this field. On ASM trips, record the secondary target species under TARGET SPECIES 2 (Q2).

**R. TARGET SPECIES CODE:** Leave this field blank.

### Catch Data

**\*S. SPECIES NAME:** Record the **complete** com-

mon name of each species or debris item caught in this haul as listed in Appendix O: Species List and Corresponding Logs.

*Example:* Winter skate (wings)

*Example:* Spiny dogfish

*Example:* Summer flounder

*Example:* Debris, Fish Gear

**NOTE:** For a list of species and the log(s) on which to record them see Appendix O: Species List and Corresponding Logs.

#### **T. SPECIES CODE: Leave this field blank.**

**\*U. SUBSAMPLE WEIGHT:** If the species listed in SPECIES NAME (S) is estimated using the volume-to-volume sampling method (see “Catch Estimation Worksheet” on page 342), record the actual subsample weight, to the nearest tenth of a pound. When using other estimation methods, leave this field blank.

**\*V. POUNDS:** Record the dressed or round, actual or estimated hail weight for each caught species listed in SPECIES NAME (S). Record this weight in the most accurate form possible, *i.e.* if a species is gutted prior to weighing, record a dressed weight for this species. The observer’s actual weight should be recorded whenever possible.

**NOTE:** Actual weights should be recorded to the nearest **tenth** of a pound. Estimated weights greater than one pound should be recorded to the nearest **whole** pound. Estimated weights less than one pound should be recorded to the nearest **tenth** of a pound.

**NOTE:** If a fish is “upgraded” or “high graded,” and a previously kept fish is discarded and replaced with one that is larger (or of higher quality/value), record the discarded animal(s) and POUNDS discarded on the Haul Log corresponding to the haul in which the animal(s) was (were) originally caught, and code it 062 for FISH DISPOSITION (W). Be sure to subtract the weight of the animal(s) from the original POUNDS kept record. Upgrading may result in dressed discard weights. Upgrading is typically done with swordfish and tuna, but may also occur with other fish species.

**\*W. FISH DISPOSITION:** Indicate the disposition of each species listed in SPECIES NAME (S) by recording the most appropriate three digit code listed in Appendix M: Fish Disposition Codes. The disposition reason **must** be obtained from the captain.

**NOTE:** Kept is defined as brought on board the

vessel and retained until the vessel has landed. Fish that may be discarded by the dealer should still be recorded as “kept”.

**NOTE:** When a fish or invertebrate is discarded by the vessel, **but retained whole by the observer**, for scientific purposes, *i.e.* species identification, record the weight on a separate line, with disposition code 007.

**NOTE:** If more than one discard reason applies to a discarded species, separate the species onto two or more lines, and record the appropriate weights and discard reasons for each. However, if there is one overriding reason for the discard of all animals of a species group, do not attempt to break this group into smaller discard reason groups.

**Exception:** American lobster should be categorized into specific disposition codes, with the following priority: size (012/013), with eggs (024), v-notched (022), soft-shelled (024), shell disease (037), any other regulatory or market reason.

**NOTE: PAIR TRAWL FISHERY:**

1 Observer—Catch should be combined for the two vessels and recorded on one haul log (‘110’ should be used for catch that is transferred to the vessel the observer is not on).

2 Observers—Catch should be recorded only for the vessel on which the observer is deployed. The sum of the catch should equal the total catch for a haul. Observers should comment on what portion of the catch is brought upon the other vessel.

*Example:* Captain said all Atlantic wolffish caught are discarded because “Regulations prohibit any retention (including no permit)” (025). Therefore, any undersized wolffish on this trip are still recorded as disposition 025.

*Example:* Of the 500 lbs of Cod discarded, 400 lbs are discarded because they are of poor quality due to hagfish damage (036), and 100 lbs are discarded because regulations prohibit their retention because they are too small (012).

**\*X. DRESSED OR ROUND:** Indicate whether the weight recorded in POUNDS (V) is a dressed or round weight by recording the appropriate letter code:

D = Dressed.

R = Round.

**NOTE:** Shark fins, skate wings, monkfish livers, and fish chunks should be coded “D” for

dressed.

*NOTE:* Dressed and round weights for the same species and fish disposition reason should be recorded as separate species records.

*NOTE:* For species coded “poor quality, previously discarded fish” (039), record the species as “Fish NK” in the SPECIES (S) field, record the weight in the POUNDS (V) field, record “U” in the DRESSED/ROUND field, and record the species name in the COMMENTS field.

*Example:* Fish NK = monkfish heads.

**\*Y. ESTIMATION METHOD:** Record the method used to estimate the catch weight of each species (including debris) by recording the appropriate two-digit code:

01 = Actual, spring scale.

02 = Volume-to-volume.

03 = Basket or tote count.

04 = Estimated by captain.

05 = Tally.

06 = Visually estimated by observer.

07 = Cumulative sum method.

10 = Catch Composition Log extrapolation.

11 = Actual, electronic (Marel) scale.

98 = Combination, describe in COMMENTS.

99 = Other, describe in COMMENTS..

*NOTE:* “Actual” estimation method codes (01 and 11) should only be used when all individuals of the same species and disposition are weighed using an FSB-approved scale.

*NOTE:* If the haul is unobserved but kept information is obtained from the captain, then ESTIMATED BY CAPTAIN (04) should be recorded.

*NOTE:* Visual estimates (06) should rarely be used except when estimating very large objects or for accounting for objects such as seaweed attached to fishing gear or very fine and unevenly distributed items such as clay and sand.

*NOTE:* Multiple estimation methods for the same species, fish disposition reason, and weight type (dressed/round) should be **combined** into a single species record. Estimation method 98 should be recorded, and the weight calculations clearly recorded on the Catch Estimation Worksheet.

*NOTE:* See the Catch Estimation Worksheet section beginning on page 342 for more information on estimation methods.

**\*Z. SAMPLE WEIGHT MULTIPLIER:** This value is calculated when using the volume-to-volume sampling method (see “Catch Estimation Worksheet” on page 342). Re-write the number from the Catch Estimation Worksheet into this box.

**"GENERIC" HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBHAU OBSPP 05/01/13**

OBS/TRIP ID **A**  
 DATE LAND (mm/yy) **B** /  
 PAGE # **C** OF

GEAR CODE <b>D</b>	GEAR # <b>E</b>	HAUL #	HAUL OBS? <b>F</b>	ON-EFFORT? <b>G</b>	CATCH? <b>H</b>	INC TAKE? <b>I</b>	WEATHER CODE <b>J</b>	WIND <b>K</b>	SPEED <b>L</b>	DIRECTION <b>M</b>	WAVE HEIGHT <b>N</b>	DEPTH, HAUL BEGIN <b>O</b>	CODE(S) <b>R</b>
DATE mm/dd/yy	AND	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)	LATITUDE / Bearing	LONGITUDE / Bearing	STATION 1	STATION 2	kn	ft	ft	fm	TARGET SPECIES <b>Q</b>	CODE(S) <b>R</b>
S   BEGIN	/	/	:	9960 -	9960 -	9960 -	9960 -						
E   END	/	/	:	9960 -	9960 -	9960 -	9960 -						
T   END	/	/	:	9960 -	9960 -	9960 -	9960 -						
HAUL INFO													
H   BEGIN	/	/	:	9960 -	9960 -	9960 -	9960 -						
A   END	/	/	:	9960 -	9960 -	9960 -	9960 -						
U   END	/	/	:	9960 -	9960 -	9960 -	9960 -						
L   END	/	/	:	9960 -	9960 -	9960 -	9960 -						

COMMENTS

SPECIES	NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT EST METHOD CODE	SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT EST METHOD CODE
1	S													
2														
3														
4														
5														
6														
7														
8														
9														
10														

**"GENERIC" HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBHAU OBSPP 05/01/13**

OBS/TRIP ID \_\_\_\_\_ /  
 DATE LAND (mm/yy) \_\_\_\_\_ /  
 PAGE # \_\_\_\_\_ OF \_\_\_\_\_

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	SPEED	WIND	DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1			kn		ft	fm
SET INFO	DATE	AND TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		CODE(S)							
	mm/dd/yy	24 hours	Station 1	Station 2								
S BEGIN	/ /	:	9960 -	9960 -								
E	/ /	:										
T END	/ /	:	9960 -	9960 -								
HAUL INFO												
H BEGIN	/ /	:	9960 -	9960 -								
A	/ /	:										
U END	/ /	:	9960 -	9960 -								
L	/ /	:										

COMMENTS

SPECIES NAME	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT		EST METHOD CODE	SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT	
				D/R	EST METHOD CODE							D/R	EST METHOD CODE
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

**"GENERIC" HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMHAU ASMSPP 05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> of

GEAR CODE [ ][ ] <b>D</b>	GEAR NUMBER [ ][ ] <b>E</b>	HAUL NUMBER [ ][ ][ ] <b>F</b>	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>G</b>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>J</b>
WEATHER CODE <b>K</b>	WAVE HEIGHT <b>N</b> ft	TARGET SPECIES 1 <b>Q</b>	TARGET SPECIES 2 <b>Q2</b>	
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
<b>BEGIN HAUL</b>	/ /	:	LATITUDE <b>P</b>	LONGITUDE or (STAT AREA)* <b>P2</b>
<b>END HAUL</b>	/ /	:		

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SAMPLE WEIGHT MULTIPLIER  
**Z**  
\_\_\_\_\_

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
<b>S</b>	<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b>	<b>Y</b>						
1	_____					11	_____				
2	_____					12	_____				
3	_____					13	_____				
4	_____					14	_____				
5	_____					15	_____				
6	_____					16	_____				
7	_____					17	_____				
8	_____					18	_____				
9	_____					19	_____				
10	_____					20	_____				

**"GENERIC" HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMHAU ASMSPP 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	of

GEAR CODE [ ][ ][ ]	GEAR NUMBER [ ][ ]	HAUL NUMBER [ ][ ][ ]	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/>
WEATHER CODE	WAVE HEIGHT ft	GEAR COND CODE	TARGET SPECIES 1	TARGET SPECIES 2
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
<b>BEGIN HAUL</b>	/ /	:	LATITUDE	LONGITUDE or (STAT AREA)*
<b>END HAUL</b>	/ /	:		

COMMENTS \* Enter only if latitude/longitude coordinates are not available

SAMPLE WEIGHT MULTIPLIER  
 \_\_\_\_ . \_\_\_\_

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
1	_____					11	_____				
2	_____					12	_____				
3	_____					13	_____				
4	_____					14	_____				
5	_____					15	_____				
6	_____					16	_____				
7	_____					17	_____				
8	_____					18	_____				
9	_____					19	_____				
10	_____					20	_____				



## Fishermen's Comment Log

The purpose of this log is to provide fishermen an opportunity to document and record any significant information as it relates to an observed trip. This log will become part of the trip record.

Observers are required to present this log to the captain at the beginning of every trip. This log is completely voluntary and should not be presented as an additional requirement. This log is not meant to be used for past trips, it should only pertain to the current trip.

### Instructions

Captains may either mail in the log separately or give to the observer to be included as part of the trip file. If the captain would prefer sending the log in at a later time, pre-fill out items A, B and C for the captain. If the log is returned to the observer for submittal with the trip, it should be incited on the Vessel and Trip Information Log by checking the "Y" box next to the Fishermen's Comment Log and placed at the end of the trip. Observers are also required to ask the captain if he would like a copy of the log.

For instructions on completing fields **A**, **B**, and **C**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual. Please note if the back of the log is utilized, the standard trip header information should be filled out on both sides of the log.

**1. EVENT DATE:** Record the two digit month, day, and year of the date the documented event occurred.

*Example:* 08/26/13.

**2. VESSEL NAME:** Record the name of the vessel **to which you are deployed**. Care should be taken to record the correct spelling of the vessel's name.

*Example:* Jo Jo

**3. VESSEL OR HULL NUMBER:** Record the number written on the hull of this vessel to which you are deployed. This number will be either the U.S. Coast Guard Documentation Number or the state registration number. This number may have up to eight characters. This is not the same as the NMFS or state fishing permit number.

*Example:* USCG Documentation Number: 1234567

*Example:* State Registration Number: ME1234A or NC123AB.

**4. COMMENTS CONTINUED ON BACK?:** Indi-

cate whether there are additional comments recorded on the back side of the log by recording an "X" next to the appropriate code.

0 = No.

1 = Yes.

**5. COMMENTS:** Record comments related to gear particulars, unusual species caught, abnormal levels of bycatch, extrapolated weights, uncommon catches, reasons gear was not fishing properly, etc. Please include all relevant information if notes pertain to a specific tow, time, or gear. If more room is needed, use the back of this log.

**FISHERMEN'S COMMENT LOG  
NMFS FISHERIES OBSERVER PROGRAM**

**05/01/13**

Record notes or details on observed tows, such as species composition, estimated or extrapolated weights, gear or fishing conditions that may be out of the ordinary. If notes pertain to a specific tow, or times, please include that information below.

VESSEL NAME

HULL NUMBER

2

3

COMMENTS CONTINUED ON BACK?

NO 0

YES 1 4

COMMENTS

5

OBS/ TRIP ID	A
DATE LAND (mm/yy)	B /
PAGE #	C OF
EVENT DATE (mm/dd/yy)	1 / /

PAPERWORK REDUCTION ACT STATEMENT: The information provided on this form will be used by the National Marine Fisheries Service (NMFS) to improve observer training under section 403(b) of the Magnuson-Stevens Act (16 U.S.C. 1801, et seq.), which will assist NMFS to collect information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. The public reporting burden for this form is estimated to average 15 minutes per response, including the time for completing, reviewing, and transmitting the information on the form. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Amy Van Atten, National Marine Fisheries Service, Northeast Fisheries Science Center, Fisheries Sampling Branch, 166 Water Street, Woods Hole MA 02543-1026. Providing the requested information is voluntary. All identifying data submitted will be handled as confidential material in accordance with NOAA Administrative Order 216-100, Protection of Confidential Fishery Statistics. Other information collected on this form may be subject to public release under various statutes. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to provide a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

**FISHERMEN'S COMMENT LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 05/01/13**

OBS/ TRIP ID	A99015-
DATE LAND (mm/yy)	11 / 13
PAGE #	1 OF 1
EVENT DATE (mm/dd/yy)	11 / 12 / 13

Record notes or details on observed tows, such as species composition, estimated or extrapolated weights, gear or fishing conditions that may be out of the ordinary. If notes pertain to a specific tow, or times, please include that information below.

VESSEL NAME	HULL NUMBER	COMMENTS CONTINUED ON BACK?
Cormorant	663242	NO 0 <input checked="" type="checkbox"/> YES 1

COMMENTS

Caught 700lbs of river herring on haul #4. All other hauls included 100lbs or less and were primarily Atlantic herring. I believe this was because of faulty gear.

PAPERWORK REDUCTION ACT STATEMENT: The information provided on this form will be used by the National Marine Fisheries Service (NMFS) to improve observer training under section 403(b) of the Magnuson-Stevens Act (16 U.S.C. 1801, et seq.), which will assist NMFS to collect information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. The public reporting burden for this form is estimated to average 15 minutes per response, including the time for completing, reviewing, and transmitting the information on the form. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Amy Van Atten, National Marine Fisheries Service, Northeast Fisheries Science Center, Fisheries Sampling Branch, 166 Water Street, Woods Hole MA 02543-1026. Providing the requested information is voluntary. All identifying data submitted will be handled as confidential material in accordance with NOAA Administrative Order 216-100, Protection of Confidential Fishery Statistics. Other information collected on this form may be subject to public release under various statutes. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

**FISHERMEN'S COMMENT LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 05/01/13**

Record notes or details on observed tows, such as species composition, estimated or extrapolated weights, gear or fishing conditions that may be out of the ordinary. If notes pertain to a specific tow, or times, please include that information below.

OBS/ TRIP ID	
DATE LAND (mm/yy)	/ /
PAGE #	OF
EVENT DATE (mm/dd/yy)	/ /

VESSEL NAME	HULL NUMBER	COMMENTS CONTINUED ON BACK?
		NO 0 _____
		YES 1 _____

COMMENTS

PAPERWORK REDUCTION ACT STATEMENT: The information provided on this form will be used by the National Marine Fisheries Service (NMFS) to improve observer training under section 403(b) of the Magnuson-Stevens Act (16 U.S.C. 1801, et seq.), which will assist NMFS to collect information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. The public reporting burden for this form is estimated to average 15 minutes per response, including the time for completing, reviewing, and transmitting the information on the form. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Amy Van Atten, National Marine Fisheries Service, Northeast Fisheries Science Center, Fisheries Sampling Branch, 166 Water Street, Woods Hole MA 02543-1026. Providing the requested information is voluntary. All identifying data submitted will be handled as confidential material in accordance with NOAA Administrative Order 216-100, Protection of Confidential Fishery Statistics. Other information collected on this form may be subject to public release under various statutes. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

OBS/ TRIP ID	
DATE LAND (mm/yy)	/
PAGE #	OF
EVENT DATE (mm/dd/yy)	/ /

COMMENTS

## Gillnet Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hauled** during a trip. These unique configurations may be based on variables such as number of nets per gear, floatline length, anchor weight, *etc.* Any changes in these fields will require completion of a new Gillnet Gear Characteristics Log. Number each gear configuration sequentially.

If the gear is set out and hauled more than once during a trip, do not complete a new Gillnet Gear Characteristics Log for the multiple hauls. Rather, record on the Gillnet Haul Log which gear numbers are being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

For NEFOP trips, if the vessel has two or more identical gears which are hauled separately, complete only one Gillnet Gear Characteristics Log and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). See the gillnet definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

For ASM trips, if the vessel has two or more identical gears which are hauled separately, complete a separate Gillnet Gear Characteristics Log for each individual gear.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

This log should be used to describe all types of gillnet gear except Beach Seine or Beach Anchored Gillnet.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP trips, unless otherwise noted.

Become familiar with the following definitions.

### Definitions

**Gillnet:** A vertical wall of netting, typically stretched between a weighted leadline on the bottom and a

floatline, with or without floats, on the top to support it vertically in the water column. Fish can become enmeshed, entangled, or gilled in one or more of the meshes. The term “gilling” refers to the way the fish gill covers or operculae act as barbs to prevent them from escaping.

**Gear:** A gillnet, or series of gillnets connected by bridles, with or without spaces in between, commonly referred to as a “string”.

**Anchored vs Drift:** An anchored gillnet uses a burying type of anchor (*e.g.*, “Danforth-style”) or dead-weight (*e.g.*, railroad tie, battleship chain, cement blocks) to hold the gear in place. A drift net does not use anchors, and may move freely with the water currents. A net with only a heavy leadline and/or sash weights is not considered anchored.

**Sink vs Float:** A sink net is set on the sea floor and targets demersal and semi-pelagic fish species. Float gillnets can be fished anywhere within the water column, typically at or near the water’s surface. If a net covers the entire water column, the categorization is determined by whether the net would sink or float in deeper water.

**Tiedown:** A vertical line that connects the floatline and the leadline as a way to create a pocket or bag of netting. The tiedown length is the working height of the net, not to be confused with net height.

**Space:** A space greater than or equal to 2.5 feet between nets, continuous from the floatline to the leadline. This space may be caused by the way in which the net bridles are attached.

**Bridles:** The trailing ends of the floatline and leadline on an individual net, used to tie together individual net panels in a string, or attach anchors, groundlines, or buoylines.

**Dropline:** A line that connects the floats on the water’s surface to the floatline. Droplines are used along the entire string to suspend the gear at the desired depth in the water column.

**Active Marine Mammal Deterrent Device:** The most common type emits sound which may be detected by a marine mammal, referred to as “pingers”.

**Passive Marine Mammal Deterrent Device:** The most common types may provide reflection of

marine mammal echolocation signals or be detected visually.

**Surface System:** The configuration of high flyers and buoys/floats at the surface of the water. See Figure 5.

**Buoyline:** A line that connects the surface system to the gear (anchor or net) fishing in the water below. A line that connects the gear to the vessel is not considered a buoyline.

**Groundline:** A line that connects a gillnet or gillnet bridle to an anchor. If no anchor is used, there is no groundline.

**Weak Link:** A breakable component of gear that will part when subjected to a certain tension load. Common types of weaklinks are:

- *rope of appropriate breaking strength* - will break at a certain tension;
- *off the shelf* - commercially available and stamped with the breaking weight;
- *overhand knot* - a line that is cut and retied back together with an overhand knot; and
- *hog rings* - steel rings which are clamped down on a line that can be released with a certain amount of tension.

*NOTE:* Please reference the NOAA Northeast Regional Office's outreach supplement titled 'Techniques for Making Weak Links and Marking Buoy Lines' for an explanation of weak link types.

### Instructions

For instructions on completing the Header Fields **A**, **B**, and **C** and GEAR CODE (**D**), refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

*NOTE:* Record in COMMENTS any calculations used to answer any of the following questions.

**\*1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hauled and for which characteristics are described. See the definition of gear in the introduction.

*Example:* The first uniquely configured gear is "1", and its characteristics will be recorded on one Gillnet Gear Characteristics Log. Two other beach seines are hauled during the observation. These differ from "1" but are identical to each other. They are "2" and "3", and their identical characteristics will be

recorded on a second Gillnet Gear Characteristics Log.

**\*2. NUMBER OF NETS:** Record the **total** number of individual net panels used in this gear, *i.e.* string.

### Net Characteristics

*NOTE:* The questions asked in this section only, describe a **single, average net**, from the many that may be put together to make up this gear. Since each gear is not always made up of uniform nets, provide an **average**, when necessary.

**\*3. LENGTH:** Record, in whole feet, the **average** horizontal distance of a net on this gear, as measured along the floatline. This information may be obtained from the captain.

*NOTE:* If there is a space between two nets, **do not** include this distance in the net length.

**\*4. HEIGHT (endline):** Record, to the nearest tenth of a foot, the average height of a net in this gear. This value is obtained by measuring the length of the endline on the end of a net where the meshes are attached. This information may be obtained from the captain.

*NOTE:* The captain may refer to this measurement as the "frame" or "up and down" height. This is not the same as the stretched height of the vertical meshes. **Do not** record a calculated net height.

**5. MESH COUNT, VERTICAL:** Record, to the nearest whole number, the average number of vertical meshes of a net in this gear. This information may be obtained from the captain.

### Gear Characteristics

*NOTE:* The following fields characterize the **entire gear, i.e., the string**, and not just one net.

**6. HANGING RATIO:** Record the **average** fractional ratio of the length of the floatline for one net to the length that the net would be if it was taken off the floatline and stretched out. This value can be calculated by counting 10 or 12 meshes horizontally, measuring the length of the floatline they are attached to, and comparing that distance to the stretched out length of the meshes. This information may be obtained from the captain.

*Example:* If the stretched out distance of the meshes is two times the length of the floatline, record "½."

### Twine Size

**7. NUMBER:** Record the twine size number (industry standard) of the net webbing used in this gear. This information may be obtained using a twine size measuring tool provided by FSB or observer provider. This information may also be obtained from the captain. **An average should not be recorded here.** See [Appendix I: Conversion Tables](#) to convert twine diameters to the corresponding industry standard twine size.

*NOTE:* This number should reflect the total diameter of the net webbing, and not the diameter of an individual strand which may be twisted with other strands to create the net webbing.

*NOTE:* If more than one twine size is used within one gear, record 998, combination, and indicate the twine sizes used in COMMENTS.

**8. ACTUAL OR ESTIMATED:** Record whether the number recorded in TWINE SIZE NUMBER (#7) is an actual or an estimated value by circling the appropriate letter code:

A = Actual.

E = Estimated.

*NOTE:* An **actual twine size number** is obtained using a twine size measuring tool provided by FSB or observer provider. An **estimated twine size number** is provided by the captain.

**9. FLOATLINE MATERIAL:** Record the material of the floatline used in this gear by placing an "X" next to the appropriate code:

0 = Unknown.

1 = Floating (with a foam core).

2 = Twisted Polypropylene.

9 = Other, record the floatline material on line 9A.

**10. LEADLINE WEIGHT:** Record, to the nearest tenth of a pound, the weight of the leadline used in **an average net** of this gear. This information may be obtained from the captain.

*NOTE:* If all nets are not a uniform length, record the leadline weight per net as a weighted average and describe in COMMENTS.

*Example:* A gear has 5 nets. Three nets have a leadline weight of 80 lbs each. Two nets have a leadline weight of 70 lbs each. Leadline weight for the gear should be recorded as:

$$[(80*3) + (70*2)] \div 5 = 76.0 \text{ lbs}$$

### Floats

**11. USED?:** Record whether floats are used on this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**12. DISTANCE BETWEEN:** Record, in whole feet, the **average** distance along the floatline between floats used on this gear. This information may be obtained from the captain.

### Tiedowns

**\*13. USED?:** Record whether tiedowns are used in this gear by placing an "X" next to the appropriate code (See Figure 1):

0 = No.

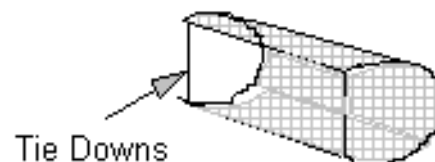
1 = Yes, **all** nets.

2 = Yes, but **not all** nets; record the number of nets using tiedowns in COMMENTS.

*NOTE:* For ASM trips, only record Yes or No. If not all nets use tiedowns, mark 'Yes' and record the number of nets using tiedowns in COMMENTS.

**\*14. LENGTH:** Record, to the nearest tenth of a foot, the average length of the tiedowns used in this gear. This is the length of line used to connect the floatline and leadline. This information may be obtained from the captain (See Figure 1).

Figure 1: Gillnet with tiedowns.



### Space(s) Between Nets

**15. USED?:** Record whether there is (are) any continuous space(s) **greater than or equal to 2.5 feet** between the nets in this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes, describe the space(s) in COMMENTS.

**16. NUMBER:** Record the **total** number of spaces used between the nets in this gear.

**17. WIDTH:** Record, to the nearest foot, the **average** width of the space(s) used between the nets in this gear. This should be a weighted average.

*Example:* A gillnet string has ten nets with 9



spaces. Three of these spaces are approximately 3.5 feet wide and 6 spaces are approximately 4.5 feet wide. The average width for these spaces should be recorded as:

$$[(3 \times 3.5) + (6 \times 4.5)] \div 9 = 4.2$$

Round 4.2 to 4 feet.

### Droplines

**18. USED?:** Record whether droplines are used in this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**19. LENGTH:** Record, in whole feet, the average length of the droplines used in this gear. This length is the distance from the floats (at the water’s surface) to the floatline. This information may be obtained from the captain.

### Additional Weights

**20. USED?:** Record whether any additional weights are used on the leadline of this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**21. WEIGHT:** Record, in whole pounds, the **total** weight of the additional weights used on the leadline of this gear. Do **not** include the weight of the leadline itself.

### Anchor

**22. USED?:** Record whether any anchor(s) are used on this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**23. NUMBER:** Record the number of anchor(s) used on this gear.

**24. WEIGHT:** Record, in whole pounds, the **total** weight of the anchor(s) used to hold this gear in place. This information may be obtained from the captain.

**25. WEIGHT—ACTUAL OR ESTIMATED:** Record whether the weight recorded in ANCHOR WEIGHT (#24) is an actual or an estimated value by circling the appropriate letter code:

A = Actual.

E = Estimated.

*NOTE:* A manufacturer weight stamped onto the

anchor is considered an actual weight.

**26. TYPE(S):** Indicate which type(s) of anchor(s) are used on this gear by placing an “X” next to the appropriate code (See Figure 2):

0 = Unknown.

1 = Danforth-style.

2 = Dead Weight (*i.e.* railroad tracks, mushroom weights, pile of leadline tied together).

8 = Combination, record all anchor types used in the COMMENTS.

9 = Other, record the anchor type on line 26A.

Figure 2: Examples of common anchor types.



**27. SECURING METHOD(S):** Indicate the manner in which this gear is secured by placing an “X” next to the appropriate code:

1 = None.

2 = Ocean Bottom.

3 = Vessel and Ocean Bottom.

4 = Tied to Vessel Only.

*NOTE:* Methods 1 (None) and 4 (Tied to Vessel Only) apply only to drift gears. Methods 2 (Ocean Bottom) and 3 (Vessel and Ocean Bottom) apply only to anchored gears.

### Active Marine Mammal Deterrent Devices

**\*28. USED?:** Record whether “active” marine mammal deterrent devices (*i.e.* pingers) were on this gear **when it was set** by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**29. NUMBER:** Record the number of active marine mammal deterrent devices (*i.e.* pingers) on the gear **when it was set**. This information may be obtained from the captain if the set is not observed.

**30. FREQUENCY:** Record the frequency of the active marine mammal deterrent devices used on this gear in kilohertz (kHz). If more than one frequency of active deterrent device is used, record the frequency of the **majority** of the active deterrent devices on the gear. If an equal number of different frequency active deterrent devices are used, record the highest frequency used. This information may be obtained from the captain.

*Example:* 10kHz.

**31. BRAND(S):** Indicate which brand(s) of active marine mammal deterrent devices are used on this gear by placing an “X” next to the appropriate code:

- 00 = Unknown.
- 01 = Dukane.
- 02 = Airmar.
- 03 = Fumunda.
- 04 = Future Oceans LED.
- 98 = Combination, record all brands in the COMMENTS.
- 99 = Other, record the brand on line 31A.

**Passive Marine Mammal Deterrent Devices**

**32. USED?:** Record whether “passive” marine mammal deterrent devices were on this gear **when it was set** by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* If used, describe the device in the COMMENTS.

*Example:* Net material that is designed to be more acoustically visible to marine mammals.

**33. NUMBER:** Record the number of passive marine mammal deterrent devices on the gear **when it was set**. This information can be obtained from the captain if the set is not observed.

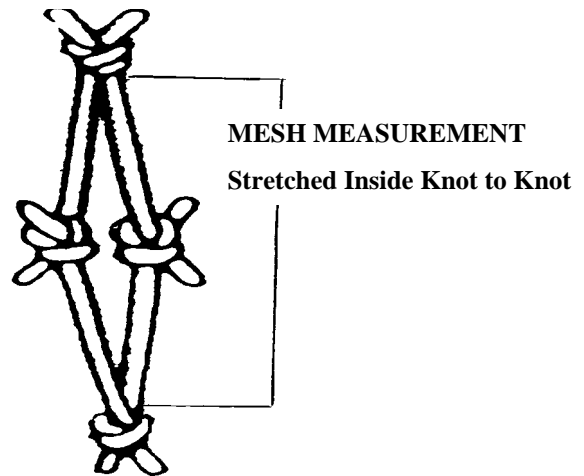
*NOTE:* If some or all of the nets in the gear are made from material that is designed to be more acoustically visible to marine mammals, record the **number of nets** within the gear made from this material.

**Mesh Size**

*NOTE:* Whenever possible complete field #'s 34 and 35. Field #36 may be completed when

information for field #'s 34 and 35 is not available. Do not complete all three fields.

Figure 3: Measuring mesh size.



**\*34. NUMBER OF NETS AT EACH MESH SIZE:** Complete the table by recording the number of nets, and their corresponding mesh size, to the nearest hundredth of an inch. This information may be obtained from the captain.

*NOTE:* If this information is unavailable, complete MESH SIZE RANGE (#36) instead.

*NOTE:* If this information is obtained from the captain, make sure the value given is stretched length, not bar length. Stretched length is approximately twice the bar length. Ex: 1.25 in. mesh bar length, would equal approximately 2.50 in. mesh stretched.

*Example:* 3 nets at 6.25 inch mesh, 3 nets at 6.50 inch mesh

Figure 4: Recording number of nets at each mesh size (fields #34 and 35).

# NETS	MESH SIZE in.	
3	6.25	A (E)
3	6.50	A (E)

**\*35. ACTUAL/ESTIMATED:** Indicate whether the net mesh size(s) recorded in NUMBER OF NETS AT EACH MESH SIZE (#34) is (are) an actual or estimated measurement(s) by circling the appropriate letter:

- A = Actual.
- E = Estimated.

*NOTE:* An **actual** mesh size measurement is obtained using calipers. An **estimated** mesh size measurement is provided by the captain.

*Example:* The captain states that in a string of 6 nets, 3 are at 6.25 inches and 3 are at 6.5 inches. The observer would record this as shown in Figure 4.

**\*36. MESH SIZE RANGE:** Record, to the nearest hundredth of an inch, the minimum and maximum mesh sizes used in this gear. This information may be obtained from the captain.

*NOTE:* Do not complete this field if you have completed field #34.

**37. COLOR:** Record the color of the net webbing used in this gear by placing an “X” next to the appropriate code:

- 00 = Unknown.
- 01 = Clear.
- 02 = White.
- 03 = Pink.
- 04 = Black.
- 05 = Green.
- 06 = Blue.
- 07 = Multi-color, record all net webbing colors on line 37A.
- 08 = Red.
- 09 = Orange.
- 10 = Purple.
- 98 = Combination, record all net webbing colors on line 37A.
- 99 = Other, record the color on line 37A.

*NOTE:* “Multi-color” = 07, should be used **only** if more than 1 color of webbing is used within **one** net.

*NOTE:* “Combination” = 98, should be used if more than 1 color of net is used within this gear.

*Example:* A string of 20 nets, 10 of which are red and 10 of which are blue would be coded 98, and “10–red, 10–blue” recorded on line 37A.

### Surface System

**38. NUMBER OF HIGH FLYER(S):** Record the **total** number of high flyer(s) used on this gear.

**39. NUMBER OF BUOY(S):** Record the **total** number of surface buoy(s) used on this gear. These buoy(s) may be referred to as tide buoy(s) and are connected to the buoyline.

**40. SURFACE LINE LENGTH:** Record, in whole feet, the **average** length between the high flyer(s) and buoy(s) which are attached to the same buoyline. This

length may be obtained from the captain.

**41. TYPE CODE:** Indicate the type of line used between the high flyer(s) and buoy(s) on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

- 0 = Unknown.
- 1 = Sinking / Neutrally Buoyant.
- 2 = Floating.
- 8 = Combination, record all line types used in the COMMENTS.
- 9 = Other, record line type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**42. DIAMETER:** Record, in inches, the **average** fractional diameter of the line between the high flyer(s) and buoy(s) used on this gear. This information may be obtained from the captain.

*Example:* 5/8 inches.

**43. MARK?:** Indicate if the surface system buoy(s) is (are) marked to identify the vessel or fishery by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

### Groundline

**44. USED?:** Record whether groundline is used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**45. LENGTH:** Record, in whole feet, the **total** length of the groundline used on this gear (*i.e.*, the sum of groundline from both ends of the string). This information may be obtained from the captain.

**46. TYPE CODE:** Indicate the type of groundline used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

- 0 = Unknown.
- 1 = Sinking / Neutrally Buoyant.
- 2 = Floating.
- 8 = Combination, record all groundline types used in the COMMENTS.
- 9 = Other, record groundline type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**47. DIAMETER:** Record, in inches, the **average** fractional diameter of the groundline used on this gear. This information may be obtained from the captain.

*Example:* 3/8 inches.

### Buoyline

**48. NUMBER OF BUOYLINE(S):** Record the number of buoyline(s) used on this gear.

**49. LENGTH:** Record, in whole feet, the **average** length of the buoyline(s) used on this gear. This measurement should not include groundlines if groundlines are used. This information may be obtained from the captain.

**50. TYPE CODE:** Indicate the type of buoyline(s) used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Sinking / Neutrally Buoyant.

2 = Floating.

8 = Combination, record all buoyline types used in the COMMENTS.

9 = Other, record buoyline type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**51. PERCENT OF TYPE:** Record the **average** percent of buoyline type (sinking/ neutrally buoyant to floating) used on this gear. This information may be obtained from the captain.

*NOTE:* This field should only be completed if Combination (8) is selected for BUOYLINE TYPE CODE (#50), otherwise dash '—' the field.

*Example:* The captain states that he has 40 fathoms of sinking line and 20 fathoms of floating line. Record this as "67%/33%".

**52. DIAMETER:** Record, in inches, the **average** fractional diameter of the buoyline(s) used on this gear. This information may be obtained from the captain.

*Example:* 5/8 inches.

**53. MARK?:** Indicate if the buoyline has one 4" colored mark mid-way on the buoyline by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

### Weak Links

**54. USED ON SURFACE?:** Record whether any weak links are used on the surface system of this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**55. NUMBER:** Record the **total** number of surface system weak links used on this gear. This information may be obtained from the captain. See Figure 5.

**56. TYPE CODE:** Indicate the type of weak link(s) used on the surface system of this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Rope of Appropriate Breaking Strength.

2 = Off the Shelf.

3 = Overhand Knot.

4 = Hog Rings.

8 = Combination, record all weak link types used in the COMMENTS.

9 = Other, record the weak link type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**57. USED ON STRING?:** Record whether any weak links are used on the string (net panels) of this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**58. NUMBER:** Record the **total** number of weak links on the entire string (all net panels) used on this gear. This information may be obtained from the captain. See Figure 5.

**59. TYPE CODE:** Indicate the type of weak link(s) used on the string (net panels) of this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Rope of Appropriate Breaking Strength.

2 = Off the Shelf.

3 = Overhand Knot.

4 = Hog Rings.

8 = Combination, record all weak link types used in the COMMENTS.

9 = Other, record the weak link type in the COMMENTS.

*NOTE:* This information may be obtained from

the captain.

### **Comments**

Record any additional information about this gear, *e.g.* a description of the space(s) between nets, methods of setting/hauling the gear. Be sure to include a description if a 'combination' or 'other' code is used for one or more fields (*e.g.* surface weak link type: other = modified swivel). Record any calculations used to answer any questions. If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

Figure 5: Typical gillnet gear configuration.  
 Photo credit: NOAA Fisheries Service Northeast Regional Office  
 (Original image modified to include additional information).

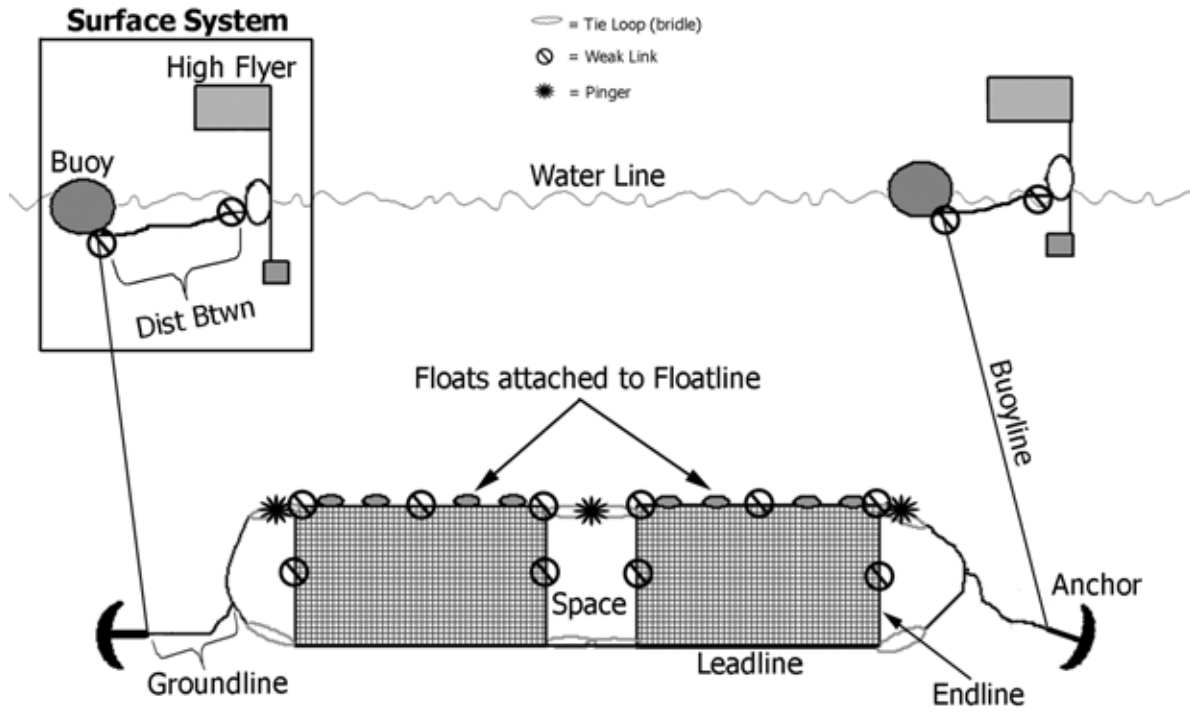


Figure 6: Image of marked buoy.  
 Photo credit: NOAA Fisheries Service Northeast Regional Office



**GILLNET GEAR CHARACTERISTICS LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBGG OBMSZ 05/01/13**

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 PAGE # **C**  OF

GEAR CODE <input type="checkbox"/>		GEAR NUMBER(S) <b>1</b>		NUMBER OF NETS <b>2</b>		MESH SIZE(S)	
D <input type="checkbox"/>		USED? <b>NO</b> <input type="checkbox"/> <b>YES</b> <input type="checkbox"/>		MEASUREMENTS		NET COLOR <b>37</b>	
AVERAGE NET:		FLOATS <b>11</b> 0 <input type="checkbox"/> 1 <input type="checkbox"/>		Dist Between <b>12</b> _____ ft		(circle one)	
LENGTH <b>3</b> _____ ft		TIE DOWNS <b>13</b> 0 <input type="checkbox"/> 1 <input type="checkbox"/> (all nets) 2 <input type="checkbox"/> (not all nets)		Length <b>14</b> _____ ft		<b>35</b>	
HEIGHT (endline) <b>4</b> _____ ft		SPACE(S)		BETWEEN NETS <b>15</b> 0 <input type="checkbox"/> 1 <input type="checkbox"/>		A / E	
MESH COUNT		DROPLINES <b>18</b> 0 <input type="checkbox"/> 1 <input type="checkbox"/>		Length <b>19</b> _____ ft		A / E	
VERTICAL		ADDITIONAL WGTS <b>20</b> 0 <input type="checkbox"/> 1 <input type="checkbox"/>		Weight <b>21</b> _____ lbs		Multi-color	
HANGING		ANCHOR(S)		Type <b>26</b>		Red	
RATIO <b>6</b> / _____		Number <b>23</b> _____		Danforth-style 0 _____ 1 _____ 2 _____		Orange	
TWINNE SIZE <b>7</b> _____ A / E		Weight (total) <b>24</b> _____ lbs		(circle one)		Purple	
FLOATLINE MATERIAL <b>9</b>		SECURING METHOD(S)		<b>25</b>		Combination	
Unknown 0 _____		None <b>27</b> 1 <input type="checkbox"/>		Other 9 _____		Other	
Floating (foam core) 1 _____		Ocean Bottom 2 _____		Type <b>26A</b>		37A	
Twisted Polypropylene 2 _____		Vessel/Ocean Bottom 3 _____		Length (avg) <b>40</b> _____ ft		38	
Other 9 _____		Vessel Only 4 _____		Type Code <b>41</b> _____		39	
<b>9A</b> _____		ACTIVE USED? 0 _____ 1 _____		Diameter <b>42</b> _____ / _____ in		40	
LEADLINE WEIGHT <b>10</b>		Number <b>29</b> _____		Mark? <b>43</b> NO 0 _____ YES 1 _____		41	
_____ lbs/ net		Frequency <b>30</b> _____ kHz		Diameter <b>44</b> _____ / _____ in		42	
PASSIVE USED? 0 _____ 1 _____		Brand(s) <b>31</b>		Mark? <b>45</b> NO 0 _____ YES 1 _____		43	
Number <b>33</b> _____		Unknown 00 _____ Dukane 01 _____ Airmar 02 _____ Fumunda 03 _____ Future Oceans LED 04 _____ Combination 98 _____ Other 99 _____		Used? <b>44</b> 0 _____ 1 _____		44	
<b>32</b>		<b>31A</b>		Length (total) <b>45</b> _____ ft		45	
COMMENTS				Type Code <b>46</b> _____		46	
				Diameter <b>47</b> _____ / _____ in		47	
				WEAK LINKS <b>54</b>		48	
				USED ON SURFACE? 0 _____ 1 _____		49	
				Number (total) <b>55</b> _____		50	
				Type Code <b>56</b> _____		51	
				USED ON STRING? <b>57</b> 0 _____ 1 _____		52	
				Number (total) <b>58</b> _____		53	
				Type Code <b>59</b> _____		54	

**GILLNET GEAR CHARACTERISTICS LOG  
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GEAR CODE <b>1 0 0</b>		GEAR NUMBER(S) <b>1, 2, 3, 4</b>		NUMBER OF NETS <b>15</b>		MESH SIZE(S) # OF NETS <b>15</b> MESH SIZE (inches) <b>12 . 0 . 0</b> (circle one) <b>A (E)</b>		NET COLOR Unknown <input type="checkbox"/> 00 Clear <input type="checkbox"/> 01 White <input type="checkbox"/> 02 Pink <input type="checkbox"/> 03 Black <input type="checkbox"/> 04 Green <input type="checkbox"/> 05 Blue <input type="checkbox"/> 06 Multi-color <input type="checkbox"/> 07 Red <input type="checkbox"/> 08 Orange <input type="checkbox"/> 09 Purple <input type="checkbox"/> 10 Combination <input checked="" type="checkbox"/> 98 Other <input type="checkbox"/> 99 <b>*SEE COMMENTS</b>			
AVERAGE NET: LENGTH <b>300</b> ft		USED? NO YES 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/>		MEASUREMENTS Dist Between <b>5</b> ft		TIE DOWNS 1 <input checked="" type="checkbox"/> (all nets) Length <b>4 . 0</b> ft 2 <input type="checkbox"/> (not all nets)		MESH SIZE RANGE <b>OR</b>			
HEIGHT (endline) <b>8 . 5</b> ft		SPACE(S) 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/>		Number <b>14</b>		BETWEEN NETS		Width <b>3</b> ft			
MESH COUNT VERTICAL <b>25</b>		DROPLINES 0 <input checked="" type="checkbox"/> 1 <input type="checkbox"/>		Length		ADDITIONAL WGTS		Weight			
HANGING RATIO <b>1 / 2</b>		ANCHOR(S) (circle one) <b>24 A (E)</b>		Type		SURFACE SYSTEM		BUOYLINE			
TWINNE SIZE		Number <b>2</b>		Unknown <input type="checkbox"/> 0 Danforth-style <input checked="" type="checkbox"/> 1 Dead Weight <input type="checkbox"/> 2 Combination <input type="checkbox"/> 8 Other <input type="checkbox"/> 9		# of High Flyer(s) <b>2</b>		# of Buoyline(s) <b>2</b>			
FLOATLINE MATERIAL Unknown <input type="checkbox"/> 0 Floating (foam core) <input type="checkbox"/> 1 Twisted Polypropylene <input checked="" type="checkbox"/> 2 Other <input type="checkbox"/> 9		Weight (total) <b>100</b> lbs A <b>(E)</b>		(circle one)		Surface Line Length (avg) <b>3</b> ft		Length (avg) <b>200</b> ft			
SECURING METHOD(S) None <input type="checkbox"/> 1 Ocean Bottom <input checked="" type="checkbox"/> 2 Vessel/Ocean Bottom <input type="checkbox"/> 3 Vessel Only <input type="checkbox"/> 4		Brand(s) Unknown <input type="checkbox"/> 00 Dukane <input checked="" type="checkbox"/> 01 Airmar <input type="checkbox"/> 02 Fumunda <input type="checkbox"/> 03 Future Oceans LED <input type="checkbox"/> 04 Combination <input type="checkbox"/> 98 Other <input type="checkbox"/> 99		Type Code <b>1</b>		Type Code <b>1</b>		Percent of Type (sinking / floating) <b>75% / 25%</b>		Diameter <b>5 / 8</b> in	
LEADLINE WEIGHT <b>32 . 5</b> lbs/ net		ACTIVE USED? 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/>		Number <b>16</b>		Mark? NO <input type="checkbox"/> 0 YES <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/>		WEAK LINKS NO YES		USED ON SURFACE? 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/>	
PASSIVE USED? 0 <input checked="" type="checkbox"/> 1 <input type="checkbox"/>		Frequency <b>10</b> kHz		Number		GROUNDLINE NO YES		USED? 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/>		Number (total) <b>4</b>	
Number		Number		Length (total) <b>6</b> ft		Type Code <b>1</b>		USED ON STRING? 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/>		Type Code <b>1</b>	
COMMENTS <b>* Net Color = 5 blue, 5 pink and 5 clear.</b>		Diameter <b>3 / 8</b> in		Type Code <b>1</b>		Diameter <b>3 / 8</b> in		Number (total) <b>75</b>		Type Code <b>2</b>	



**GILLNET GEAR CHARACTERISTICS LOG  
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OBS/ TRIP ID _____	DATE LAND (mm/yy) _____	PAGE # _____ OF _____		
GEAR CODE _____	GEAR NUMBER(S) _____	NUMBER OF NETS _____		
<b>AVERAGE NET:</b> LENGTH _____ ft HEIGHT (endline) _____ ft MESH COUNT _____ VERTICAL _____ HANGING _____ RATIO _____ / _____	<b>USED?</b> FLOATS NO _____ YES 1 _____ TIE DOWNS NO _____ YES 1 _____ (all nets) 2 _____ (not all nets) SPACE(S) NO _____ YES 1 _____ BETWEEN NETS NO _____ YES 1 _____ DROPLINES NO _____ YES 1 _____ ADDITIONAL WGTS NO _____ YES 1 _____	<b>MEASUREMENTS</b> Dist Between _____ ft Length _____ ft Number _____ Width _____ ft Length _____ ft Weight _____ lbs	<b>MESH SIZE(S)</b> # OF NETS _____ MESH SIZE (inches) _____ (circle one) A / E A / E A / E A / E OR MESH SIZE RANGE _____	<b>NET COLOR</b> Unknown 00 Clear 01 White 02 Pink 03 Black 04 Green 05 Blue 06 Multi-color 07 Red 08 Orange 09 Purple 10 Combination 98 Other 99
TWINE SIZE _____ (circle one) A / E FLOATLINE MATERIAL Unknown 0 Floating (foam core) 1 Twisted Polypropylene 2 Other 9	<b>ANCHOR(S)</b> Number _____ (circle one) Weight (total) _____ lbs A / E <b>SECURING METHOD(S)</b> None 1 _____ Ocean Bottom 2 _____ Vessel/Ocean Bottom 3 _____ Vessel Only 4 _____	<b>SURFACE SYSTEM</b> # of High Flyer(s) _____ # of Buoy(s) _____ Surface Line Length (avg) _____ ft Type Code _____ Diameter _____ / _____ in Mark? NO 0 _____ YES 1 _____	<b>BUOYLINE</b> # of Buoyline(s) _____ Length (avg) _____ ft Type Code _____ Percent of Type (sinking / floating) _____ % / _____ % Diameter _____ / _____ in Mark? NO 0 _____ YES 1 _____	<b>WEAK LINKS</b> USED ON SURFACE? NO _____ YES 1 _____ USED ON STRING? NO _____ YES 1 _____
<b>LEADLINE WEIGHT</b> _____ lbs/ net	<b>MM DETERRENT DEVICES</b> ACTIVE USED? Number 0 _____ 1 _____ Brand(s) _____ Frequency _____ kHz PASSIVE USED? Number 0 _____ 1 _____	Unknown 00 Dukane 01 Airmar 02 Fumunda 03 Future Oceans LED 04 Combination 98 Other 99	<b>GROUNDLINE</b> USED? NO _____ YES 1 _____ Length (total) _____ ft Type Code _____ Diameter _____ / _____ in	Number (total) _____ Type Code _____ Number (total) _____ Type Code _____
<b>COMMENTS</b>				

**WEAK LINK TYPE CODES:**

- 0 = Unknown
- 1 = Rope of Appropriate Breaking Strength
- 2 = Off the Shelf
- 3 = Overhand Knot
- 4 = Hog Rings
- 8 = Combination
- 9 = Other

**LINE TYPE CODES:**

- 0 = Unknown
- 1 = Sinking / Neutrally Buoyant
- 2 = Floating
- 8 = Combination
- 9 = Other

**ADDITIONAL COMMENTS**

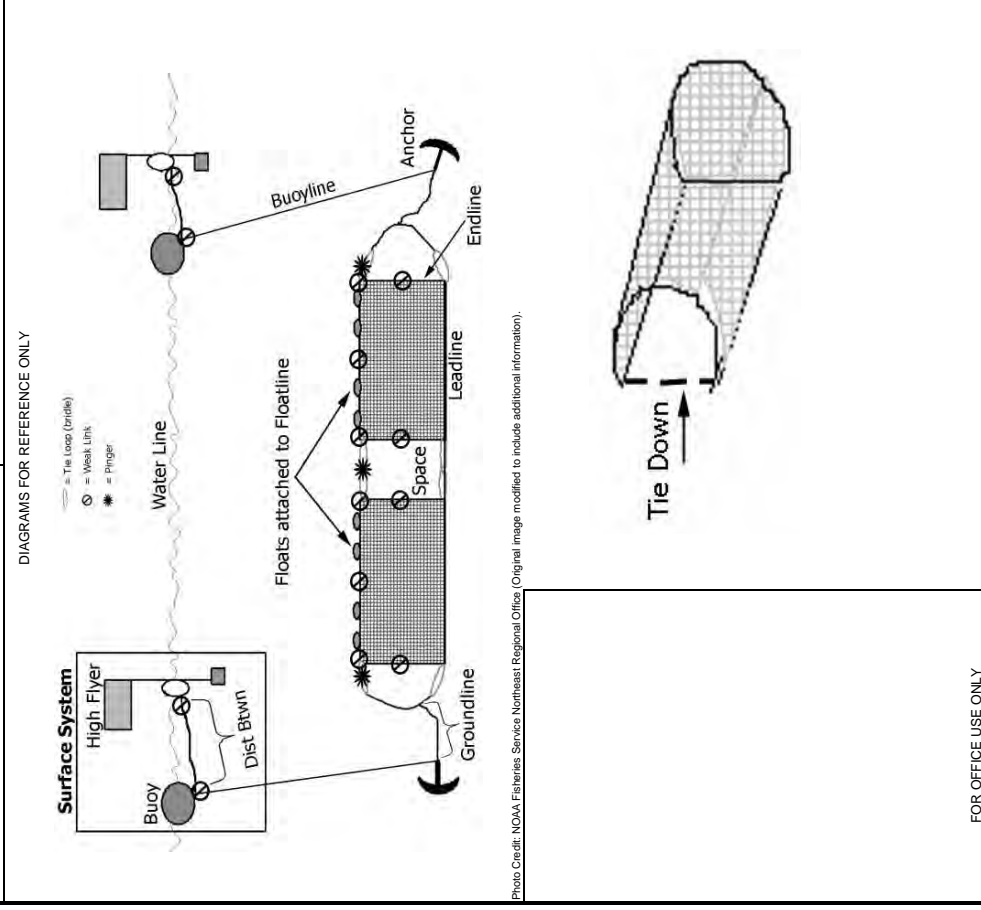


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

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**GILLNET GEAR LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMGGG 05/01/13**

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GEAR CODE [ ][ ] [ ][ ]	GEAR # [ ][ ] <b>1</b>	# OF NETS <b>2</b>	NET LENGTH <b>3</b> ft	NET HEIGHT <b>4</b> ____ . ____ ft	TIEDOWNS USED? YES <input type="checkbox"/> <b>13</b> NO <input type="checkbox"/>	TIEDOWN LENGTH <b>14</b> ____ . ____ ft
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**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

<b>MEASUREMENTS (in.)</b>			<b>OR</b>	<b>RANGE (in.)</b>		<b>PINGERS USED?</b> <b>28</b> YES <input type="checkbox"/> NO <input type="checkbox"/>
# NETS @	MESH SIZE	ACTUAL		EST	MINIMUM	
____	____ . ____	<input type="checkbox"/>		<input type="checkbox"/>	<b>36</b>	____ . ____
	<b>34</b>	<input type="checkbox"/>	<input type="checkbox"/>			
	____ . ____	<input type="checkbox"/>	<input type="checkbox"/>	<b>MAXIMUM</b>	____ . ____	
	____ . ____	<input type="checkbox"/>	<input type="checkbox"/>			

COMMENTS

GEAR CODE [ ][ ] [ ][ ]	GEAR # [ ][ ]	# OF NETS	NET LENGTH ft	NET HEIGHT ____ . ____ ft	TIEDOWNS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>	TIEDOWN LENGTH ____ . ____ ft
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**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

<b>MEASUREMENTS (in.)</b>			<b>OR</b>	<b>RANGE (in.)</b>		<b>PINGERS USED?</b> YES <input type="checkbox"/> NO <input type="checkbox"/>
# NETS @	MESH SIZE	ACTUAL		EST	MINIMUM	
____	____ . ____	<input type="checkbox"/>		<input type="checkbox"/>		____ . ____
	____ . ____	<input type="checkbox"/>	<input type="checkbox"/>	<b>MAXIMUM</b>	____ . ____	
	____ . ____	<input type="checkbox"/>	<input type="checkbox"/>			

COMMENTS

**GILLNET GEAR LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMGGG 05/01/13**

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GEAR CODE <b>1 0 0</b>	GEAR # <b>0 1</b>	# OF NETS <b>10</b>	NET LENGTH <b>300</b> ft	NET HEIGHT <b>10.0</b> ft	TIEDOWNS USED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	TIEDOWN LENGTH <b>3.0</b> ft
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**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

MEASUREMENTS (in.)				OR	RANGE (in.)		PINGERS USED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
# NETS	@	MESH SIZE	ACTUAL EST		MINIMUM	MAXIMUM	
<b>7</b>		<b>10.00</b>	<input type="checkbox"/> <input checked="" type="checkbox"/>				
<b>3</b>		<b>11.00</b>	<input type="checkbox"/> <input checked="" type="checkbox"/>				
			<input type="checkbox"/> <input type="checkbox"/>				

COMMENTS

**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

GEAR CODE <b>1 0 0</b>	GEAR # <b>0 2</b>	# OF NETS <b>6</b>	NET LENGTH <b>300</b> ft	NET HEIGHT <b>8.5</b> ft	TIEDOWNS USED? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	TIEDOWN LENGTH _____ _____.____ ft
---------------------------	----------------------	-----------------------	-----------------------------	-----------------------------	--	--

**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

MEASUREMENTS (in.)				OR	RANGE (in.)		PINGERS USED? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
# NETS	@	MESH SIZE	ACTUAL EST		MINIMUM	MAXIMUM	
			<input type="checkbox"/> <input type="checkbox"/>				
			<input type="checkbox"/> <input type="checkbox"/>		<b>6.25</b>		
			<input type="checkbox"/> <input type="checkbox"/>			<b>7.50</b>	

COMMENTS

**GILLNET GEAR LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMGGG 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	__ of __

GEAR CODE □□□	GEAR # □□	# OF NETS	NET LENGTH ft	NET HEIGHT ____ . ____ ft	TIEDOWNS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>	TIEDOWN LENGTH ____ . ____ ft
------------------	--------------	-----------	------------------	------------------------------	---	----------------------------------

**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

MEASUREMENTS (in.)				OR	RANGE (in.)		PINGERS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>
# NETS	@	MESH SIZE	ACTUAL		EST	MINIMUM	
_____	_____	_____ . _____	<input type="checkbox"/>		<input type="checkbox"/>	_____ . _____	
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	MAXIMUM	_____ . _____	
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	_____ . _____		

COMMENTS



GEAR CODE □□□	GEAR # □□	# OF NETS	NET LENGTH ft	NET HEIGHT ____ . ____ ft	TIEDOWNS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>	TIEDOWN LENGTH ____ . ____ ft
------------------	--------------	-----------	------------------	------------------------------	---	----------------------------------

**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

MEASUREMENTS (in.)				OR	RANGE (in.)		PINGERS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>
# NETS	@	MESH SIZE	ACTUAL		EST	MINIMUM	
_____	_____	_____ . _____	<input type="checkbox"/>		<input type="checkbox"/>	_____ . _____	
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	MAXIMUM	_____ . _____	
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	_____ . _____		

COMMENTS

**GILLNET GEAR LOG (BACK)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMGGG 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	__ of __

GEAR CODE □□□	GEAR # □□	# OF NETS	NET LENGTH ft	NET HEIGHT ____ . ____ ft	TIEDOWNS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>	TIEDOWN LENGTH ____ . ____ ft
------------------	--------------	-----------	------------------	------------------------------	---	----------------------------------

**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

MEASUREMENTS (in.)				OR	RANGE (in.)		PINGERS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>
# NETS	@	MESH SIZE	ACTUAL		EST	MINIMUM	
_____	_____	_____ . _____	<input type="checkbox"/>		<input type="checkbox"/>	_____ . _____	
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	_____ . _____		
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	_____ . _____		

COMMENTS



GEAR CODE □□□	GEAR # □□	# OF NETS	NET LENGTH ft	NET HEIGHT ____ . ____ ft	TIEDOWNS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>	TIEDOWN LENGTH ____ . ____ ft
------------------	--------------	-----------	------------------	------------------------------	---	----------------------------------

**MESH SIZES** (Fill out mesh MEASUREMENTS OR RANGE)

MEASUREMENTS (in.)				OR	RANGE (in.)		PINGERS USED? YES <input type="checkbox"/> NO <input type="checkbox"/>
# NETS	@	MESH SIZE	ACTUAL		EST	MINIMUM	
_____	_____	_____ . _____	<input type="checkbox"/>		<input type="checkbox"/>	_____ . _____	
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	_____ . _____		
_____	_____	_____ . _____	<input type="checkbox"/>	<input type="checkbox"/>	_____ . _____		

COMMENTS

<b>FOR OFFICE USE ONLY</b>
----------------------------

## Gillnet Haul Log

This log contains detailed questions about the setting and hauling of gear, and the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather related safety reasons, record as much information on this log as possible (*i.e.*, Header Information, depths, times, positions, kept catch estimates, *etc.*).

The species summary section of this log should be used to record catches of all species (some exceptions listed below), debris, and shells, according to the sampling protocol being followed on that particular trip.

Complete Fish Sampling Trips (ASM and NFEOP): The observer will record complete catch data, *i.e.* both kept and discarded information, for all hauls on "complete fish sampling" gillnet trips. All hauls on these trips will be recorded as observed, and all kept and discarded catch recorded. In addition, biological sampling of the entire catch will occur after **every haul**, with an emphasis placed on sampling discarded species.

Limited Fish Sampling Trips (NEFOP only): The observer will record only the kept catch for all hauls on "limited fish sampling" gillnet trips. All hauls on these trips will be recorded as unobserved as the observer will conduct protected species haul watches. In addition, biological sampling of the kept catch will occur after the **last haul only**.

Set Only Trips (ASM and NEFOP): The observer is onboard for only the setting of gear. No gear is hauled, therefore no catch is retained. Do not complete a Gillnet Gear Characteristics Log or a Gillnet Haul Log. Set Only trips are **not** considered aborted trips.

For more information, refer to the Fishery Sampling Priority Section of the NEFSC Observer Program Biosampling Manual.

If any pelagic species (*e.g.* swordfish, billfish, large tuna species, sharks, *etc.*), sturgeons, rays or tagged fish are caught by the gear, an Individual Animal Log must be completed to provide information on each animal. This is true for both limited AND complete fish sampling trips. This Gillnet Haul Log will serve as a cover sheet for any Individual Animal Log(s) corresponding to this haul that may follow. All marine mammals, sea turtles and sea birds caught by the gear must be recorded on a Marine Mammal,

Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Gillnet Haul Log, making sure to complete all of the Header Information (A–C), GEAR CODE (D), GEAR NUMBER (E), and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a "No/Yes" question, record a dash (—) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP trips, unless otherwise noted.

Become familiar with the following definitions.

### Definitions

**Set Begin:** First component of gillnet deployed.

**Set End:** Gillnet secured to anchoring device or completely deployed.

**Haul Begin:** Hauling equipment put into gear or retrieval of gear commences.

**Haul End:** Gillnet completely retrieved and aboard vessel.

### Instructions

For instructions on completing fields A–Y, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

#### 1. MARINE MAMMAL HAUL WATCH?:

Record whether a protected species haul watch is conducted during this haul by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* These watches will be conducted during **every** haul of a "limited fish sampling" trip.

**2. DEPTH, LEADLINE:** Record, in whole fathoms,

the depth from the surface, at which the leadline fishes for this haul. This range may be calculated by adding the gear dropline length to the net height.

*NOTE:* If the gear fishes on the bottom, sink gillnets for example, the value recorded in this fields should equal BOTTOM DEPTH (O).

### Set/Haul Information

**Set Information** for the next 3 fields (#'s 3, 4 and 5):

If the set is witnessed, record Set BEGIN/END DATES and BEGIN/END TIMES but **not** SOAK DURATION. If the set is not witnessed, fill in SOAK DURATION **only**.

On ASM trips, only complete SOAK DURATION (#5), regardless of whether the set is witnessed.

**\*3. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this set began and ended. If the setting of the gear is not witnessed do not complete this field, instead, complete SOAK DURATION (#5). Record the month, day, and year, based on local time, that this haul began and ended.

**\*4. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000–2359), that this set began and ended, *i.e.* when the first component of the gillnet is deployed (Set Begin) and when the string is secured to an anchoring device, or completely deployed (Set End). If the setting of the gear is not witnessed do not complete this field, instead, complete SOAK DURATION (#5) and record the estimated set times in COMMENTS. Record the local time, using the 24 hour clock (0000–2359), that this haul began and ended, *i.e.* when the hauling equipment is put into gear (Haul Begin), or retrieval of gear commences and when the gillnet is completely retrieved and aboard the vessel (Haul End).

*NOTE:* If a string was partially hauled and reset, record the set times of the majority of the nets in the string.

**\*5. SOAK DURATION:** Record, to the nearest tenth of an hour, the amount of time that the gear for this haul is in the water fishing. This is the amount of time from when the string is secured to an anchoring device, or completely deployed (Set End), until when the hauling equipment is put into gear or retrieval of gear commences (Haul Begin). Obtain this time from the captain. If the setting of the gear is witnessed do not complete this field, instead, complete SET BEGIN DATES and TIMES (#'s 3 and 4).

*NOTE:* Record estimated set times used to calculate SOAK DURATION in COMMENTS.

**\*6. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

000 = Unknown.

210 = No gear damage, or very few small, scattered holes.

220 = Small number of torn meshes, not exceeding 25% of any one net, each net may be torn slightly.

230 = Less than 50% of the nets have less than 50% of the meshes torn or balled up.

240 = 50% or more of the nets have less than 50% of the meshes torn or balled up.

250 = Less than 50% of the nets are obstructed by a large object.

260 = 50% or more of the nets are obstructed by a large object.

270 = Less than 50% of the nets have 50% or more of the meshes torn or balled up.

280 = 50% or more of the nets have 50% or more of the meshes torn or balled up.

290 = Nets in the string totally balled up.

990 = Other, specify in COMMENTS.

*NOTE:* If only part of a string is hauled, only describe the condition of the nets that are brought onboard.

**7. END WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface sea water temperature when this haul **ended**.

*NOTE:* If this temperature is obtained in Celsius, use Appendix I: Conversion Tables to convert it to Fahrenheit.

*NOTE:* Use a thermometer provided by FSB or observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a HAUL END WATER TEMPERATURE **must** be recorded.

### Number of Nets

**8. SET:** Record the **total** number of nets that were originally set out on this gear. This number should agree with the number recorded in NUMBER OF NETS on the corresponding Gillnet Gear Characteristics Log(s).

**\*9. HAULED:** Record the **total** number of nets that



are hauled back from this set. If a net is partially hauled, round this number to the nearest whole net.

*Example:* If 200 feet of a 300 feet net is hauled record one net hauled.

*NOTE:* Record a zero “0” if less than half of one net of a string is hauled and there is **no** catch. Record a one “1” if less than half of one net of a string is hauled and there is catch.

**10. LOST:** Record the **total** number of nets that are lost from this set. If this number differs from NUMBER OF NETS SET (#8) minus NUMBER OF NETS HAULED (#9) record the reason(s) in COMMENTS.

### Number of Marine Mammal Deterrent Devices

For the following fields (#s 11, 12, 13, and 14), if no deterrent devices were used on this gear, leave the fields blank.

#### ACTIVE:

**\*11. HAULED:** Record the number of active marine mammal deterrent devices (*i.e.* pingers) on the gear as it is hauled. This number should agree with the number recorded in NUMBER OF ACTIVE MARINE MAMMAL DETERRENT DEVICES USED on the corresponding Gillnet Gear Characteristics Log(s).

*NOTE:* If gear is partially hauled, record the number of marine mammal deterrent devices **only on** the portion of gear hauled.

*NOTE:* These numbers should reflect the number of these devices on the gear regardless of whether or not it is believed these devices are actually working. Information of this nature should be recorded on the Pinger Tester Worksheet or in the COMMENTS.

**12. LOST:** Record the number of active marine mammal deterrent devices (*i.e.* pingers) lost from this set. If this number differs from NUMBER OF ACTIVE MARINE MAMMAL DETERRENT DEVICES USED minus NUMBER OF ACTIVE MARINE MAMMAL DETERRENT DEVICES HAULED (#11), then record the reason(s) in COMMENTS.

*NOTE:* Do not include devices not seen because gear was partially hauled.

#### PASSIVE:

**13. HAULED:** Record the number of passive marine mammal deterrent devices on the gear as it is hauled. This number should agree with the number recorded

in NUMBER OF PASSIVE MARINE MAMMAL DETERRENT DEVICES USED on the corresponding Gillnet Gear Characteristics Log(s).

*NOTE:* If some or all of the nets in the gear are made from material that is designed to be more acoustically visible to marine mammals, record the **number of nets** within the gear made from this material.

*NOTE:* If gear is partially hauled, record the number of marine mammal deterrent devices **only on** the portion of gear hauled.

**14. LOST:** Record the number of passive marine mammal deterrent devices lost from this set. If this number differs from NUMBER OF PASSIVE MARINE MAMMAL DETERRENT DEVICES USED minus NUMBER OF PASSIVE MARINE MAMMAL DETERRENT DEVICES HAULED (#13), then record the reason(s) in COMMENTS.

*NOTE:* Do not include devices not seen because gear was partially hauled.

**15. SET METHOD:** Record the method that best describes the manner in which the gear for this haul was set by placing an “X” next to the appropriate code:

00 = Unknown.

01 = Temperature.

02 = Bottom Contours (*i.e.* depth).

03 = Compass/ Loran.

04 = Tide/ Current.

05 = Visual (*i.e.* echosounder, surface feeding).

98 = Mixed, (more than one code applies) record all set methods on line 15A.

99 = Other, record the set method(s) on line 15A.

### Comments

Record any additional information regarding this haul, *e.g.* unusual species caught, levels of bycatch, *etc.* If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

### Alternative Platform Sampling Trips

The Alternative Platform Program utilizes an independent vessel to observe small commercial fishing vessels in coastal gillnet fisheries that cannot accommodate an observer, to augment conventional observer coverage, or when observers are unavailable. When observing fishing activities from the alternative platform, there are differences how the data are collected. The following protocols will apply to all Alternative Platform observations.

- All fields refer to the commercial vessel that you are watching, *i.e.*, PORT LANDED, dates, times, EQUIPMENT USED, etc. If these fields are not available, document estimated values in the COMMENTS section whenever possible.
- Gillnet Gear Characteristics Log: Record gear characteristics **only for gear retrievals that are witnessed**. Do not record gear characteristics for gears that may have been hauled prior to the arrival of the alternative platform vessel. Individual gear characteristics for all gears used may not be available; fill this log out as completely as possible including any combined information in the COMMENTS section.
- Gillnet Haul Log: **If a haul is already in progress** when the alternative platform vessel arrives at the fishing vessel, **do not record any information for this haul**. Wait until the next haul commences to begin collecting data and record this information in COMMENTS.  
*Example*: F/V hauled two strings prior to the arrival of the alternative platform vessel, kept about 100 lbs of spanish mackerel.
- **Conduct a Marine Mammal Watch for all hauls**. Only record kept catch information on each haul of the trip. Discard catch may be noted in COMMENTS.
- Vessel and Trip Information Log: In the NUMBER OF TRIP HAULS and NUMBER OF UNOBSERVED HAULS fields, record **only the number of hauls that you witness from HAUL BEGIN to HAUL END**. Do not include hauls that the fishing vessel completed prior to the arrival of the alternative platform vessel or partially witnessed hauls. If possible, obtain the total pounds landed by the fishing vessel at the dock and record them in COMMENTS.

**GILLNET HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBGGH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID **A**  
 DATE LAND (mm/yy) **B /**  
 PAGE # **C** OF

GEAR CODE <b>D</b>	GEAR # <b>E</b>	HAUL # <b>F</b>	HAUL OBS? <b>G</b>	ON-EFFORT? <b>H</b>	MM WATCH? <b>I</b>	CATCH? <b>J</b>	WEATHER CODE <b>K</b>	SPEED <b>L</b>	WIND DIRECTION <b>M</b>	WAVE HEIGHT <b>N</b>	DEPTH, HAUL BEGIN BOTTOM <b>O</b>	LEADLINE <b>P</b>
DATE <b>mm/dd/yy</b>	AND	TIME	LATITUDE / BEARING <b>Station 1</b>	LATITUDE / BEARING <b>Station 2</b>	LONGITUDE / BEARING	ESTIMATED SOAK DURATION <b>hrs</b>	WATER TEMP	ESTIMATED SOAK DURATION <b>hrs</b>	TARGET SPECIES <b>Q</b>	CODE(S) <b>R</b>	GEAR COND CODE	
<b>S</b> BEGIN	<b>3</b> / /	<b>4</b> :	9960 -	9960 -		<b>5</b>			NUMBER OF NETS <b>8</b>		<b>6</b>	
<b>E</b> END	/ /	:	9960 -	9960 -					SET			
<b>T</b> END	/ /	:	9960 -	9960 -					HAULED			
HAUL INFO			9960 -	9960 -					LOST			
<b>H</b> BEGIN	/ /	:	9960 -	9960 -					IF MM/DETERRENTS USED:			
<b>A</b> END	/ /	:	9960 -	9960 -					ACTIVE			
<b>U</b> END	/ /	:	9960 -	9960 -					PASSIVE			
<b>L</b> END	/ /	:	9960 -	9960 -								

COMMENTS

SET METHOD **15**

Unknown 00 Visual 05  
 Temperature 01 Mixed 98  
 Bottom Contours 02 Other 99  
 Compass/Loran 03 **15A**  
 Tidal/Current 04

SPECIES NAME	SPECIES CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT EST METHOD CODE	Y	X	W	V	U	T	SPECIES NAME		SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	EST METHOD CODE	
													NAME	CODE						
<b>S</b>																				

**GILLNET HAUL LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBGGH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID **A99089C**  
DATE LAND (mm/yy) **10 / 13**  
PAGE # **1** OF **2**

GEAR CODE <b>1 0 0</b>	GEAR # <b>0 2</b>	HAUL # <b>0 0 2</b>	HAUL OBS? NO 0 YES 1 <input checked="" type="checkbox"/>	ON-EFFORT? NO 0 YES 1 <input checked="" type="checkbox"/>	MM WATCH? NO 0 YES 1 <input checked="" type="checkbox"/>	CATCH? NO 0 YES 1 <input checked="" type="checkbox"/>	INC TAKE? NO 0 <input checked="" type="checkbox"/> YES 1 <input type="checkbox"/>	WEATHER CODE	SPEED kn	WIND DIRECTION o	WAVE HEIGHT ft	DEPTH, HAUL BEGIN BOTTOM 90 fm LEADLINE 90 fm
SET INFO	DATE mm/dd/yy	AND TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		ESTIMATED SOAK DURATION		TARGET SPECIES		CODE(S)		GEAR COND CODE	
S BEGIN	/ /	:	Station 1 9960 -	Latitude / Bearing 9960 -	Station 2 9960 -	Longitude / Bearing 9960 -	NUMBER OF NETS		SET		IF MM/DETERRENTS USED:	
T END	/ /	:	9960 -		9960 -		15	15	HAULED 17	LOST 0	ACTIVE	PASSIVE
HAUL INFO							72.0	hrs	WATER TEMP			
H BEGIN	10 / 07 / 13	07 .54	9960 -	40° 48.3	9960 -	71° 26.8						
A			9960 -		9960 -							
U END	10 / 07 / 13	09 .05	9960 -	40° 48.4	9960 -	71° 26.5						
L							54.4	F	SET METHOD			

Unknown 00 Visual 05  
Temperature 01 Mixed 98  
Bottom Contours 02  Other 99  
Compass/Loran 03  
Tide/Current 04

SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT EST METHOD CODE	SPECIES		EST METHOD CODE	D/R	WEIGHT
							NAME	CODE			
1 Monkfish (tail)			59	100	D	01		11			
2 Monkfish (liver)			12	100	D	01		12			
3 Monkfish			350	100	D	03		13			
4 Monkfish			24	012	R	01		14			
5 Winter Skate (wings)			35	100	D	04		15			
6 Little Skate			100	001	R	03		16			
7 Jonah Crab			50	001	R	06		17			
8 American Lobster			7.2	100	R	01		18			
9 Atlantic Cod			17.5	012	R	01		19			
10								20			

COMMENTS  
Captain said net was set 3 days ago  
Captain gutting larger monks

**GILLNET HAUL LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBGGH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID \_\_\_\_\_  
DATE LAND (mm/yy) \_\_\_\_\_ / \_\_\_\_\_  
PAGE # \_\_\_\_\_ OF \_\_\_\_\_

GEAR CODE	GEAR #	HAUL #	HAUL OBS? NO 0 YES 1	ON-EFFORT? NO 0 YES 1	MM WATCH? NO 0 YES 1	CATCH? NO 0 YES 1	INC TAKE? NO 0 YES 1	WEATHER CODE	SPEED kn	WIND DIRECTION o	WAVE HEIGHT ft	DEPTH, HAUL BEGIN BOTTOM	LEADLINE fm
-----------	--------	--------	----------------------------	-----------------------------	----------------------------	-------------------------	----------------------------	--------------	-------------	---------------------	-------------------	-----------------------------	----------------

SET INFO	DATE mm/dd/yy	AND TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		ESTIMATED SOAK DURATION	TARGET SPECIES	CODE(S)	GEAR COND CODE
S BEGIN	/ /	: :	Station 1	Station 2	Longitude / Bearing			
E	/ /	:	9960 -	9960 -				
T END	/ /	:	9960 -	9960 -				
HAUL INFO								
H BEGIN	/ /	:	9960 -	9960 -	WATER TEMP o	SET		
A	/ /	:	9960 -	9960 -		HAULED	HAULED	
U END	/ /	:	9960 -	9960 -		LOST	LOST	
L	/ /	:	9960 -	9960 -				

COMMENTS

SET METHOD  
Unknown 00 \_\_\_\_\_ Visual 05 \_\_\_\_\_  
Temperature 01 \_\_\_\_\_ Mixed 98 \_\_\_\_\_  
Bottom Contours 02 \_\_\_\_\_ Other 99 \_\_\_\_\_  
Compass/Loran 03 \_\_\_\_\_  
Tide/Current 04 \_\_\_\_\_

SAMPLE WEIGHT MULTIPLIER \_\_\_\_\_

SPECIES NAME	CODE	SUB- SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT EST METHOD CODE	SPECIES		EST METHOD CODE	D/R	DISP CODE	SUB- SAMPLE WEIGHT	POUNDS	D/R	EST METHOD CODE	
							NAME	NAME								
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

**GILLNET HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMGGH ASMHAU ASMSP 05/01/2013**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> ___ of ___

GEAR CODE <input type="text"/> <b>D</b> <input type="text"/>	GEAR NUMBER <input type="text"/> <b>E</b> <input type="text"/>	HAUL NUMBER <input type="text"/> <b>F</b> <input type="text"/>	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>G</b>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>J</b>
WEATHER CODE <b>K</b>	WAVE HEIGHT <b>N</b> ft	GEAR COND CODE <b>6</b>	TARGET SPECIES 1 <b>Q</b>	TARGET SPECIES 2 <b>Q2</b>
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
<b>BEGIN HAUL</b>	<b>3</b> / /	<b>4</b> :	<b>P</b>	<b>P2</b>
<b>END HAUL</b>	/ /	:		

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SOAK DURATION <b>5</b> ____ . ____ hrs	# PINGERS HAULED <b>11</b>
# NETS HAULED <b>9</b>	# PINGERS LOST <b>12</b>
SAMPLE WEIGHT MULTIPLIER <b>Z</b> _____ . _____	

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
<b>S</b>	<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b>	<b>Y</b>						
1	_____					11	_____				
2	_____					12	_____				
3	_____					13	_____				
4	_____					14	_____				
5	_____					15	_____				
6	_____					16	_____				
7	_____					17	_____				
8	_____					18	_____				
9	_____					19	_____				
10	_____					20	_____				

**GILLNET HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMGH ASMHAU ASMSP 05/01/2013**

OBS/TRIP ID	<b>A99002C</b>
DATE LANDED mm/yy	<b>10 / 13</b>
PAGE #	<b>1</b> of <b>2</b>

GEAR CODE <b>1 0 0</b>	GEAR NUMBER <b>0 1</b>	HAUL NUMBER <b>0 0 1</b>	HAUL OBSERVED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	INC TAKE? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
WEATHER CODE <b>01</b>	WAVE HEIGHT <b>2</b> ft	GEAR COND CODE <b>210</b>	TARGET SPECIES 1 <b>Monkfish</b>	TARGET SPECIES 2 <b>Winter Skate</b>	
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)		
<b>BEGIN HAUL</b>	<b>10 / 04 / 13</b>	<b>13 : 52</b>	LATITUDE <b>41° 25.5</b>	LONGITUDE <b>71° 26.4</b>	or (STAT AREA)*
<b>END HAUL</b>	<b>10 / 04 / 13</b>	<b>15 : 34</b>	<b>41° 27.3</b>	<b>71° 26.9</b>	

COMMENTS	* Enter only if latitude/longitude coordinates are not available	
	SOAK DURATION <b>24 . 0</b> hrs	# PINGERS HAULED <b>15</b>
	# NETS HAULED <b>15</b>	# PINGERS LOST <b>0</b>
	SAMPLE WEIGHT MULTIPLIER _____	

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
<b>1 Monkfish (tails)</b>	_____	<b>59</b>	<b>100</b>	<b>D</b>	<b>01</b>		_____				
<b>2 Monkfish (livers)</b>	_____	<b>12.5</b>	<b>100</b>	<b>D</b>	<b>01</b>		_____				
<b>3 Monkfish</b>	_____	<b>350</b>	<b>100</b>	<b>R</b>	<b>03</b>		_____				
<b>4 Winter Skate</b>	_____	<b>35</b>	<b>100</b>	<b>D</b>	<b>04</b>		_____				
<b>5 Little Skate</b>	_____	<b>100</b>	<b>002</b>	<b>R</b>	<b>03</b>		_____				
<b>6 Jonah Crab</b>	_____	<b>50</b>	<b>001</b>	<b>R</b>	<b>05</b>		_____				
<b>7 American Lobster</b>	_____	<b>7.2</b>	<b>100</b>	<b>R</b>	<b>01</b>		_____				
<b>8 Sponge, NK</b>	_____	<b>3</b>	<b>001</b>	<b>R</b>	<b>06</b>		_____				
<b>9</b>	_____						_____				
<b>10</b>	_____						_____				

**GILLNET HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMGH ASMHAU ASMSP 05/01/2013**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	_____ of _____

GEAR CODE [ ][ ][ ]	GEAR NUMBER [ ][ ]	HAUL NUMBER [ ][ ][ ]	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/>
WEATHER CODE	WAVE HEIGHT ft	GEAR COND CODE	TARGET SPECIES 1	TARGET SPECIES 2
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
			LATITUDE	LONGITUDE or (STAT AREA)*
<b>BEGIN HAUL</b>	/ /	:		
<b>END HAUL</b>	/ /	:		

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SOAK DURATION _____ . _____ hrs	# PINGERS HAULED
# NETS HAULED	# PINGERS LOST
SAMPLE WEIGHT MULTIPLIER _____ . _____	

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
1	_____ . _____					11	_____ . _____				
2	_____ . _____					12	_____ . _____				
3	_____ . _____					13	_____ . _____				
4	_____ . _____					14	_____ . _____				
5	_____ . _____					15	_____ . _____				
6	_____ . _____					16	_____ . _____				
7	_____ . _____					17	_____ . _____				
8	_____ . _____					18	_____ . _____				
9	_____ . _____					19	_____ . _____				
10	_____ . _____					20	_____ . _____				



## Bottom Trawl Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each gear **hauled** during a trip. These unique configurations may be based on changes made to the length of the headrope, mesh size in the codend, *etc.* Any changes in these fields require the completion of another Bottom Trawl Gear Characteristics Log. Do not solely use the COMMENTS section to explain these differences among gears. Number each gear configuration sequentially.

If the gear is set out and hauled more than once during a trip, do not complete a new Bottom Trawl Gear Characteristics Log for the multiple hauls. Rather, record on the Bottom Trawl Haul Log which gear numbers are being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If two or more **identical** gears are used, assign each gear its own gear number and record them on separate Bottom Trawl Gear Characteristics Logs with 10 random codend mesh size measurements and 10 random liner mesh measurements (if present) collected for each codend/liner. See the trawl definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP trips, unless otherwise noted.

Become familiar with the following definitions.

### Definitions

**Otter Trawl:** A device constructed of twine webbing so that when fully assembled and rigged, it will take the shape of a huge funnel while being towed. To spread the mouth so that it will cover the largest possible area, each wing is fastened to a trawl “door”. Each door is fitted with chains to be attached to a towing cable from the trawling vessel. The resistance

of the water to the forward motion of the doors, as they are towed at different angles, forces them to pull in opposite directions and thus keep the mouth of the net open.

**Gear:** A trawl, commonly referred to as “the net”. This includes ground cables, headrope, footrope, floats, weights, netting, and any attached equipment.

**Square:** The section of netting fitted between the top body and the two top wings so that it partially overhangs the FOOTROPE.

**Top Wings:** Two sections of netting usually shaped diagonally opposite to one another to form the upper mouth of the trawl. The HEADROPE is attached from one top wing end to the other, along the diagonal flymesh edges and across the bosom or center part of the square.

**Lower Wings:** Two narrow sections of netting fitted between the lower belly and the top wings to form the lower lip of the trawl net. The FOOTROPE is attached from one wing end to the other, along the flymesh edges and across the lower belly bosom meshes. The lower wings are subject to the most abrasion, and consequently they are the sections which have to be continually repaired or replaced when working rough ground.

**Bridle:** The bridle connects the wings of the net to the ground cable, which eventually leads to the doors.

**Codend:** Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvages are laced together and a codline or codend clip is woven through the lower meshes for securing the section into a bag where the fish are held until released onboard the trawler. The codend is the section of a trawl net most often affected by mesh size regulations. The size of the codend depends on the species being targeted and regulations.

**Codend Liner:** A section of small mesh net sewn into the inside of the codend bag. The purpose of which is to restrict the escapement of smaller species, *e.g.* squid.

**Fishing Circle:** The section of the net located behind the wings and before the belly. It is the area which creates the largest opening in the net.

**Headrope:** The line, generally of fiber rope or steel wire rope, which fits along the top wings and center part of the square to form the upper lip of the trawl.

**Codend Strengtheners:** Any material attached to the outside of the codend bag or liner to prevent a full net from bursting when it is being lifted aboard. This material may be in the form of strengthening ropes, which are attached lengthwise and/or circumferentially to restrict stretching of the codend, or a strengthening/lifting bag, which is a cylinder of netting surrounding the codend. A strengthening bag may also be considered chafing gear.

**Transducer:** Conveys information regarding the fishing status. Located on various parts of the fishing gear.

**Excluder/Separator Device:** A modification to a common bottom trawl that helps prevent the capture of non-target species. It can redirect or allow those species to naturally swim toward an escape outlet once inside the trawl. Alternatively, it can inhibit some species from entering the trawl.

*Example:* A horizontal separator panel in the belly of the net separates upward- and downward-swimming fishes.

*Example:* A panel of large meshes allows certain species to escape. Large meshes can also function as an escape outlet.

*Example:* A metal grate directs some animals towards an escape outlet.

*NOTE:* An excluder/separator device may be present without an escape outlet

*Example:* A raised footrope or drop chain sweep excludes fish on the bottom from entering the trawl. Some nets are designed with a longer headrope than footrope to prevent capture of upward-swimming fishes.

**Escape Outlet:** An opening, hole, or panel that allows unwanted species to exit the trawl upon encountering an excluder/separator device.

*NOTE:* Escape outlets are only present with an excluder/separator device. An unintentional hole in the net is not considered an escape outlet.

### Instructions

For instructions on completing the Header Fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**\*1. GEAR NUMBER:** Record the number assigned to each uniquely configured gear hauled and for which characteristics are described. See the definition of gear in the introduction.

*NOTE:* If two or more **identical** gears are used, assign each gear its own gear number and record them on separate Bottom Trawl Gear Characteristics Logs with 10 random codend mesh size measurements collected for each codend.

*Example:* The first gear is “1”, and its characteristics will be recorded on one Bottom Trawl Gear Characteristics Log. The second gear, although identical to gear “1” must have its own separate Bottom Trawl Gear Characteristics Log with 10 random codend mesh measurements collected for that codend.

**\*2. NET NAME:** Record the common name of the net. This information may be obtained from the captain.

00 = Unknown.

01 = Trouser Trawl.

02 = Beam Trawl.

03 = Twin Trawl.

04 = Bottom Trawl.

05 = Semi-Pelagic Trawl.

06 = Pelagic Trawl.

99 = Other (Comment).

**\*3. NET TYPE:** Record the name of the net type used. If it does not appear in the list below, record comments on any characteristics (*e.g.*, “short vertical opening”, “sweep gear not heavy”) that help to identify the net. This information may be obtained from the captain.

00 = Unknown.

08 = Flynet (seams unknown).

01 = Flynet, 2-Seam.

02 = Flynet, 4-Seam.

09 = Haddock Separator Trawl (seams unknown).

03 = Haddock Separator Trawl, 2-Seam.

04 = Haddock Separator Trawl, 4-Seam.

05 = Separator Trawl (seams unknown).

06 = Separator Trawl, 2-Seam.

07 = Separator Trawl, 4-Seam.

13 = Flounder Trawl, 2-Seam.

10 = Flatfish Trawl (seams unknown).

11 = Flatfish Trawl, 2-Seam.

12 = Flatfish Trawl, 4-Seam.

- 15 = Ruhle Trawl, 4-Seam.
- 16 = Rope Separator Trawl, 4-Seam.
- 18 = Millionaire Trawl, 4-Seam.
- 20 = Raised Footrope Trawl (seams unknown).
- 21 = Raised Footrope Trawl., 2-Seam
- 22 = Raised Footrope Trawl, 4-Seam.
- 24 = Box Trawl., 4-Seam
- 25 = Shrimp Trawl (seams unknown).
- 26 = Shrimp Trawl, 2-Seam.
- 27 = Shrimp Trawl, 4-Seam.
- 32 = Eliminator Trawl (seams unknown).
- 31 = Eliminator Trawl, 2-Seam.
- 30 = Eliminator Trawl, 4-Seam.
- 60 = Scallop Trawl (seams unknown).
- 61 = Scallop Trawl, 2-Seam.
- 62 = Scallop Trawl, 4-Seam.
- 65 = Monkfish Trawl (seams unknown).
- 66 = Monkfish Trawl, 2-Seam.
- 67 = Monkfish Trawl, 4-Seam.
- 70 = Sweepless Trawl (seams unknown).
- 71 = Sweepless Trawl, 2-Seam.
- 72 = Sweepless Trawl, 4-Seam.
- 80 = Shuman Trawl (seams unknown).
- 81 = Shuman Trawl, 2-Seam.
- 82 = Shuman Trawl, 4-Seam.
- 85 = Groundfish Trawl (seams unknown).
- 86 = Groundfish Trawl, 2-Seam.
- 87 = Groundfish Trawl, 4-Seam.
- 88 = Balloon Trawl (seams unknown).
- 89 = Balloon Trawl, 2-Seam.
- 90 = Balloon Trawl, 4-Seam.
- 91 = Unknown Trawl, 2-Seam.
- 92 = Unknown Trawl, 4-Seam.
- 99 = Other (Comment).

*NOTE:* See Specialized Trawl Net Types on page 86.

**4. NET BUILDER:** Record the name of the company or individual who made the net. This information may be obtained from the captain.

*NOTE:* If built by the captain or crew record "Custom Built" in this field.

- 00 = Unknown.
- 01 = Custom Built.
- 02 = Le Drezen.
- 03 = Levine Marine Supply.
- 04 = Noreastern Trawl Systems, Ltd.

- 05 = Smart Net Systems, Ltd.
- 06 = Swan Net Gundry.
- 07 = Wanchese Trawl Supply.
- 08 = Wilcox Trawls.
- 09 = Superior Trawl.
- 10 = Trawlworks, Inc.
- 11 = Dantrawl.
- 12 = Reidar's Manufacturing, Inc.
- 13 = Christiansen's Nets.
- 14 = Jeff Flagg.
- 15 = Shumann.
- 16 = Yankee.
- 17 = IMP Group.
- 18 = Veidarfaer.
- 19 = Gearwork.
- 20 = VT Fishing Gear Supplies.
- 21 = Jamestown Trawl.
- 99 = Other, record the name in comments.

**\*5. LINER USED?:** Record whether a liner is used inside the net's codend by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* See the gear definitions in the introduction.

### Doors

**6. USED?:** Record whether doors are used with this gear by placing an "X" next to the appropriate code (see Figure 1):

- 0 = No.
- 1 = Yes.

**7. DOOR WEIGHT:** Record, in whole kilograms, the weight of one door used with this gear. This information may be obtained from the captain.

### Construction Material

**8. TYPE:** Record the type of construction material used in the body of the net, the codend and the liner by placing an "X" next to the appropriate code:

- 00 = Unknown.
- 01 = Nylon.
- 02 = Poly.
- 03 = Kevlar®.
- 04 = Spectra®.
- 05 = Tenex®.

06 = Nomex®.

98 = Combination, record all construction material types on line 8A.

99 = Other, record the construction material type on line 8A.

*NOTE:* If no liner is used on this gear, leave the liner construction material type blank.

### Kite Panel

**9. KITE USED?:** Record whether a kite(s) is (are) used in this net by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* The bag that holds the gear mounted electronics is **not** considered a kite.

**10. NUMBER:** Record the total number of panels used in a kite in this net.

**11. WIDTH:** Record, in whole inches, the average width of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is parallel to the headrope.

**12. LENGTH:** Record, in whole inches, the average length of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is perpendicular to the headrope.

### Fishing Circle

**13. NUMBER OF MESHES:** Record the number of meshes in the fishing circle. This information may be obtained from the captain. See Figure 5 for the location of the fishing circle.

**14. FISHING CIRCLE MESH SIZE:** Record, to the nearest tenth of an inch, the largest mesh measurement (inside knot to knot) from the fishing circle. This information may be obtained from the captain. See Figure 5.

### Length Measurements

**15. HEADROPE:** Record, in whole feet, the length of the rope along the top of the net. This information may be obtained from the captain. See Figure 1.

**16. FOOTROPE/SWEEP:** Record, in whole feet, the length of the rope along the bottom of the net. This information may be obtained from the captain. See Figure 1.

*NOTE:* This measurement is the distance from the lower bridle on one side of the net to the

lower bridles on the other side of the net.

*NOTE:* The footrope may also be referred to as a fishing line in some regions.

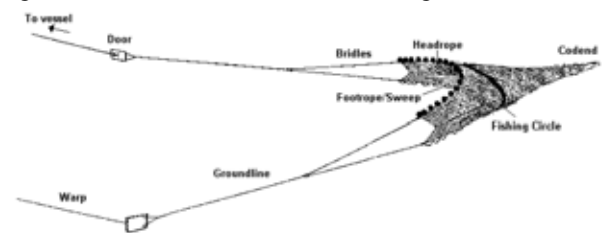
**17. GROUND CABLE:** Record, in whole fathoms, the length of the wire connecting the bridles and the back strap on **one side** of the net. This information may be obtained from the captain. See Figure 1.

**18. BRIDLE:** Record, in whole fathoms, the length of the upper bridle on **one side** of the net. This information may be obtained from the captain. See Figure 1.

*NOTE:* The bridles may also be referred to as legs in some regions.

*NOTE:* See the gear definitions in the introduction.

Figure 1: Basic bottom otter trawl configuration.



**19. STRENGTHENER USED?:** Record whether strengthener material is used in the codend of this net by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* See the gear definitions in the introduction.

**20. CHAFING GEAR USED?:** Record whether chafing gear is used on the codend by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* A codend in which the meshes are “wrapped” is considered to have chafing gear. A codend with a strengthening bag may also be considered to have chafing gear.

### Ground Gear

**21. TYPE:** Record the type of gear making up the ground cable, the bridles/legs, and the sweep by placing an “X” next to the appropriate code (see Figure 1, Figure 2, and Figure 3):

00 = Unknown.

01 = Chain.

- 02 = Cable/Wire.
- 03 = Wrapped Cable.
- 04 = Rock Hopper.
- 05 = Roller.
- 06 = Rubber Cookie.
- 07 = Bobbin (Half Round).
- 08 = Plate Gear.
- 98 = None.
- 99 = Other, record the ground gear type on line 21A.

**NOTE:** If more than one type of gear is used on a ground gear piece, record the type of gear with the LARGEST diameter. This is not always the longest piece.

*Example:* If the sweep has 80 feet of 1 inch wire, 25 feet of 3 inch rubber cookies and 15 feet of 5 inch rollers, record “Roller” (05) for SWEEP GROUND GEAR TYPE. See Figure 3.

Figure 2: Doors, ground cable, bridles, headrope, and footrope.

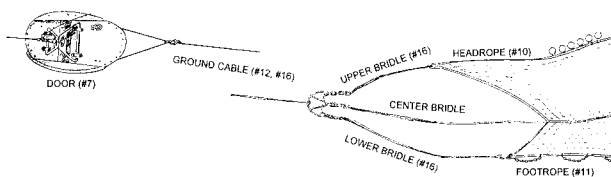
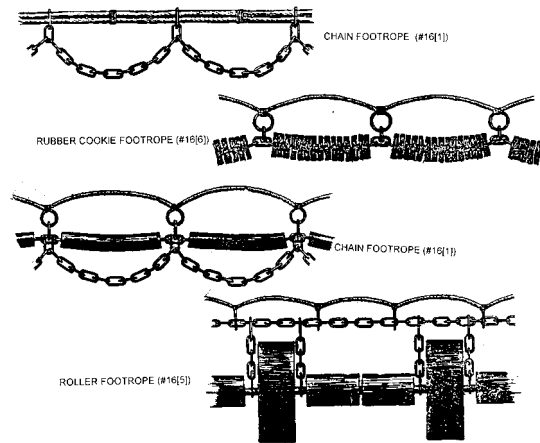


Figure 3: Types of sweeps.



**Sweep Gear**

**22. NUMBER:** Record the total number of the largest piece of gear present on the sweep (i.e., rollers, rock hoppers). Ask the captain if you are unable to obtain this number.

*NOTE:* If the largest piece of gear used on the sweep is chain or cable/wire or wrapped cable then dash this field.

**23. SIZE:** Record the diameter, in whole inches, of the largest piece of gear present on the sweep. Ask the captain if you are unable to measure this.

*NOTE:* If the largest piece of gear used on the sweep is chain or cable/wire or wrapped cable then dash this field.

*NOTE:* If the largest type of gear on the sweep are of multiple sizes, measure and record the diameter of the largest one.

*Example:* A net has both 3-inch and 5-inch rollers. Record the size as 5 inches.

*NOTE:* If the largest type of gear on the sweep is plate gear, measure the diagonal length of the plate.

**Floats**

**24. NUMBER:** Record the total number of floats attached to the headrope.

**25. SIZE:** Record the diameter, in whole inches, of the majority of floats attached to the headrope.

**Codend/Liner**

**\*26. HUNG:** Record the hanging configuration of the codend and liner by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Diamond (see Figure 4).
- 2 = Square (see Figure 4).
- 3 = Square, Wrapped.
- 8 = Combination, record the hanging configuration in COMMENTS.

*NOTE:* If the codend is wrapped, this is considered chafing gear. Be sure to record “Yes” (1) for CHAFING GEAR USED (#20).

*NOTE:* See Figure 5 for the location of the codend.

*NOTE:* If no liner is used on this gear, leave the liner hanging configuration blank.

*NOTE:* On ASM trips, record the liner hanging configuration in field 26a.

Figure 4: Mesh hanging patterns.

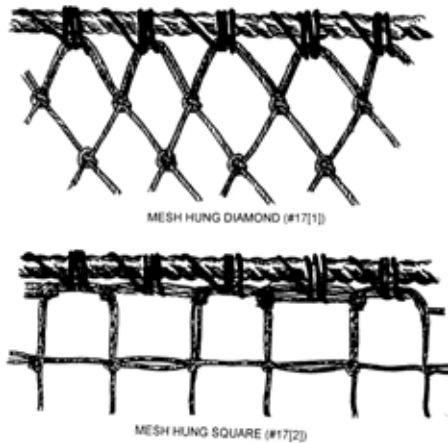
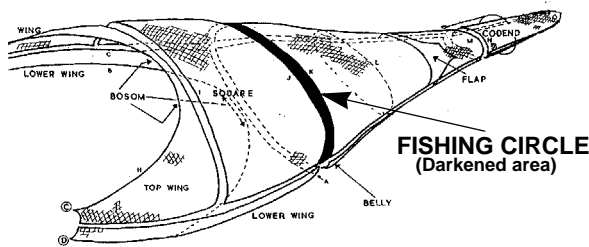


Figure 5: The sections of netting that make a trawl.



**\*27. TWINE TYPE:** Record whether the twine used in the codend and liner are single or double stranded by placing an “X” next to the appropriate code:

- 1 = Single.
- 2 = Double.
- 3 = Single on Top/Double on Bottom.
- 9 = Other, record the twine type in comments.

*NOTE:* If no liner is used on this gear, leave the liner twine type blank.

*NOTE:* Braided line is considered single twine.

*NOTE:* On ASM trips, record the liner twine type in field 27a.

### Mesh Sizes

Always use calipers issued by FSB or your observer provider to obtain mesh measurements. Do not use any other measuring tools (such as tape measures) as the measurements will not be useable.

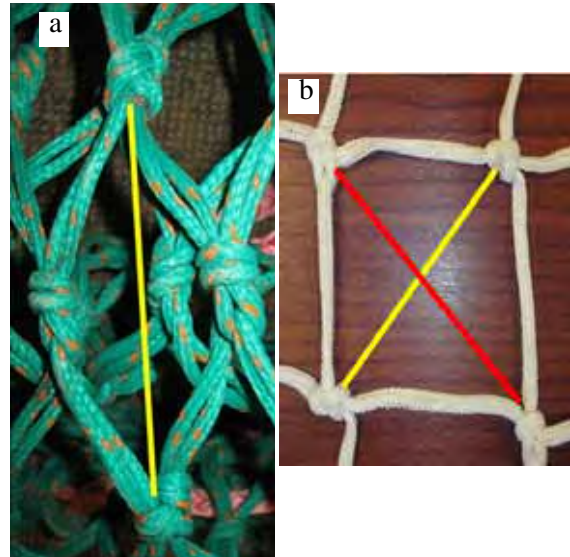
All measurements should be stretched, inside knot-to-knot, taken in the direction in which the mesh is hung. These measurements are **not** bar lengths. See Figure 6 and [Appendix E: Vernier Caliper Instructions](#) for further information.

Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the codend (or liner) and 5 meshes in from the side seam.

Take measurements after the gear has been fished for at least one haul, while the net is empty and wet. Do not take measurements when the codend is dry or frozen.

Ask the captain to lower the net on deck for you to measure. Do not take measurements while the net is hung on a net reel.

Figure 6: Illustration of where to take mesh measurements. For diamond mesh (a), measure in the direction in which the mesh is hung (yellow line). For square mesh (b), measure diagonally from either opposite direction (yellow or red line).



**\*28. CODEND MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the codend.

**\*29. LINER MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the liner in the codend.

*NOTE:* The liner mesh size should be smaller than the codend mesh size.

*NOTE:* If no liner is used on this gear, leave the liner mesh size blank.

### Gear Mounted Electronics

**30. USED?:** Record whether any transducers are used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**31. NUMBER OF TRANSDUCERS:** Record the number of transducers used on this gear.

**32. TYPE:** Record the type of transducer used on this gear by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Wired.
- 2 = Wireless.
- 3 = Both.

**33. BRAND:** Record the brand of transducers used on this gear by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Furuno®.
- 2 = Simrad®.
- 3 = Northstar Technical.
- 4 = Notus.
- 5 = Marport.
- 6 = Scanmar.
- 8 = Combination, record all brands on line 33A.
- 9 = Other, record the transducer brand on line 33A.

**34. LOCATION:** Record the location of transducers used on this gear by placing an “X” in the box of all locations that apply. (see Figure 1 and Figure 5):

- 0 = Unknown.
- 1 = Headrope.
- 2 = Wings.
- 3 = Footrope.
- 5 = Door.
- 6 = Codend
- 9 = Other the transducer locations on line 34A.

*NOTE:* Check all that apply.

### Excluder/Separator Device

**\*35. USED?:** Record whether an excluder or separator device is used on this gear by placing an “X” next to the appropriate code (see Figure 8):

- 0 = No.
- 1 = Yes.

**36. TYPE:** Record the type of excluder or separator device used on this gear by recording the appropriate two-digit code:

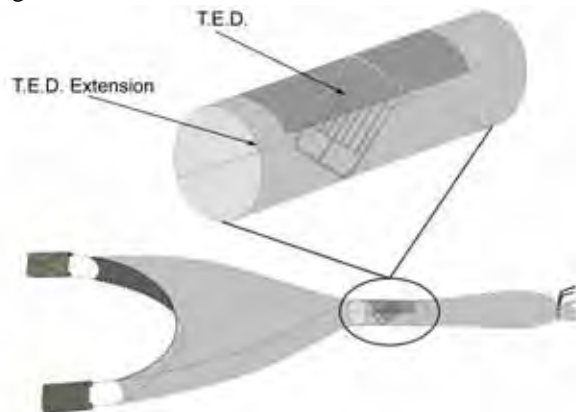
- 00 = Unknown.
- 01 = Nordmore Grate (see Figure 8).
- 03 = Separator Panel.
- 04 = Guiding Device (see Figure 8).
- 05 = Raised Footrope.
- 06 = Compound Nordmore Grate (hinged grate).
- 07 = Double Nordmore Grate (2 grates).
- 08 = Large Mesh.

- 20 = T.E.D., Unknown.
- 21 = Standard T.E.D.
- 22 = Weedless T.E.D.
- 23 = Flounder T.E.D. (Figure 9)
- 24 = Bent Rod T.E.D.
- 25 = Conch T.E.D. (see Figure 9)
- 26 = Flat Bottom T.E.D.
- 27 = Whelk T.E.D.
- 28 = Flexible T.E.D.
- 29 = Parker Soft T.E.D.
- 30 = Experimental T.E.D.
- 31 = Northeast Modified T.E.D.(see Figure 9)
- 32 = Large Flat Bar T.E.D.
- 98 = Combination, record all excluder/separator device types in comments.
- 99 = Other, record the excluder/separator device type in comments.

**37. T.E.D. EXTENSION MESH SIZE:** Record, to the nearest tenth of an inch, the mesh size of the T.E.D. extension or the webbing surrounding the T.E.D. This measurement should be taken 3–5 meshes forward of the leading edge of the grid. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. See Figure 7.

*NOTE:* The T.E.D. extension is a cylindrical piece of webbing distinct from the main trawl body, wings, codend and any other net extension(s).

Figure 7: T.E.D. and T.E.D. extension.



**38. ACTUAL OR ESTIMATED:** Record whether the number recorded in T.E.D. EXTENSION MESH SIZE (#37) is an actual or an estimated value by circling the appropriate letter code:

- A = Actual.
- E = Estimated.

*NOTE:* An **actual T.E.D extension mesh size** is

obtained using a measuring tool provided by FSB or your observer provider. An **estimated T.E.D. extension mesh size** is provided by the captain.

### Escape Outlet

**\*39. USED?:** Record whether an escape outlet is used on this gear by placing an "X" next to the appropriate code (see Figure 8):

0 = No.

1 = Yes.

**40. ESCAPE OUTLET TYPE:** Record the type of escape outlet used on this gear by placing an "X" next to the appropriate code:

0 = Unknown.

1 = Panel.

2 = Opening.

3 = Single Flap.

4 = Double Flap.

9 = Other, record the escape outlet type on line 40A.

**41. MESH SIZE (LENGTH AND WIDTH):**

Record, in whole inches, the average size for the length (runs from the front of the net towards the codend) and the width (runs from side to side of the net) of the meshes used in the escape outlet. This number may be obtained from the captain.

*NOTE:* It is preferred that all Escape Outlet measurements be taken by # MESHES (#42) and MESH SIZE (#41). Length and Width in inches of the escape outlet is an acceptable secondary method.

**42. # MESHES (LENGTH AND WIDTH):**

Record the number of meshes for the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. These numbers may be obtained from the captain.

*NOTE:* For T.E.D. outlets, the width measurement is taken by counting the number of meshes along the leading edge of the opening. If this cannot be obtained by the observer then dash this field.

*NOTE:* If the outlet shape is triangular, record the # of meshes on the side of the triangle which runs from side to side in the net for width, and record the # of meshes on either side which runs from front to back for length.

*NOTE:* If the outlet shape is trapezoid, record the

number of meshes that are in the longer length and the wider width.

**43. ESCAPE OUTLET SIZE (LENGTH AND WIDTH):** Record, in whole inches, the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. This information may be obtained from the captain.

**44. SHAPE:** Record the shape of the escape outlet by recording the appropriate two-digit code:

00 = Unknown.

01 = Rectangular.

05 = Trapezoid.

06 = Square.

07 = Diamond.

08 = Triangular.

09 = Semi-Circle.

11 = Horizontal Cut.

99 = Other, record the escape outlet shape in comments.

**45. LOCATION:** Record the location of the escape outlet used on this gear by recording the appropriate code:

0 = Unknown.

1 = Net Top.

2 = Net Bottom.

3 = Net Side.

4 = Codend Top.

5 = Codend Bottom.

8 = Combination, record all escape outlet locations in comments.

9 = Other, record the escape outlet location in comments.

### Comments

Record any additional information about this gear, *e.g.*, unusual arrangements of the gear, type of net, etc. If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.



Figure 8: Funnel, Nordmore grate, and escape outlet.

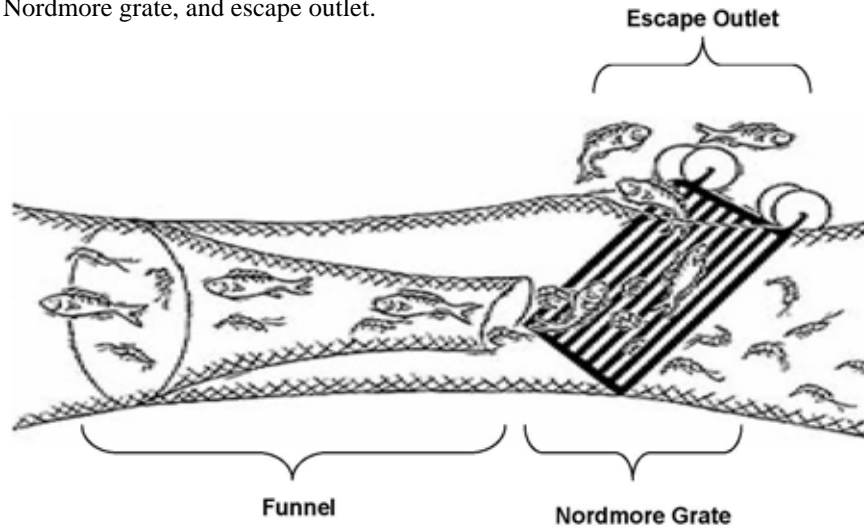
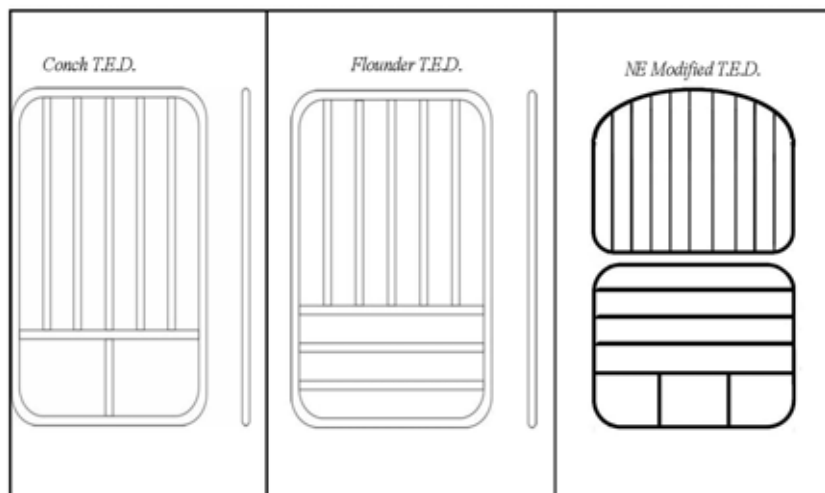


Figure 9: Examples of various T.E.D.s



**BOTTOM TRAWL GEAR CHARACTERISTICS LOG**  
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<b>GEAR CODE D</b>	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	
	1	2	3	4	

<b>LINER USED?</b>	<b>CONSTRUCTION MATERIAL</b>
NO 0 <u>5</u>	TYPE NET BODY CODEND LINER
YES 1 _____	Unknown _____
	Nylon _____
	Poly _____
	Kevlar® _____
	Spectra® _____
	Tenex® _____
	Nomex® _____
	Combination _____
	Other _____

<b>DOORS USED?</b>	<b>LENGTH MEASUREMENTS</b>
NO 0 <u>6</u>	Headrope <b>15</b> _____ ft
YES 1 _____	Footrope/Sweep <b>16</b> _____ ft
	Ground Cable <b>17</b> _____ fm
	Bridle <b>18</b> _____ fm
<b>WEIGHT OF ONE DOOR</b>	<b>STRENGTHENER USED?</b>
<b>7</b> _____ kg	NO 0 _____ YES 1 _____

<b>KITE PANEL KITE USED?</b>	<b>FISHING CIRCLE</b>
NO 0 _____	# MESHES <b>13</b>
YES 1 _____	MESH SIZE <b>14</b> _____ in

<b>COMMENTS</b>	<b>GROUND GEAR</b>
	TYPE <b>21</b> GROUND CABLE BRIDLE/LEG SWEEP
	Unknown _____
	Chain _____
	Cable / Wire _____
	Wrapped Cable _____
	Rock Hopper _____
	Roller _____
	Rubber Cookie _____
	Bobbin _____
	Plate Gear _____
	None _____
	Other _____

<b>GEAR MOUNTED ELECTRONICS</b>	<b>CODEND/LINER</b>	<b>NET BUILDER</b>	
USED? NO 0 _____ YES 1 _____	HUNG CODEND LINER		
	Unknown _____		
	Diamond _____		
	Square _____		
	Square, wrapped _____		
	Combination _____		
<b>NUMBER OF TRANSDUCERS</b> <b>31</b>	<b>NUMBER OF TRANSDUCERS</b> <b>31</b>		

<b>EXCLUDER/SEPARATOR DEVICE</b>	<b>GEAR MOUNTED ELECTRONICS</b>
USED? NO 0 _____ YES 1 _____	USED? NO 0 _____ YES 1 _____
Type Code <b>36</b>	Type Code <b>36</b>
T.E.D. EXTENSION <b>37</b>	T.E.D. EXTENSION <b>37</b>
Mesh Size _____ in	Mesh Size _____ in
(circle one) A / E <b>38</b>	TYPE <b>32</b>
<b>ESCAPE OUTLET</b>	Unknown _____
USED? NO 0 _____ YES 1 _____	Wired _____
	Wireless _____
	Both _____
	BRAND <b>33</b>
	Unknown _____
	Furuno® _____
	Simrad® _____
	Northstar Tech _____
	Notus _____
	Marport _____
	Scanmar _____
	Combination _____
	Other _____
	_____ <b>40A</b>

<b>MESH SIZE</b> _____ in	<b>LENGTH</b> _____ in	<b># MESHES</b> _____	<b>OR</b> _____
	<b>LOCATION</b> (check all that apply) <b>34</b>		
	Unknown _____		
	Headrope _____		
	Wings _____		
	Footrope _____		
	Door _____		
	Codend _____		
	Other _____		

<b>SWEEP GEAR</b>	<b>FLOATS</b>
Number <b>22</b>	Number <b>24</b>
Diameter <b>23</b> _____ in	Diameter <b>25</b> _____ in

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GEAR CODE	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	EXCLUDER/SEPARATOR DEVICE
050	1	Bottom Trawl	2 Seam Flounder Net	Northeastern Trawl Systems, Inc	USED? NO 0 YES 1 <input checked="" type="checkbox"/>
LINER USED?		CONSTRUCTION MATERIAL		GEAR MOUNTED ELECTRONICS	
NO 0 <input checked="" type="checkbox"/>	YES 1 <input type="checkbox"/>	TYPE	NET BODY	CODEND LINER	USED? NO 0 YES 1 <input type="checkbox"/>
		Unknown	00	Unknown	Type Code <b>08</b>
		Nylon	01	Diamond	T.E.D. EXTENSION
		Poly	02 <input checked="" type="checkbox"/>	Square	Mesh Size _____ in
		Kevlar®	03	Square, wrapped	(circle one) A / E
		Spectra®	04	Combination	<b>ESCAPE OUTLET</b>
		Tenex®	05		USED? NO 0 YES 1 <input checked="" type="checkbox"/>
		Nomex®	06		TYPE
		Other	98		Unknown
WEIGHT OF ONE DOOR			99		Panel
900 kg					Opening
					Single Flap
					Double Flap
					Other
					MESH SIZE 12 in
					LENGTH
					# MESHES 10 OR _____ in
					WIDTH
					# MESHES 60 OR _____ in
					SHAPE Type Code <b>05</b>
					LOCATION Type Code <b>1</b>

KITE PANEL		FISHING CIRCLE	
KITE USED?	Number	# MESHES	480
NO 0 <input type="checkbox"/>	Width	MESH SIZE	5.0 in
YES 1 <input checked="" type="checkbox"/>	Length		
COMMENTS			
Doors are 1980 lbs each.			

GROUND GEAR		BRIDLE/LEG		SWEEP	
TYPE	GROUND CABLE				
Unknown	00				
Chain	01				
Cable / Wire	02 <input checked="" type="checkbox"/>				
Wrapped Cable	03				
Rock Hopper	04				
Roller	05				
Rubber Cookie	06 <input checked="" type="checkbox"/>				
Bobbin	07				
Plate Gear	08				
None	98				
Other	99				
SWEEP GEAR		FLOATS			
Number	30	Number	15		
Diameter	16 in	Diameter	8 in		

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GEAR CODE	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	EXCLUDER/SEPARATOR DEVICE
					USED? NO 0 YES 1
<b>CONSTRUCTION MATERIAL</b> TYPE    NET BODY    CODEND    LINER NO 0 Unknown YES 1 Nylon Poly Kevlar® Spectra® Tenex® Nomex® Other			<b>LENGTH MEASUREMENTS</b> Headrope _____ ft Footrope/Sweep _____ ft Ground Cable _____ fm Bridle _____ fm STRENGTHENER USED? NO 0 YES 1		<b>GEAR MOUNTED ELECTRONICS</b> USED? NO 0 YES 1 TYPE CODE _____ T.E.D. EXTENSION _____ Mesh Size _____ in (circle one) A / E <b>ESCAPE OUTLET</b> USED? NO 0 YES 1
<b>DOORS USED?</b> NO 0 YES 1 WEIGHT OF ONE DOOR _____ kg			<b>TWINE TYPE</b> CODEND    LINER Single 1 _____ Double 2 _____ Single on Top/Double on Bottom 3 _____ Other 9 _____ <b>CODEND MESH SIZE</b> _____ mm <b>LINER MESH SIZE</b> _____ mm		TYPE Unknown 0 Panel 1 Opening 2 Single Flap 3 Double Flap 4 Other 9
<b>KITE PANEL</b> KITE USED? NO 0 YES 1 Number _____ Width _____ in Length _____ in <b>MESH SIZE</b> _____ in			<b>BRAND</b> Unknown Furuno® Simrad® Northstar Tech Notus Marport Scanmar Combination Other		MESH SIZE _____ in <b>LENGTH</b> # MESHES _____ OR _____ in <b>WIDTH</b> # MESHES _____ OR _____ in
<b>COMMENTS</b> _____ _____ _____			<b>LOCATION</b> (check all that apply) Unknown 0 Headrope 1 Wings 2 Footrope 3 Door 5 Codend 6 Other 9		SHAPE Type Code _____ LOCATION Type Code _____
<b>GROUND GEAR</b> TYPE    GROUND CABLE    BRIDLE/LEG    SWEEP Unknown 00 Chain 01 Cable / Wire 02 Wrapped Cable 03 Rock Hopper 04 Roller 05 Rubber Cookie 06 Bobbin 07 Plate Gear 08 None 98 Other 99			<b>FISHING CIRCLE</b> # MESHES _____ _____ in <b>CHAFING GEAR USED?</b> NO 0 YES 1		<b>SWEEP GEAR</b> Number _____ Diameter _____ in <b>FLOATS</b> Number _____ Diameter _____ in

<b>ADDITIONAL COMMENTS</b>	<b>EXCLUDER/SEPARATOR DEVICE TYPE CODES:</b> 00 = Unknown 01 = Nordmore Grate 03 = Separator Panel 04 = Guiding Device 05 = Raised Footrope 06 = Compound Nordmore Grate 07 = Double Nordmore Grate 08 = Large Mesh 20 = T.E.D., Unknown 21 = Standard T.E.D. 22 = Weedless T.E.D. 23 = Flounder T.E.D.	<b>ESCAPE OUTLET SHAPE CODES:</b> 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	<b>ESCAPE OUTLET LOCATION CODES:</b> 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)
	24 = Bent Rod T.E.D. 25 = Conch T.E.D. 26 = Flat Bottom T.E.D. 27 = Wheel T.E.D. 28 = Flexible T.E.D. 29 = Parker Soft T.E.D. 30 = Experimental T.E.D. 31 = Northeast Modified T.E.D. 32 = Large Flat Bar T.E.D. 98 = Combination (Comment) 99 = Other (Comment)		

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**BOTTOM TRAWL GEAR LOG (FRONT)**  
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GEAR CODE <input type="text"/> <input type="text"/> <input type="text"/> <b>D</b>	GEAR # <input type="text"/> <input type="text"/> <b>1</b>	NET NAME <b>2</b>	NET TYPE <b>3</b>	
CODEND LINER ? Y <input type="checkbox"/> N <input type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input type="checkbox"/>	ESCAPE OUTLET? <b>39</b> Y <input type="checkbox"/> N <input type="checkbox"/>	
<b>CODEND</b>		<b>LINER</b>		
<b>CODEND HUNG 26</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>		<b>CODEND MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm _____mm	<b>LINER HUNG 26a</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>	<b>LINER MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm _____mm
<b>CODEND TWINE 27</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>		_____mm _____mm _____mm _____mm <b>28</b>	<b>LINER TWINE 27a</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>	_____mm _____mm _____mm _____mm <b>29</b>

**COMMENTS**

GEAR CODE <input type="text"/> <input type="text"/> <input type="text"/>	GEAR # <input type="text"/> <input type="text"/>	NET NAME	NET TYPE	
CODEND LINER ? Y <input type="checkbox"/> N <input type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input type="checkbox"/>	ESCAPE OUTLET? Y <input type="checkbox"/> N <input type="checkbox"/>	
<b>CODEND</b>		<b>LINER</b>		
<b>CODEND HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>		<b>CODEND MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm	<b>LINER HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>	<b>LINER MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm
<b>CODEND TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>		_____mm _____mm _____mm _____mm	<b>LINER TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>	_____mm _____mm _____mm _____mm

**COMMENTS**

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GEAR CODE <b>050</b>	GEAR # <b>01</b>	NET NAME <b>Bottom Trawl</b>	NET TYPE <b>2-Seam Flatfish Net</b>
CODEND LINER ? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
ESCAPE OUTLET? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			
<b>CODEND</b>		<b>LINER</b>	
CODEND HUNG	CODEND MESH	LINER HUNG	LINER MESH
UNKNOWN <input type="checkbox"/>	MEASUREMENTS	UNKNOWN <input type="checkbox"/>	MEASUREMENTS
DIAMOND <input type="checkbox"/>	<b>158</b> mm	DIAMOND <input type="checkbox"/>	_____mm
SQUARE <input checked="" type="checkbox"/>	<b>163</b> mm	SQUARE <input type="checkbox"/>	_____mm
SQUARE WRAPPED <input type="checkbox"/>	<b>160</b> mm	SQUARE WRAPPED <input type="checkbox"/>	_____mm
COMBINATION <input type="checkbox"/>	<b>158</b> mm	COMBINATION <input type="checkbox"/>	_____mm
	<b>160</b> mm		_____mm
CODEND TWINE		LINER TWINE	
UNKNOWN <input type="checkbox"/>	<b>158</b> mm	UNKNOWN <input type="checkbox"/>	_____mm
SINGLE <input checked="" type="checkbox"/>	<b>157</b> mm	SINGLE <input type="checkbox"/>	_____mm
DOUBLE <input type="checkbox"/>	<b>163</b> mm	DOUBLE <input type="checkbox"/>	_____mm
TOP SINGLE/	<b>164</b> mm	TOP SINGLE/	_____mm
BOTTOM DOUBLE <input type="checkbox"/>	<b>163</b> mm	BOTTOM DOUBLE <input type="checkbox"/>	_____mm
OTHER <input type="checkbox"/>		OTHER <input type="checkbox"/>	

**COMMENTS**

GEAR CODE <input type="text"/>	GEAR # <input type="text"/>	NET NAME	NET TYPE
CODEND LINER ? Y <input type="checkbox"/> N <input type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input type="checkbox"/>	
ESCAPE OUTLET? Y <input type="checkbox"/> N <input type="checkbox"/>			
<b>CODEND</b>		<b>LINER</b>	
CODEND HUNG	CODEND MESH	LINER HUNG	LINER MESH
UNKNOWN <input type="checkbox"/>	MEASUREMENTS	UNKNOWN <input type="checkbox"/>	MEASUREMENTS
DIAMOND <input type="checkbox"/>	_____mm	DIAMOND <input type="checkbox"/>	_____mm
SQUARE <input type="checkbox"/>	_____mm	SQUARE <input type="checkbox"/>	_____mm
SQUARE WRAPPED <input type="checkbox"/>	_____mm	SQUARE WRAPPED <input type="checkbox"/>	_____mm
COMBINATION <input type="checkbox"/>	_____mm	COMBINATION <input type="checkbox"/>	_____mm
	_____mm		_____mm
CODEND TWINE		LINER TWINE	
UNKNOWN <input type="checkbox"/>	_____mm	UNKNOWN <input type="checkbox"/>	_____mm
SINGLE <input type="checkbox"/>	_____mm	SINGLE <input type="checkbox"/>	_____mm
DOUBLE <input type="checkbox"/>	_____mm	DOUBLE <input type="checkbox"/>	_____mm
TOP SINGLE/	_____mm	TOP SINGLE/	_____mm
BOTTOM DOUBLE <input type="checkbox"/>	_____mm	BOTTOM DOUBLE <input type="checkbox"/>	_____mm
OTHER <input type="checkbox"/>		OTHER <input type="checkbox"/>	

**COMMENTS**

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GEAR CODE □□□	GEAR # □□	NET NAME	NET TYPE
CODEND LINER ? Y <input type="checkbox"/> N <input type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input type="checkbox"/>	ESCAPE OUTLET? Y <input type="checkbox"/> N <input type="checkbox"/>
<b>CODEND</b>		<b>LINER</b>	
<b>CODEND HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>		<b>CODEND MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm _____mm	<b>LINER HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>
<b>CODEND TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>		_____mm _____mm _____mm _____mm _____mm	<b>LINER MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm _____mm
<b>COMMENTS</b>			

GEAR CODE □□□	GEAR # □□	NET NAME	NET TYPE
CODEND LINER ? Y <input type="checkbox"/> N <input type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input type="checkbox"/>	ESCAPE OUTLET? Y <input type="checkbox"/> N <input type="checkbox"/>
<b>CODEND</b>		<b>LINER</b>	
<b>CODEND HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>		<b>CODEND MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm _____mm	<b>LINER HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>
<b>CODEND TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>		_____mm _____mm _____mm _____mm _____mm	<b>LINER MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm _____mm
<b>COMMENTS</b>			



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GEAR CODE □□□	GEAR # □□	NET NAME	NET TYPE
CODEND LINER ? Y <input type="checkbox"/> N <input type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input type="checkbox"/>	ESCAPE OUTLET? Y <input type="checkbox"/> N <input type="checkbox"/>
<b>CODEND</b>		<b>LINER</b>	
<b>CODEND HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>		<b>CODEND MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm	<b>LINER HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>
<b>CODEND TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>		_____mm _____mm _____mm _____mm _____mm	<b>LINER TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>
_____mm		_____mm	

GEAR CODE □□□	GEAR # □□	NET NAME	NET TYPE
CODEND LINER ? Y <input type="checkbox"/> N <input type="checkbox"/>		EXCLUDER/ SEPARATOR? Y <input type="checkbox"/> N <input type="checkbox"/>	ESCAPE OUTLET? Y <input type="checkbox"/> N <input type="checkbox"/>
<b>CODEND</b>		<b>LINER</b>	
<b>CODEND HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>		<b>CODEND MESH MEASUREMENTS</b> _____mm _____mm _____mm _____mm	<b>LINER HUNG</b> UNKNOWN <input type="checkbox"/> DIAMOND <input type="checkbox"/> SQUARE <input type="checkbox"/> SQUARE WRAPPED <input type="checkbox"/> COMBINATION <input type="checkbox"/>
<b>CODEND TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>		_____mm _____mm _____mm _____mm _____mm	<b>LINER TWINE</b> UNKNOWN <input type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> TOP SINGLE/ BOTTOM DOUBLE <input type="checkbox"/> OTHER <input type="checkbox"/>
_____mm		_____mm	

<b>COMMENTS</b>	<b>FOR OFFICE USE ONLY</b>

## Specialized Trawl Net Types

The following is a list of specialized net types that may be observed in the bottom trawl fishery. Other specialized net types may exist that are not included on this list, therefore it is very important to communicate with the captain on the specific type of net fished. **Never assume net types** or any other gear configurations; always confirm with the captain.

### Flounder Trawl

(1) A two-seam, low-rise net, where the head-rope is at least 30 percent longer than the foot-rope.<sup>1</sup>

(2) A two-seam, low-rise net, where the top panel of the net contains a section of large meshes (at least 12-inch mesh) behind the head-rope.<sup>2</sup>

### Flatfish Trawl

Any net used to target flatfish that does **not** meet the specific definition of a Flounder Trawl (above).

### Haddock Separator Trawl

A groundfish trawl with two extensions arranged one over the other. A codend is attached to the upper extension, and the **bottom extension is left open** with no codend attached. A horizontal mesh panel separates the upper and lower extensions.<sup>3</sup>

*NOTE:* In some cases, the separator may be sewn shut. Because the trawl is no longer functioning as a Haddock Separator, record it as a bottom trawl (gear code '050'), with no separator or escape outlet. Comment that the separator was sewn shut.

### Ruhle Trawl

A four-seam groundfish net with large meshes (8-foot meshes) in the wings and bottom belly of the net. The trawl must have kite panels that meet

the regulated minimum surface area.<sup>4</sup> The Ruhle Trawl is a specific type of Eliminator Trawl.

### Eliminator Trawl

Typically a four-seam, three-bridle trawl with large mesh in the forward part of the net. Large meshes in the bottom belly act as a separator device for the escape of non-target groundfish species. Mesh sizes decrease as the net tapers towards the codend.

### Rope Separator Trawl

A four-seam bottom trawl net modified to include both a horizontal separator panel (consisting of parallel lines of fiber rope) and an escape opening in the bottom belly of the net below the separator panel.<sup>5</sup>

### Raised Footrope Trawl

Trawl gear configured in such a way that, when towed, the gear is not in contact with the ocean bottom. Floats attached to the headrope provide lift. No ground gear is used (bare wire or chain sweep), and drop chains (12-inch or 42-inch) may be attached.<sup>6</sup>

### Sweepless Trawl

A Raised Footrope Trawl in which there is no chain sweep and the drop chains are heavier.

### Flynet

A high profiled trawl with large wing mesh sizes that slowly taper to smaller mesh sizes in the body extension and codend. The headrope is usually slightly larger than the footrope. Uses a large number of floats to keep the net slightly off the bottom.

### Box Trawl

A four-seam, high-rise trawl.

### Shuman Trawl

Contains very large meshes in the mouth and has a very high-opening net that may have canvas

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1. Modified from 50 CFR § 648.85

(a)(3)(iii)(B)(1).

2. Modified from 50 CFR § 648.85

(a)(3)(iii)(B)(2).

3. Modified from 50 CFR § 648.85 (a)(3)(iii)(A).

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4. Modified from 50 CFR § 648.85

(b)(6)(iv)(J)(3).

5. Modified from 50 CFR § 648.81 (n)(3)(i)(A).

6. Modified from 50 CFR § 648.80 (a)(9)(ii).

kites on the headline to keep the mouth open. Typically fished just off the bottom.

**Millionaire Trawl**

A four-seam trawl typically used in the squid fishery. Very large openings in the mouth and large large mesh in the wings. May be called “40-footers”.

**Balloon Trawl**

A two-seam trawl with a high mouth, lighter net material, and floats attached to the headrope so the footrope floats just above the bottom.

**Shrimp Trawl**

A very small mesh trawl used to target shrimp. Must have a grate consisting of parallel bars that excludes non-target species.<sup>1</sup>

**Scallop Trawl**

A trawl, or pair of trawls, used to target sea scallops. See Scallop Trawl Gear Characteristics Log on page 136.

**Twin Trawl**

A pair of trawls fished at the same time. See Twin Trawl Gear Characteristics Log on page 117.

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1. Modified from 50 CFR § 648.80 (a)(5)(ii).

## Bottom Trawl Haul Log

This log contains detailed questions about the setting, hauling and fishing time of the gear, as well as the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather related safety reasons, record as much information on this log as possible (*i.e.* Header Information, depths, times, positions, kept catch estimates, *etc.*).

If the gear is set, and only partially hauled back, include the time spent hauling and resetting the net in this haul's time. Record HAUL END TIME (#3) when the hauling equipment is put into gear.

The species summary section of this log should be used to record catches of all species (some exceptions listed below), debris and shells. Species caught that should not be recorded on this particular log include: pelagic species (*e.g.* swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an Individual Animal Log. All marine mammals, sea turtles, and sea birds caught in the gear must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Bottom Trawl Haul Log making sure to complete all of the Header Information (A–C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP trips, unless otherwise noted.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of net deployed, *i.e.* net hits the water.

**Haul End:** Hauling equipment put into gear with the intention of hauling back.

### Instructions

For instructions on completing fields A–Z, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**\*1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

- 000 = Unknown.
- 010 = No gear damage, or very few small, scattered holes.
- 020 = Wings twisted or torn, not exceeding 50% of meshes.
- 030 = Wings twisted or torn, exceeding 50% of meshes.
- 040 = Square and/or bosom torn, not exceeding 50% of meshes.
- 050 = Square and/or bosom torn, exceeding 50% of meshes.
- 060 = Belly torn, not exceeding 25% of meshes.
- 070 = Belly torn, exceeding 25% of meshes.
- 080 = Codend and/or extension piece torn, not exceeding 10% of meshes.
- 090 = Codend and/or extension piece torn, exceeding 10% of meshes.
- 100 = Hang-up, causing gear to be hauled back before scheduled time; minor damage.
- 110 = Parted bridle (legs), sweep, or headrope.
- 120 = Tear up exceeding gear condition of code 020, but not total net destruction.
- 130 = Obstruction in the gear, such as a large amount of fixed gear, boulders, *etc.*
- 140 = Crossed doors.
- 150 = Open codend.
- 160 = Major hang-up, tear-up, or loss of gear.
- 170 = Grate clogged with fish or debris.
- 990 = Other, specify in COMMENTS.

**\*2. BEGIN/END HAUL DATE:** Record the month, day, and year, based on local time, that this haul began and ended.

**\*3. BEGIN/END HAUL TIME:** Record the local time, using the 24 hour clock (0000–2359), that this haul began and ended, *i.e.* when the first component

of the net is deployed, or the net hits the water (Haul Begin) and when the hauling equipment is put into gear (Haul End).

**4. NUMBER OF TURNS:** Record the number of significant turns the vessel makes during this haul *i.e.*, greater than 90 degrees. This information may be obtained from the captain.

*NOTE:* This field should be filled out for both observed and unobserved hauls.

*NOTE:* If no turns are made during this haul, record a zero.

*NOTE:* If the number of turns is unknown, record a dash.

**5. TOW SPEED:** Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

**6. WIRE OUT:** Record, in whole fathoms, the amount of wire paid out for this haul. This measurement is taken from the towing blocks to the trawl doors. This information may be obtained from the captain.

**7. DATE/TIME FISHING BEGINS:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000–2359), that the gear is fully deployed and actively fishing (this may be when the brakes are put on).

**8. HAUL END WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface water temperature when this haul **ended**, *i.e.* when the hauling equipment is put into gear.

*NOTE:* If this temperatures is obtained in Celsius, use [Appendix I: Conversion Tables](#) to convert it to Fahrenheit.

*NOTE:* Use a thermometer provided by FSB or your observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a HAUL END WATER TEMPERATURE **must** be recorded.

**9. DATE/TIME GEAR ONBOARD:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000–2359), that the gear from this haul is completely out of the water.

*NOTE:* If the gear is not brought onboard (*i.e.*, immediately set back out), record the date but dash the time, and describe the situation in COMMENTS.

## Fish Pumping

*NOTE:* The following 2 fields, BEGIN/END DATE (#10) and BEGIN/END TIME (#11) should only be filled out if the fish are pumped from the codend.

**10. BEGIN/END DATE:** Record the month, day, and year, based on local time, that the fish pumping began and ended.

**11. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000–2359), that the fish pumping began and ended, *i.e.*, when the fish pump is attached to codend and is initially turned on (fish pump begin) and when the fish pump is turned off and fish are no longer coming out of the dewatering box (fish pump end).

## Opening of Net

*NOTE:* The following 3 fields, VERTICAL OPENING (#12), HORIZONTAL OPENING (#13), and DOOR SPREAD (#14), should only be filled out if Gear Mounted Electronics are used.

**12. VERTICAL OPENING:** Record, in whole feet, the average distance from the top of the mouth to the bottom of the mouth while the net is fishing. This information may be obtained from the captain.

**13. HORIZONTAL OPENING:** Record, in whole feet, the average width of the mouth of the net, from wing tip to wing tip, when the doors are open while the net is fishing. This information may be obtained from the captain.

**14. DOOR SPREAD:** Record, in whole feet, the average distance from the door on one side of the net to the door on the other side of the net while the net is fishing. This information may be obtained from the captain.

## Comments

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, tear-ups, reason to expect the gear was not fishing properly, *etc.* If turns were made during the haul, note whether the doors were left in the water (both, starboard, or port). If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

*NOTE:* HAUL END WATER TEMPERATURE **must** be recorded.

**BOTTOM TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSERVER ID: OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A	
DATE LAND (mm/yy)		B /	
PAGE #		C OF	

GEAR CODE	D	GEAR #	E	HAUL #	F	HAUL OBS?	NO 0 YES 1	G	ON-EFFORT?	NO 0 YES 1	H	CATCH?	NO 0 YES 1	I	INC TAKE?	NO 0 YES 1	J	WEATHER CODE	K	SPEED	L	WIND	M	DIRECTION	N	WAVE HEIGHT	O	DEPTH, HAUL BEGIN	P	HAUL END	Q	GEAR COND CODE	R		
HAUL/FISHING INFO		mm/dd/yy		24 hours		Station 1	9960 -	Latitude / Bearing	Station 2	9960 -	Latitude / Longitude / Bearing	4	NUMBER OF TURNS	5	TOW SPEED	6	WIRE OUT	fm	CODE		8.	WATER TEMP	0	F	Q	TARGET SPECIES									
BEGIN FISHING		/	2	/	3	:																													
END FISHING		/	7	/	:																														
HAUL		/	/	/	:																														
GEAR		/	9	/	:																														
ONBOARD		/	9	/	:																														

**FISH PUMPING**

BEGIN		/	10	/	11	:																														
END		/	/	/	:																															

VERTICAL OPENING \*\*

12 ft

HORIZONTAL OPENING \*\*

13 ft

DOOR SPREAD \*\*

14 ft

SAMPLE WEIGHT MULTIPLIER

Z

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

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

**BOTTOM TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBOH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A99006-	
DATE LAND (mm/yy)		10 / 13	
PAGE #		1 OF 2	

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	WIND	WAVE HEIGHT	DEPTH,	GEAR COND CODE
050	01	023	NO 0 YES 1 X	NO 0 YES 1 X	NO 0 YES 1 X	NO 0 X YES 1	01	SPEED	3 ft	HAUL BEGIN	
HAUL/FISHING DATE		TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		NUMBER OF TURNS		TOW SPEED	WIRE OUT			
mm/dd/yy		24 hours	Station 1	Station 2	Longitude / Bearing						
10 / 16 / 13		13:07	9960 -	9960 -	75 ° 17.3		5	2.7 kn		75 fm	
10 / 16 / 13		13:14					1				
10 / 16 / 13		15:07	35 ° 34.2		75 ° 19.9		54 . 0 F				
10 / 16 / 13		15:14	35 ° 38.3		75 ° 17.3		0				
ONBOARD			COMMENTS				0				
FISH PUMPING			Catch was dumped, therefore no pumping information				0				
BEGIN							54 . 0 F			Summer Flounder	
END							54 . 0 F				

SPECIES	NAME	CODE	SUB-SAMPLE WEIGHT POUNDS	DISP CODE	D/R	ESTIMATION METHOD CODE	WEIGHT	SPECIES	NAME	CODE	SUB-SAMPLE WEIGHT POUNDS	DISP CODE	D/R	ESTIMATION METHOD CODE	WEIGHT
1	Summer Flounder		44.0	100	R	02	11								
2	Summer Flounder		3.4	012	R	01	12								
3	Spiny Dogfish		8.6	015	R	02	13								
4	Smooth Dogfish		3.3	20	R	02	14								
5	Clearnose Skate		30.4	189	R	02	15								
6	Seastar, Starfish, nk		4.1	25	R	02	16								
7	Witch Flounder		1.5	100	R	01	17								
8	Shells, nk		0.7	4	R	02	18								
9	Debris, Fishing Gear		15	053	R	06	19								
10	Conch, nk		4.8	30	R	02	20								

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

**BOTTOM TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSERVER ID: OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		DATE LAND (mm/yy)		PAGE #		OF	
GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	
HAUL	DATE	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		WAVE HEIGHT		
INFO	mm/dd/yy	24 hours	Station 1	Station 2	DEPTH, HAUL BEGIN		
BEGIN	/ /	:	9960 -	9960 -	fm		
HAUL	/ /	:	TOW SPEED		WIRE OUT		
BEGIN	/ /	:	kn		fm		
FISHING	/ /	:	NUMBER OF TURNS		TOW SPEED		
END	/ /	:	o		kn		
HAUL	/ /	:	WATER TEMP		TARGET SPECIES		
GEAR	/ /	:	o		CODE		
ONBOARD	/ /	:	F		CODE		
COMMENTS							
FISH PUMPING							
BEGIN	/ /	:	VERTICAL OPENING **		ft		
END	/ /	:	HORIZONTAL OPENING **		ft		
			DOOR SPREAD **		ft		
			SAMPLE WEIGHT MULTIPLIER		ft		
** Only fill in if gear mounted electronics are used							
SPECIES NAME		SUB-SAMPLE WEIGHT POUNDS		DISP CODE		ESTIMATION METHOD CODE	
CODE		D/R		D/R		D/R	
SPECIES NAME		SUB-SAMPLE WEIGHT POUNDS		DISP CODE		ESTIMATION METHOD CODE	
CODE		D/R		D/R		D/R	
1					11		
2					12		
3					13		
4					14		
5					15		
6					16		
7					17		
8					18		
9					19		
10					20		



**TRAWL HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMOTH ASMHAU ASMSP 05/01/13**

OBS/TRIPID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> of

GEAR CODE [ ][ ] <b>D</b>	GEAR NUMBER [ ][ ] <b>E</b>	HAUL NUMBER [ ][ ][ ] <b>F</b>	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>G</b>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>J</b>
WEATHER CODE <b>K</b>	WAVE HEIGHT <b>N</b> ft	GEAR COND CODE <b>1</b>	TARGET SPECIES 1 <b>Q</b>	TARGET SPECIES 2 <b>Q2</b>
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
<b>BEGIN HAUL</b>	/ 2 /	3 :	LATITUDE <b>P</b>	LONGITUDE or (STAT AREA)* <b>P2</b>
<b>END HAUL</b>	/ /	:		

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SAMPLE WEIGHT MULTIPLIER  
**Z**  
\_\_\_\_\_

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
<b>S</b>	<b>U</b>	<b>V</b>	<b>X</b>	<b>W</b>	<b>Y</b>						
1	_____					11	_____				
2	_____					12	_____				
3	_____					13	_____				
4	_____					14	_____				
5	_____					15	_____				
6	_____					16	_____				
7	_____					17	_____				
8	_____					18	_____				
9	_____					19	_____				
10	_____					20	_____				

**TRAWL HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMOTH ASMHAU ASMSP 05/01/13**

OBS/TRIPID	<b>A99006-</b>
DATE LANDED mm/yy	<b>10 / 13</b>
PAGE #	<b>1</b> of <b>2</b>

GEAR CODE <b>050</b>	GEAR NUMBER <b>01</b>	HAUL NUMBER <b>023</b>	HAUL OBSERVED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	INC TAKE? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
WEATHER CODE <b>01</b>	WAVE HEIGHT <b>3</b> ft	GEAR COND CODE <b>01</b>	TARGET SPECIES 1 <b>Summer Flounder</b>	TARGET SPECIES 2
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
<b>BEGIN HAUL</b>	<b>10 / 16 / 13</b>	<b>13 : 14</b>	<b>41° 03.8</b>	<b>71° 27.2</b>
<b>END HAUL</b>	<b>10 / 16 / 13</b>	<b>15 : 07</b>	<b>41° 00.7</b>	<b>71° 21.3</b>

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SAMPLE WEIGHT MULTIPLIER  
**4.78**

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
1 Summer Flounder	<u>55.0</u>	263	100	R	02	11	_____				
2 Summer Flounder	_____	3.4	012	R	01	12	_____				
3 Spiny Dogfish	<u>13.5</u>	65	015	R	02	13	_____				
4 Smooth Dogfish	<u>7.8</u>	37	001	R	02	14	_____				
5 Clearnose Skate	<u>43.0</u>	206	001	R	02	15	_____				
6 Witch Flounder	_____	1.5	100	R	01	16	_____				
7 Shells, NK	<u>0.9</u>	4	054	R	02	17	_____				
8 Debris, Fishing Gear	_____	15	053	R	06	18	_____				
9	_____					19	_____				
10	_____					20	_____				

**TRAWL HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMOTH ASMHAU ASMSP 05/01/13**

OBS/TRIPID	
DATE LANDED mm/yy	/
PAGE #	___ of ___

GEAR CODE [ ][ ][ ]	GEAR NUMBER [ ][ ]	HAUL NUMBER [ ][ ][ ]	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/>
WEATHER CODE	WAVE HEIGHT ft	GEAR COND CODE	TARGET SPECIES 1	TARGET SPECIES 2
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
			LATITUDE	LONGITUDE or (STAT AREA)*
<b>BEGIN HAUL</b>	/ /	:		
<b>END HAUL</b>	/ /	:		

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SAMPLE WEIGHT MULTIPLIER  
\_\_\_\_\_

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
1	_____					11	_____				
2	_____					12	_____				
3	_____					13	_____				
4	_____					14	_____				
5	_____					15	_____				
6	_____					16	_____				
7	_____					17	_____				
8	_____					18	_____				
9	_____					19	_____				
10	_____					20	_____				

## Pair and Single Mid-water Trawl Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hauled** during a trip. These unique configurations may be based on changes made to the length of the headrope, mesh size in the codend, *etc.* Any changes in these fields require the completion of another Pair and Single Mid-water Trawl Gear Characteristics Log. Do not solely use the COMMENTS section to explain these differences between gears. Number each gear configuration sequentially.

If the gear is set out and hauled more than once during a trip, do not complete a new Pair and Single Mid-water Trawl Gear Characteristics Log for the multiple hauls. Rather, record on the Pair and Single Mid-water Trawl Gear Characteristics Log which gear numbers are being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If the vessel has two or more **identical** gears which are hauled during the trip, assign each gear its own gear number and record them on separate Pair and Single Mid-water Trawl Gear Characteristics Logs with 10 random codend mesh size measurements and 10 random liner (if present) mesh measurements collected for each codend/liner. See the definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (-) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Pair Trawl:** Two vessels towing a single net. The spread and depth of the net is controlled by adjusting the speed of the boats and the distance between them. See Figure 1.

**Gear:** A trawl, commonly referred to as “the net”. This includes the headrope, footrope, floats, weights, netting and any other attached equipment.

**Codend:** Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvages are laced together, and a “codline” or codend clip is woven through the lower meshes for securing the section into a bag where the fish are held until released onboard the trawler.

**Codend Liner:** A section of small mesh net sewn into the inside of the codend bag. The purpose of which is to restrict the escapement of smaller species, *e.g.* herring. On midwater trawls, the liner is referred to as a **brailer**, and may extend halfway up the belly of the net.

**Blowout:** Generally made with a lighter material than the rest of the net, these net sections are used for maintaining the net’s shape and stability as it is pulled through the water. See Figure 4.

**Headrope:** The line, generally of fiber rope or steel wire rope, which fits along the top wings and center part of the square to form the upper lip of the pair trawl.

**Wing:** Sections of netting, often triangular-shaped, extending forward of the trawl mouth used to herd the catch into the net.

**Bridle (Pair Trawl Fishery):** A line coming directly off a net wing, connecting to a warp.

**Bridle (Single Mid-Water Fishery):** A line coming directly off a net wing, connecting to a trawl door.

**Fishing Circle:** The section of the net located behind the wings and before the belly. It is the area which creates the largest opening in the net. See Figure 10.

**Excluder/Separator Device:** A modification to a common bottom trawl that helps prevent the capture of non-target species. It can redirect or allow those species to naturally swim toward an escape outlet once inside the trawl. Alternatively, it can inhibit some species from entering the trawl.

*Example:* A horizontal separator panel in the belly of the net separates upward- and downward-swimming fishes.

*Example:* A panel of large meshes allows certain species to escape. Large meshes can also function as an escape outlet.

*Example:* A metal grate directs some animals towards an escape outlet.

*NOTE:* An excluder/separator device may be

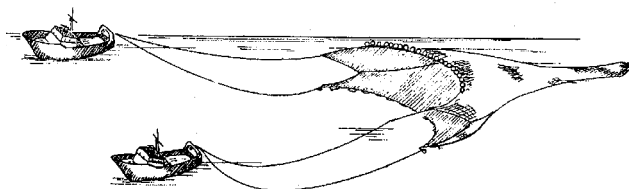
present without an escape outlet

*Example:* A raised footrope or drop chain sweep excludes fish on the bottom from entering the trawl. Some nets are designed with a longer headrope than footrope to prevent capture of upward-swimming fishes.

**Escape Outlet:** An opening, hole, or panel that allows unwanted species to exit the trawl upon encountering an excluder/seperator device.

*NOTE:* Escape outlets are only present with an excluder/seperator device. An unintentional hole in the net is not considered an escape outlet.

Figure 1: Small boats pair trawling in mid-water.



### Instructions

For instructions on completing the Header fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

### Gear Information

**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hauled and for which characteristics are described. See the definition of gear in the introduction.

*NOTE:* If two or more **identical** gears are used, assign each gear its own gear number and record them on separate Pair and Single Mid-water Trawl Gear Characteristics Logs with 10 random codend mesh size measurements collected for each codend.

*Example:* The first gear is "1", and its characteristics will be recorded on one Pair and Single Mid-water Trawl Gear Characteristics Log. The second gear, although identical to gear "1" must have its own separate Pair and Single Mid-water Trawl Gear Characteristics Log with 10 random codend mesh measurements collected for that codend.

*NOTE:* In the pair trawl fishery, record all gears fished, including those deployed from the paired vessel. Number gears in the order in

which they were hauled.

*Example:* The first haul uses a net deployed from your vessel - record this as gear "1". The second haul uses a net deployed from the paired vessel - record this as gear "2".

**2. NET NAME:** Record the common name of the net. This information may be obtained from the captain.

- 00 = Unknown.
- 01 = Trouser Trawl.
- 02 = Beam Trawl.
- 03 = Twin Trawl.
- 04 = Bottom Trawl.
- 05 = Semi-Pelagic Trawl.
- 06 = Pelagic Trawl.
- 99 = Other (Comment).

**3. NET TYPE:** Record the name of the net type used. If it does not appear in the list below, record comments on any characteristics (*e.g.*, "short vertical opening", "sweep gear not heavy") that help to identify the net. This information may be obtained from the captain.

- 00 = Unknown.
- 08 = Flynet (seams unknown).
- 01 = Flynet, 2-Seam.
- 02 = Flynet, 4-Seam.
- 09 = Haddock Separator Trawl (seams unknown).
- 03 = Haddock Separator Trawl, 2-Seam.
- 04 = Haddock Separator Trawl, 4-Seam.
- 05 = Separator Trawl (seams unknown).
- 06 = Separator Trawl, 2-Seam.
- 07 = Separator Trawl, 4-Seam.
- 13 = Flounder Trawl, 2-Seam.
- 10 = Flatfish Trawl (seams unknown).
- 11 = Flatfish Trawl, 2-Seam.
- 12 = Flatfish Trawl, 4-Seam.
- 15 = Ruhle Trawl, 4-Seam.
- 16 = Rope Separator Trawl, 4-Seam.
- 18 = Millionaire Trawl, 4-Seam.
- 20 = Raised Footrope Trawl (seams unknown).
- 21 = Raised Footrope Trawl., 2-Seam
- 22 = Raised Footrope Trawl, 4-Seam.
- 24 = Box Trawl., 4-Seam
- 25 = Shrimp Trawl (seams unknown).
- 26 = Shrimp Trawl, 2-Seam.
- 27 = Shrimp Trawl, 4-Seam.

- 32 = Eliminator Trawl (seams unknown).
- 31 = Eliminator Trawl, 2-Seam.
- 30 = Eliminator Trawl, 4-Seam.
- 60 = Scallop Trawl (seams unknown).
- 61 = Scallop Trawl, 2-Seam.
- 62 = Scallop Trawl, 4-Seam.
- 65 = Monkfish Trawl (seams unknown).
- 66 = Monkfish Trawl, 2-Seam.
- 67 = Monkfish Trawl, 4-Seam.
- 70 = Sweepless Trawl (seams unknown).
- 71 = Sweepless Trawl, 2-Seam.
- 72 = Sweepless Trawl, 4-Seam.
- 80 = Shuman Trawl (seams unknown).
- 81 = Shuman Trawl, 2-Seam.
- 82 = Shuman Trawl, 4-Seam.
- 85 = Groundfish Trawl (seams unknown).
- 86 = Groundfish Trawl, 2-Seam.
- 87 = Groundfish Trawl, 4-Seam.
- 88 = Balloon Trawl (seams unknown).
- 89 = Balloon Trawl, 2-Seam.
- 90 = Balloon Trawl, 4-Seam.
- 91 = Unknown Trawl, 2-Seam.
- 92 = Unknown Trawl, 4-Seam.
- 99 = Other (Comment).

*NOTE:* See Specialized Trawl Net Types on page 86.

**4. NET BUILDER:** Record the name of the company or individual who made the net. This information may be obtained from the captain.

*NOTE:* If built by the captain or crew record "Custom Built" in this field.

- 00 = Unknown.
- 01 = Custom Built.
- 02 = Le Drezen.
- 03 = Levine Marine Supply.
- 04 = Noreastern Trawl Systems, Ltd.
- 05 = Smart Net Systems, Ltd.
- 06 = Swan Net Gundry.
- 07 = Wanchese Trawl Supply.
- 08 = Wilcox Trawls.
- 09 = Superior Trawl.
- 10 = Trawlworks, Inc.
- 11 = Dantrawl.
- 12 = Reidar's Manufacturing, Inc.
- 13 = Christiansen's Nets.
- 14 = Jeff Flagg.

- 15 = Shumann.
- 16 = Yankee.
- 17 = IMP Group.
- 18 = Veidarfaer.
- 19 = Gearwork.
- 20 = VT Fishing Gear Supplies.
- 21 = Jamestown Trawl.
- 99 = Other, record the name in comments.

**5. YEAR NET MADE:** Record the four digit year the net was made. This information may be obtained from the captain.

*Example:* 2000.

**6. GEAR FISHED:** Record how this gear is fished by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Pelagic, or in the water column, with the net never coming in contact with the seabed.
- 2 = Semi-pelagic, or in the water column, with the net seldom coming in contact with the seabed.
- 3 = Bottom, or with the net constantly in contact with the seabed.
- 9 = Other, record how the gear is fished on line 6A.

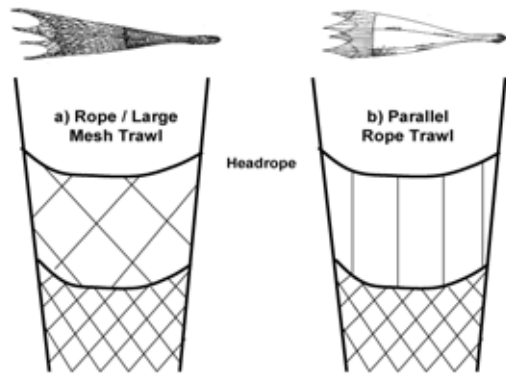
*NOTE:* This should reflect how the captain intends to fish the gear, not how the gear performed during the trip. This field is not determined by the catch composition of the trip.

### Net

**7. CONSTRUCTION:** Record the type of net construction (see Figure 2 2) used in the forward portion of the net by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Rope/Large Mesh.
- 2 = Parallel Rope Trawl.
- 9 = Other, record the net type on line 7A.

Figure 2: Four-seam mid-water trawls. Forepart of a) large meshes, or b) parallel ropes to decrease water resistance.



**8. DESIGN:** Record the construction design of this net by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = 2 Seam.
- 2 = 4 Seam, Equal Panels.
- 3 = 4 Seam, Unequal Panels.
- 9 = Other, record the net construction design on line 8A.

*NOTE:* See Figure 3 for illustration of net designs.

**9. MINIMUM MESH SIZE:** Record, to the nearest tenth of an inch, the minimum inside mesh measurement in this net (not including the codend). This information may be obtained from the captain.

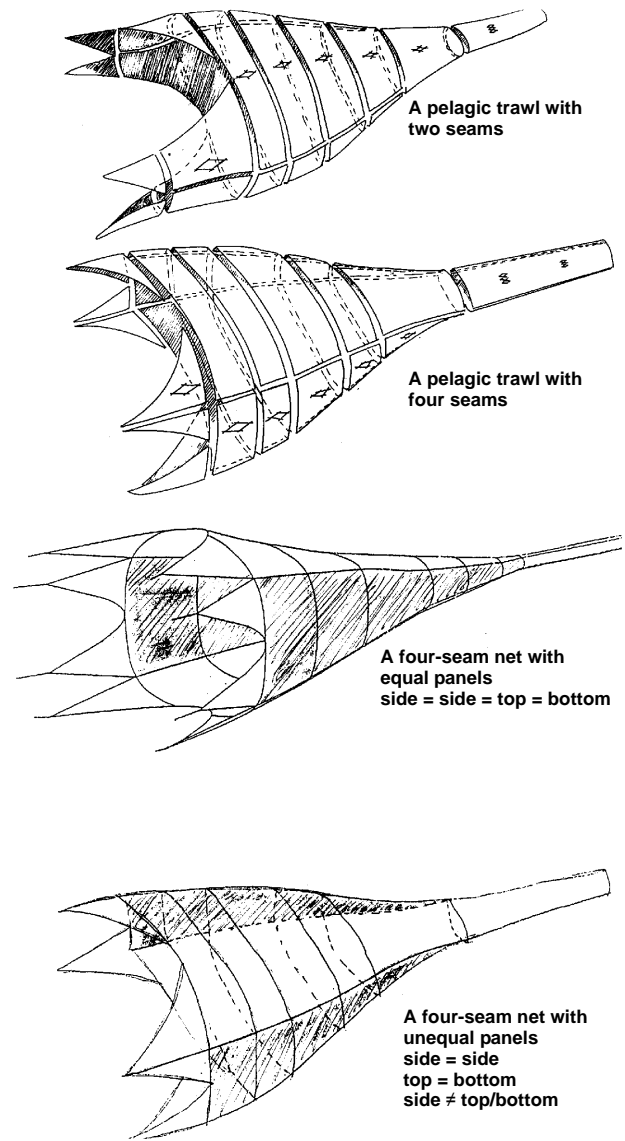
**10. MAXIMUM MESH SIZE:** Record, to the nearest tenth of an inch, the maximum inside mesh measurement in this net (typically found in the forward section of the net). This information may be obtained from the captain.

**11. LINER USED?:** Record whether a liner is used inside the net’s codend by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* See the gear definitions in the introduction.

Figure 3: Illustrations of net designs.



**Doors**

**12. USED?:** Record whether doors are used with this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**13. WEIGHT:** Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the captain.

**Weights**

**14. USED?:** Record whether weights are used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**15. WEIGHT:** Record, in whole pounds, the **total**

poundage of **all** weights used on this gear. This information may be obtained from the captain.

*NOTE:* Do not include the weight of the doors in this field.

*NOTE:* For pair trawls, this is the combined weight used from **both** vessels.

**16. WEIGHT - ACTUAL OR ESTIMATED:**

Record whether the weight recorded in #15 is an actual or estimated weight by placing an “X” next to the appropriate code:

- 1 = Actual.
- 2 = Estimated.

**Construction Material**

**17. TYPE:** Record the type of construction material used in the body of the net, the codend and the liner by placing an “X” next to the appropriate code:

- 00 = Unknown.
- 01 = Nylon.
- 02 = Poly.
- 03 = Kevlar®.
- 04 = Spectra®.
- 05 = Tenex®.
- 06 = Nomex®.
- 98 = Combination, record all construction material types on line 17A.
- 99 = Other, record the construction material on line 17A.

*NOTE:* If no liner is used on this gear, leave the liner construction material type blank.

**Buoyancy/Release Devices**

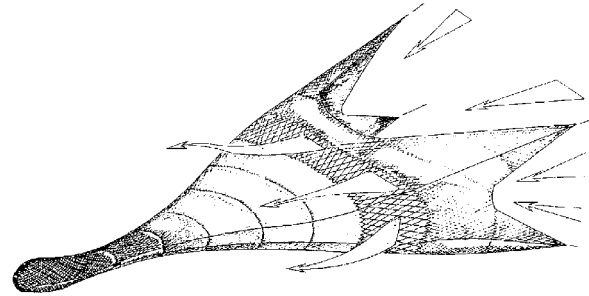
**18. FLOATS USED?:** Record whether floats are used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**19. BLOWOUT USED?:** Record whether a “blow-out” section (see Figure 4) is used in this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

Figure 4: Blowout panel.



**20. KITE USED?:** Record whether a kite(s) (see Figure 5) is (are) used in this net by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* The bag that holds the gear mounted electronics is **not** considered a kite.

Figure 5: Orientation of kite panels. View looking into the mouth of the net.

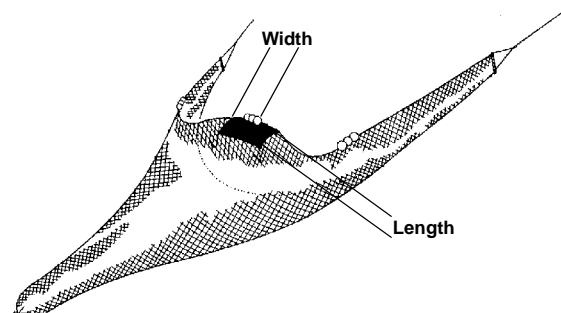


**Kite Panel**

**21. NUMBER:** Record the **total** number of panels used in a kite in this net.

**22. LENGTH:** Record, in whole inches, the average length of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is perpendicular to the headrope. See Figure 6.

Figure 6: Kite panel measurements.





**23. WIDTH:** Record, in whole inches, the average width of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is parallel to the headrope. See Figure 6.

**Floats**

**24. NUMBER:** Record the total number of floats attached to the headrope.

**25. SIZE:** Record the diameter, in whole inches, of the majority of floats attached to the headrope.

**Length Measurements**

**26. HEADROPE:** Record, in whole feet, the length of the rope along the top of the net. This information may be obtained from the captain. See Figure 7.

**27. FOOTROPE/SWEEP:** Record, in whole feet, the length of the rope along the bottom of the net. This information may be obtained from the captain. See Figure 7.

*NOTE:* This measurement is the distance from the lower bridle on one side of the net to the lower bridle on the other side of the net.

*NOTE:* The footrope may also be referred to as a fishing line in some regions.

Figure 7: Four-seam pelagic pair trawl showing headrope and footrope.

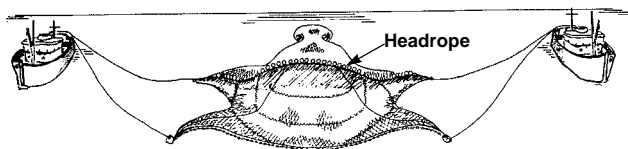


Figure 8: Four-seam mid-water trawl showing main components.

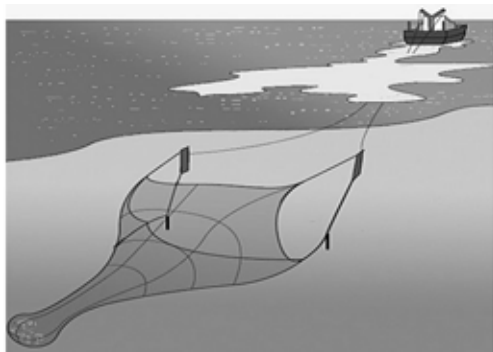
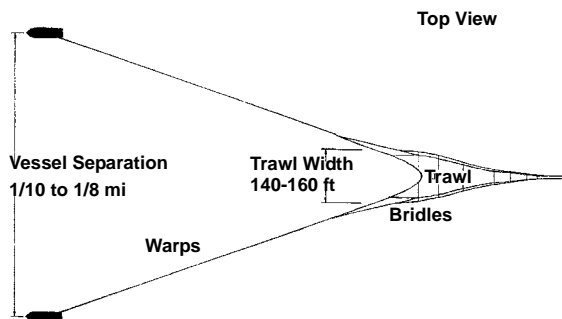


Figure 9: Typical tuna pair trawling configuration.



**28. TOP BRIDLE:** Record, in whole fathoms, the length of the top bridle on **one side** of the net. This information may be obtained from the captain. See Figure 10.

**29. WING BRIDLE:** Record, in whole fathoms, the length of a wing bridle on **one side** of the net. This information may be obtained from the captain. See Figure 10.

*NOTE:* The bridles may also be referred to as legs in some regions.

**30. BOTTOM BRIDLE:** Record, in whole fathoms, the length of a bottom bridle on **one side** of the net. This information may be obtained from the captain. See Figure 10.

**Bridles**

**31. BRIDLES PER WARP:** Record the number of bridles attached to each warp. This information may be obtained by reviewing the net plans or from the captain. See Figure 8 and Figure 9.

**32. BRIDLES PER SIDE:** Record the number of wings or bridles found on **one side** (left or right) of the net. See Figure 8 and Figure 9.

**33. WARPS PER BOAT:** Record the number of warps fished by each boat. See Figure 8 and Figure 9.

*NOTE:* This field should only be filled in for Pair Trawl Trips. Otherwise, dash this field.

Figure 10: Pair trawl rigging designs showing bridles, warp, and boat relations.

	Bridles/Warp	Bridles/Side	Warp/Boat
a)	2	2	1
b)	0	0	2
c)	1	2	2
d)	2	4	1
e)	2	4	2

**Fishing Circle**

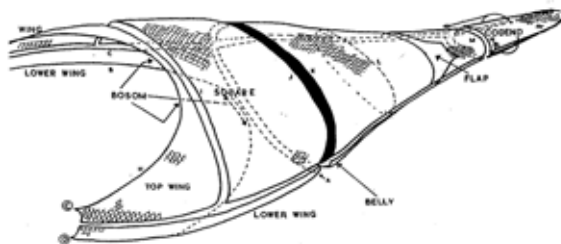
**34. NUMBER OF MESHES:** Record the number of meshes in the fishing circle. This information may be obtained from the captain. Do not include the meshes in the gore. See the definition of fishing circle in the introduction and Figure 10.

*NOTE:* The Shuman pelagic nets generally have no gore meshes. The “French” net may have up to 20% in the gore meshes.

**35. FISHING CIRCLE MESH SIZE:** Record, in whole inches, the largest mesh measurement (in side knot to knot) from the fishing circle. This information may be obtained from the captain. See the definition of fishing circle in the introduction and Figure 10.

See Figure 1 in the Bottom Trawl Gear Characteristics Log Instructions for an illustration of mesh measurement.

Figure 11: The sections of netting that make a trawl.



**Codend/Liner**

**36. STRENGTHENER USED?:** Record whether strengthener material is used in the codend of this net by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**37. CHAFING GEAR USED?:** Record whether chafing gear is used on the codend by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* A codend in which the meshes are “wrapped” is considered to have chafing gear.

**38. HUNG:** Record the hanging configuration of the codend and liner by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Diamond.
- 2 = Square.
- 3 = Square, Wrapped.
- 8 = Combination, record the hanging configuration in COMMENTS.

*NOTE:* If the codend is wrapped, this is considered chafing gear. Be sure to record “Yes” (1) for CHAFING GEAR USED (#37).

See Figure 10 for the location of the codend, and Figure 1 in the Bottom Trawl Gear Characteristics Log instructions for an illustration of diamond and square hanging configurations.

*NOTE:* If no liner is used on this gear, leave the liner hanging configuration blank.

**39. TWINE TYPE:** Record whether the twine used in the codend and liner are single or double stranded by placing an “X” next to the appropriate code:

- 1 = Single.
- 2 = Double.
- 3 = Single on Top/Double on Bottom.
- 9 = Other, record the twine type in comments.

*NOTE:* If no liner is used on this gear, leave the liner twine type blank.

*NOTE:* Braided line is considered single twine.

**Mesh Sizes**

Always use calipers issued by FSB or your observer provider to obtain mesh measurements. Do

not use any other measuring tools (such as tape measures) as the measurements will not be useable.

All measurements should be stretched, inside knot-to-knot, taken in the direction in which the mesh is hung. These measurements are **not** bar lengths. See Appendix E: Vernier Caliper Instructions for further information.

Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the codend (or liner) and 5 meshes in from the side seam.

Take measurements after the gear has been fished for at least one haul, while the net is empty and wet. Do not take measurements when the codend is dry or frozen.

Ask the captain to lower the net on deck for you to measure. Do not take measurements while the net is hung on a net reel.

**40. CODEND MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the codend.

**41. LINER MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the liner in the codend.

*NOTE:* The liner mesh size should be smaller than the codend mesh size.

*NOTE:* If no liner is used on this gear, leave the liner mesh size blank.

### Gear Mounted Electronics

**42. USED?:** Record whether any transducers are used on this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**43. NUMBER OF TRANSDUCERS:** Record the number of transducers used on this gear.

**44. TYPE:** Record the type of transducer used on this gear by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Wired.

2 = Wireless.

3 = Both.

**45. BRAND:** Record the brand of transducers used on this gear by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Furuno®.

2 = Simrad®.

3 = Northstar Technical.

4 = Notus.

5 = Marport.

6 = Scanmar.

8 = Combination, record all brands on line 45A.

9 = Other, record the transducer brand on line 45A.

**46. LOCATION:** Record the location of transducers used on this gear by placing an “X” in the box of all locations that apply.

0 = Unknown.

1 = Headrope.

2 = Wings.

3 = Footrope.

5 = Door.

6 = Codend

9 = Other the transducer locations on line 46A.

*NOTE:* Check all that apply.

### Excluder/Separator Device

**47. USED?:** Record whether an excluder or separator device is used on this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**48. TYPE:** Record the type of excluder or separator device used on this gear by placing an “X” next to the appropriate code:

00 = Unknown.

01 = Nordmore Grate.

03 = Separator Panel.

04 = Guiding Device, *i.e.* a funnel or “flap”.

05 = Raised Footrope.

06 = Compound Nordmore Grate (hinged grate).

07 = Double Nordmore Grate (2 grates).

08 = Large Mesh.

20 = T.E.D., Unknown.

21 = Standard T.E.D.

22 = Weedless T.E.D.

23 = Flounder T.E.D.

24 = Bent Rod T.E.D.

25 = Conch T.E.D.

26 = Flat Bottom T.E.D.

27 = Whelk T.E.D.

- 28 = Flexible T.E.D.
- 29 = Parker Soft T.E.D.
- 30 = Experimental T.E.D.
- 31 = Northeast Modified T.E.D.
- 32 = Large Flat Bar T.E.D.
- 98 = Combination, record all excluder/seperator device types in comments.
- 99 = Other, record the excluder/seperator device type in comments.

See Figure 7 in the Bottom Trawl Gear Characteristics Log instructions for an illustration of T.E.D. types.

**49. T.E.D. EXTENSION MESH SIZE:** Record, to the nearest tenth of an inch, the size of the mesh of the T.E.D. extension or the webbing surrounding the T.E.D. This measurement should be taken 3-5 meshes forward of the leading edge of the grid. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung.

*NOTE:* The T.E.D. extension is a cylindrical piece of webbing distinct from the main trawl body, wings, codend and any other net extension(s).

**50. ACTUAL OR ESTIMATED:** Record whether the number recorded in T.E.D. EXTENSION MESH SIZE (#49) is an actual or an estimated value by circling the appropriate letter code:

- A = Actual.
- E = Estimated.

*NOTE:* An **actual T.E.D. extension mesh size** is obtained using a measuring tool provided by the NEFSC Observer Program or contractor. An **estimated T.E.D. extension mesh size** is provided by the captain.

**51. USED?:** Record whether an escape outlet is used on this gear by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

**52. ESCAPE OUTLET TYPE:** Record the type of escape outlet used on this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Panel.
- 2 = Opening.
- 3 = Single Flap.
- 4 = Double Flap.

- 9 = Other, record the escape outlet type on line 52A.

**53. MESH SIZE (LENGTH AND WIDTH):**

Record, in whole inches, the average size for the length (runs from the front of the net towards the codend) and the width (runs from side to side of the net) of the meshes used in the escape outlet. This number may be obtained from the captain.

*NOTE:* It is preferred that all Escape Outlet measurements be taken by # MESHES (#54) and MESH SIZE (#53). Length and Width in inches of the escape outlet is an acceptable secondary method.

**54. # MESHES (LENGTH AND WIDTH):**

Record the number of meshes for the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. These numbers may be obtained from the captain.

*NOTE:* For T.E.D. outlets, take the width measurement by counting the number of meshes along the leading edge of the opening. If you cannot count the meshes, then dash this field.

*NOTE:* If the outlet shape is triangular, record the # of meshes on the side of the triangle which runs from side to side in the net for width, and record the # of meshes on either side which runs from front to back for length.

*NOTE:* If the outlet shape is trapezoid, record the number of meshes that are in the longer length and the wider width.

**55. ESCAPE OUTLET SIZE (LENGTH AND WIDTH):**

Record, in whole inches, the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. This information may be obtained from the captain.

**56. SHAPE:** Record the shape of the escape outlet by recording the appropriate code:

- 00 = Unknown.
- 01 = Rectangular.
- 05 = Trapezoid.
- 06 = Square.
- 07 = Diamond.
- 08 = Triangular.
- 09 = Semi-Circle.
- 11 = Horizontal Cut.
- 99 = Other, record the escape outlet shape in comments.

**57. LOCATION:** Record the location of the escape outlet used on this gear by recording the appropriate code:

- 0 = Unknown.
- 1 = Net Top.
- 2 = Net Bottom.
- 3 = Net Side.
- 4 = Codend Top.
- 5 = Codend Bottom.
- 8 = Combination, record all escape outlet locations in comments.
- 9 = Other, record the escape outlet location in comments.

### Comments

Record any additional information about this gear, *e.g.*, unusual arrangements of the gear, type of net, etc. If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

### Required Comments

Always record the name of the vessel to which the described gear belongs, regardless of whether it is onboard your vessel or the paired vessel.

*Example:* “Gear onboard F/V Western Venture”

If you calculate or convert any values, record the original information and show all math.

*Example:* “Captain reported door weight = 2000 lbs.  $2000 \div 2.2 = 909$  kg.”

**PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPRG 05/01/13**

OBS/TRIP ID <b>A</b>		DATE LANDED mm/yy <b>B</b> / /		PAGE # <b>C</b> OF <b>D</b>	
<b>GEAR CODE</b>	<b>D</b> GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	YEAR NET MADE
	1	2	3	4	5
<b>GEAR FISHED</b>		<b>LENGTH MEASUREMENTS</b>			
0 Unknown	TYPE	NET BODY	CODEND	LINER	
1 Pelagic	Unknown	00			Headrope <b>26</b> _____ ft
2 Semi-Pelagic	Nylon	01			Footrope/Sweep <b>27</b> _____ ft
3 Bottom	Poly	02			Top Bridle <b>28</b> _____ fm
9 Other	Kevlar®	03			Wing Bridle <b>29</b> _____ fm
<b>6A</b>	Spectra®	04			Bottom Bridle <b>30</b> _____ fm
	Tenex®	05			<b>BRIDLES</b>
	Nomex®	06			BRIDLES/WARP <b>31</b> _____
<b>NET</b>	Combination	98			BRIDLES/SIDE <b>32</b> _____
0 Unknown	Other	99			WARPS/BOAT* <b>33</b> _____
1 Rope/Large Mesh					<b>FISHING CIRCLE</b>
2 Parallel Rope Trawl					# MESHES <b>34</b> _____
Other					MESH SIZE <b>35</b> _____ in
<b>7A</b>					STRENGTHENER USED? <b>36</b>
					NO 0 YES 1
					CHAFING GEAR USED? <b>37</b>
					NO 0 YES 1
<b>DESIGN</b>					
0 Unknown	FLOATS	18	0	1	
2 Seam	BLOWOUT	19	0	1	
4 Seam, Equal Panels	KITE	20	0	1	
4 Seam, Unequal Panels					
3 Panels	Number	21			
9 Other	Length	22			
	Width	23			
<b>8A</b>					
	FLOATS	24			
	Number	25			
	Diameter				
<b>MESH SIZE</b>					
Minimum	9				
Maximum	10				
<b>LINER USED?</b>					
NO 0					
YES 1					
<b>DOORS</b>					
USED? NO 0 YES 1					
<b>WEIGHT</b>					
13	kg				
<b>WEIGHTS</b>					
USED? NO 0 YES 1					
WEIGHT	15	lb			
Actual	1	16			
Estimated	2				
* Fill in only on pair trawl trips.					

OMB Control No.: 0648-0593  
 Expires on: 11/30/2015

**PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBPRG 05/01/13**

OBS/TRIP ID <b>A99052-</b>	
DATE LANDED mm/yy	<b>10 / 13</b>
PAGE #	<b>1</b> OF <b>2</b>
<b>GEAR CODE</b>	<b>GEAR MOUNTED</b>
<b>1 7 0</b>	<b>ELECTRONICS</b>
<b>GEAR NUMBER</b>	<b>EXCLUDER/SEPARATOR DEVICE</b>
<b>1</b>	USED? NO <input type="checkbox"/> 0 <input checked="" type="checkbox"/> X YES <input type="checkbox"/> 1 _____
<b>NET NAME</b>	Type Code _____
<b>Semi-Pelagic Trawl</b>	T.E.D. EXTENSION _____
<b>NET TYPE</b>	Mesh Size _____ in
<b>Four Seam Squid Trawl</b>	(circle one) A / E
<b>NET BUILDER</b>	<b>ESCAPE OUTLET</b>
<b>Swan Net Gundry</b>	USED? NO <input type="checkbox"/> 0 <input checked="" type="checkbox"/> X YES <input type="checkbox"/> 1 _____
<b>YEAR NET MADE</b>	TYPE Unknown _____ Panel _____ Opening _____ Single Flap _____ Double Flap _____ Other _____
<b>2005</b>	Unknown _____ MESH SIZE _____ in
<b>LENGTH MEASUREMENTS</b>	LENGTH # MESHES _____ OR _____ in
Headrope <b>400</b> ft	WIDTH _____ in
Footrope/Sweep <b>400</b> ft	# MESHES _____ OR _____ in
Top Bridle <b>15</b> fm	SHAPE Type Code _____
Wing Bridle <b>15</b> fm	LOCATION Type Code _____
Bottom Bridle <b>15</b> fm	LOCATION Type Code _____
<b>BRIDLES</b>	LOCATION Type Code _____
BRIDLES/WARP _____	LOCATION Type Code _____
BRIDLES/SIDE _____	LOCATION Type Code _____
WARPS/BOAT* _____	LOCATION Type Code _____
<b>FISHING CIRCLE</b>	LOCATION Type Code _____
# MESHES _____	LOCATION Type Code _____
MESH SIZE _____	LOCATION Type Code _____
STRENGTHENER USED? _____	LOCATION Type Code _____
NO 0 _____ YES 1 <input checked="" type="checkbox"/> X	LOCATION Type Code _____
CHAFING GEAR USED? _____	LOCATION Type Code _____
NO 0 _____ YES 1 <input checked="" type="checkbox"/> X	LOCATION Type Code _____
<b>CONSTRUCTION MATERIAL</b>	
NET BODY CODEND LINER	
TYPE _____	
0 Unknown	
1 <input checked="" type="checkbox"/> Nylon	
2 Poly	
3 Kevlar®	
9 Spectra®	
0 Tenex®	
1 Nomex®	
2 Combination	
9 Other	
<b>CONSTRUCTION</b>	
Unknown _____	
Rope/Large Mesh _____	
Parallel Rope Trawl _____	
Other _____	
<b>BUOYANCY/RELEASE DEVICES</b>	
USED? _____	
FLOATS _____	
BLOWOUT _____	
KITE _____	
4 Seam, Equal Panels 2 <input checked="" type="checkbox"/> X _____	
4 Seam, Unequal Panels _____	
Other _____	
<b>MESH SIZE</b>	
Minimum _____ in	
Maximum <b>120.1</b> in _____	
<b>LINER USED?</b>	
NO <input type="checkbox"/> 0 _____	
YES <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> X _____	
<b>DOORS</b>	
USED? NO 0 <input checked="" type="checkbox"/> X YES 1 _____	
<b>WEIGHT</b>	
Actual _____ kg	
<b>WEIGHTS</b>	
USED? NO 0 _____ YES 1 _____	
WEIGHT <b>4000</b> lb	
Actual _____	
Estimated <b>2</b> <input checked="" type="checkbox"/> X _____	
<b>CONSTRUCTION</b>	
TYPE _____	
0 Unknown	
1 <input checked="" type="checkbox"/> Nylon	
2 Poly	
9 Spectra®	
0 Tenex®	
1 Nomex®	
2 Combination	
9 Other	
<b>CONSTRUCTION</b>	
Unknown _____	
Rope/Large Mesh _____	
Parallel Rope Trawl _____	
Other _____	
<b>BUOYANCY/RELEASE DEVICES</b>	
USED? _____	
FLOATS _____	
BLOWOUT _____	
KITE _____	
4 Seam, Equal Panels 2 <input checked="" type="checkbox"/> X _____	
4 Seam, Unequal Panels _____	
Other _____	
<b>MESH SIZE</b>	
Minimum _____ in	
Maximum <b>120.1</b> in _____	
<b>LINER USED?</b>	
NO <input type="checkbox"/> 0 _____	
YES <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> X _____	
<b>DOORS</b>	
USED? NO 0 <input checked="" type="checkbox"/> X YES 1 _____	
<b>WEIGHT</b>	
Actual _____ kg	
<b>WEIGHTS</b>	
USED? NO 0 _____ YES 1 _____	
WEIGHT <b>4000</b> lb	
Actual _____	
Estimated <b>2</b> <input checked="" type="checkbox"/> X _____	
<b>CONSTRUCTION MATERIAL</b>	
NET BODY CODEND LINER	
TYPE _____	
0 Unknown	
1 <input checked="" type="checkbox"/> Nylon	
2 Poly	
9 Spectra®	
0 Tenex®	
1 Nomex®	
2 Combination	
9 Other	
<b>CONSTRUCTION</b>	
Unknown _____	
Rope/Large Mesh _____	
Parallel Rope Trawl _____	
Other _____	
<b>BUOYANCY/RELEASE DEVICES</b>	
USED? _____	
FLOATS _____	
BLOWOUT _____	
KITE _____	
4 Seam, Equal Panels 2 <input checked="" type="checkbox"/> X _____	
4 Seam, Unequal Panels _____	
Other _____	
<b>MESH SIZE</b>	
Minimum _____ in	
Maximum <b>120.1</b> in _____	
<b>LINER USED?</b>	
NO <input type="checkbox"/> 0 _____	
YES <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> X _____	
<b>DOORS</b>	
USED? NO 0 <input checked="" type="checkbox"/> X YES 1 _____	
<b>WEIGHT</b>	
Actual _____ kg	
<b>WEIGHTS</b>	
USED? NO 0 _____ YES 1 _____	
WEIGHT <b>4000</b> lb	
Actual _____	
Estimated <b>2</b> <input checked="" type="checkbox"/> X _____	
<b>CONSTRUCTION</b>	
TYPE _____	
0 Unknown	
1 <input checked="" type="checkbox"/> Nylon	
2 Poly	
9 Spectra®	
0 Tenex®	
1 Nomex®	
2 Combination	
9 Other	
<b>CONSTRUCTION</b>	
Unknown _____	
Rope/Large Mesh _____	
Parallel Rope Trawl _____	
Other _____	
<b>BUOYANCY/RELEASE DEVICES</b>	
USED? _____	
FLOATS _____	
BLOWOUT _____	
KITE _____	
4 Seam, Equal Panels 2 <input checked="" type="checkbox"/> X _____	
4 Seam, Unequal Panels _____	
Other _____	
<b>MESH SIZE</b>	
Minimum _____ in	
Maximum <b>120.1</b> in _____	
<b>LINER USED?</b>	
NO <input type="checkbox"/> 0 _____	
YES <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> X _____	
<b>DOORS</b>	
USED? NO 0 <input checked="" type="checkbox"/> X YES 1 _____	
<b>WEIGHT</b>	
Actual _____ kg	
<b>WEIGHTS</b>	
USED? NO 0 _____ YES 1 _____	
WEIGHT <b>4000</b> lb	
Actual _____	
Estimated <b>2</b> <input checked="" type="checkbox"/> X _____	

Comments: Gear onboard FV Western Venture

\* Fill in only on pair trawl trips.

OMB Control No.: 0648-0593  
Expires on: 11/30/2015

**PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBPRG 05/01/13**

OBS/TRIP ID		DATE LANDED mm/yy		PAGE #		OF		
GEAR CODE	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	YEAR NET MADE	EXCLUDER/SEPARATOR DEVICE		
<b>GEAR FISHED</b> Unknown _____ Pelagic _____ Semi-Pelagic _____ Bottom _____ Other _____		<b>CONSTRUCTION MATERIAL</b> NET BODY CODEND LINER TYPE Unknown 00 _____ Nylon 01 _____ Poly 02 _____ Kevlar® 03 _____ Spectra® 04 _____ Tenex® 05 _____ Nomex® 06 _____ Combination 98 _____ Other 99 _____		<b>LENGTH MEASUREMENTS</b> Headrope _____ ft Footrope/Sweep _____ ft Top Bridle _____ fm Wing Bridle _____ fm Bottom Bridle _____ fm		USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		<b>GEAR MOUNTED ELECTRONICS</b> USED? NO 0 YES 1 _____ TYPE _____ Unknown _____ Wired _____ Wireless _____ Both _____
<b>NET</b> Unknown _____ Rope/Large Mesh _____ Parallel Rope Trawl _____ Other _____		<b>BUOYANCY/RELEASE DEVICES</b> USED? NO YES FLOATS 0 1 _____ BLOWOUT 0 1 _____ KITE 0 1 _____		<b>BRIDLES</b> BRIDLES/WARP _____ BRIDLES/SIDE _____ WARPS/BOAT* _____ <b>FISHING CIRCLE</b> # MESHES _____ MESH SIZE _____ in STRENGTHENER USED? NO 0 YES 1 _____ CHAFING GEAR USED? NO 0 YES 1 _____		<b>ESCAPE OUTLET</b> USED? NO 0 YES 1 _____ TYPE _____ Unknown _____ Panel _____ Opening _____ Single Flap _____ Double Flap _____ Other _____ MESH SIZE _____ in		
<b>CONSTRUCTION</b> Unknown _____ Rope/Large Mesh _____ Parallel Rope Trawl _____ Other _____		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		
<b>DESIGN</b> Unknown _____ 2 Seam _____ 4 Seam, Equal Panels 2 _____ 4 Seam, Unequal Panels _____ Other _____		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		
<b>MESH SIZE</b> Minimum _____ in Maximum _____ in		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		
<b>LINER USED?</b> NO 0 _____ YES 1 _____		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		
<b>DOORS</b> USED? NO 0 YES 1 _____		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		
<b>WEIGHT</b> Actual _____ kg Estimated _____ kg		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		
<b>WEIGHTS</b> USED? NO 0 YES 1 _____ WEIGHT _____ lb Actual _____ lb Estimated _____ lb		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		
<b>COMMENTS</b> _____ _____ _____		<b>NET TYPE</b> CODEND _____ LINER _____		<b>NET BUILDER</b> _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in		



<b>ADDITIONAL COMMENTS</b>	<p><b>EXCLUDER/SEPARATOR DEVICE TYPE CODES:</b></p> <ul style="list-style-type: none"> <li>00 = Unknown</li> <li>01 = Nordmore Grate</li> <li>03 = Separator Panel</li> <li>04 = Guiding Device</li> <li>05 = Raised Footrope</li> <li>06 = Compound Nordmore Grate</li> <li>07 = Double Nordmore Grate</li> <li>08 = Large Mesh</li> <li>20 = T.E.D., Unknown</li> <li>21 = Standard T.E.D.</li> <li>22 = Weedless T.E.D.</li> <li>23 = Flounder T.E.D.</li> <li>24 = Bent Rod T.E.D.</li> <li>25 = Conch T.E.D.</li> <li>26 = Flat Bottom T.E.D.</li> <li>27 = Whelk T.E.D.</li> <li>28 = Flexible T.E.D.</li> <li>29 = Parker Soft T.E.D.</li> <li>30 = Experimental T.E.D.</li> <li>31 = Northeast Modified T.E.D.</li> <li>32 = Large Flat Bar T.E.D.</li> <li>98 = Combination (Comment)</li> <li>99 = Other (Comment)</li> </ul>	<p><b>ESCAPE OUTLET SHAPE CODES:</b></p> <ul style="list-style-type: none"> <li>00 = Unknown</li> <li>01 = Rectangular</li> <li>05 = Trapezoid</li> <li>06 = Square</li> <li>07 = Diamond</li> <li>08 = Triangular</li> <li>09 = Semi-Circle</li> <li>11 = Horizontal Cut</li> <li>99 = Other (Comment)</li> </ul>	<p><b>ESCAPE OUTLET LOCATION CODES:</b></p> <ul style="list-style-type: none"> <li>0 = Unknown</li> <li>1 = Net Top</li> <li>2 = Net Bottom</li> <li>3 = Net Side</li> <li>4 = Codend Top</li> <li>5 = Codend Bottom</li> <li>8 = Combination (Comment)</li> <li>9 = Other (Comment)</li> </ul>

FOR OFFICE USE ONLY

## Pair And Single Mid-water Trawl Haul Log

This log contains detailed questions about the setting and hauling of gear, and the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather related safety reasons, record as much information on this log as possible (*i.e.* Header Information, depths, times, positions, kept catch estimates, *etc.*).

If the gear is set, and only partially hauled back, include the time spent hauling and resetting the net in this haul's time. Record HAUL END TIME (#3) when the hauling equipment is put into gear and legs are fully retrieved and aboard the vessel.

The species summary section of this log should be used to record catches of herring, mackerel, debris, shells, and various other fish species. Species caught that should not be recorded on this particular log include: pelagic species (*e.g.* swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an Individual Animal Log. This Pair And Single Mid-water Trawl Haul Log will serve as a cover sheet for any Length Frequency Log(s), Individual Animal Log(s), Crustacean Sample Log(s), Catch Composition Log(s), and/or Discard Log(s) corresponding to this haul. All marine mammals, sea turtles, and sea birds caught in the gear must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

Generally pair and single mid-water trawling occurs in high volume fisheries. Review the Discard Log protocols (page 360) and Catch Composition Log protocols (page 333) before deploying. All Pair And Single Mid-water Trawl Haul Logs with catch (kept or discarded) must have an accompanying Discard Log, unless no catch exists (kept or discarded). If **any** catch is discarded, record details on the Discard Log, and record the species on the corresponding Haul Log.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Pair And Single Mid-water Trawl Haul Log making sure to complete all of the Header Information (A-C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown for any question except a "No/Yes" question, record a dash

(-) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

Become familiar with the following definitions:

### Definitions

#### Pair Trawl Fishery

##### Haul Begin:

Vessel that deployed net: First component of net deployed, *i.e.* net hits the water.

Vessel that did not deploy net: When the warp (towing cable) is passed to your vessel.

**Haul End**: Net retrieved to the surface, *i.e.* warps retrieved and aboard both vessels.

#### Single Mid-water Trawl Fishery

**Haul Begin**: First component of net deployed, *i.e.* net hits the water.

**Haul End**: When the hauling equipment is put into gear with intention to haul back.

#### Observing in the Pair Trawl Fishery

In the pair trawl fishery the cables (warps) and net are usually hauled back alternating between vessels throughout the trip. Observe all hauls that are pumped or hauled onto your vessel.

If there is an observer onboard the other vessel, do not record any catch that is pumped or hauled onto the other vessel. Record a comment with the name of the vessel that received catch. Record the other observer's TRIPID and HAUL NUMBER on the Discard Log.

If the other vessel is not carrying an observer, record all catch from both vessels. Obtain a captain's estimate for the amount of catch pumped to the other vessel, and record it in the species section of the Haul Log as 'Fish NK' with disposition code '110'. Observed Vs. Unobserved Haul

The definition of an observed haul in the high volume fisheries (including Paired and Single Mid-water Trawl) differs from the traditional definition. A mid-water trawl haul is considered observed if all catch is pumped to your vessel, and you were alert

and aware of any potential discarding during the haul.

In the high volume fisheries, **discards may be recorded on unobserved hauls**, even if the discards are not complete due to un-pumped catch. Comments describing the situation should be provided in the CATCH COMPOSITION OF THE DISCARDED CATCH COMMENTS section (#10) of the Discard Log.

*Example:* The first half of the catch is pumped to your vessel, and the second half is pumped to a neighboring vessel. This is an unobserved haul, because you could not sample the entire catch. Sample and record all catch that is pumped to your vessel. If there is an observer on the other vessel, they are responsible for recording the catch to their vessel. If there is no observer on the other vessel, obtain a captain's estimate of the catch pumped to the other vessel, and record it as 'Fish NK' with disposition code '110'.

*Example:* A large quantity of catch is discarded before being pumped onboard. This is an unobserved haul. Sample and record all catch that is pumped/brought onboard, and estimate the discarded portion. Describe the discarding event on the Discard Log.

*Example:* The first portion of the catch is pumped onto your vessel, and the rest is pumped to another vessel which also has an observer. There are no operational discards, and the net is brought onboard after the pumping is complete. The haul is considered unobserved for both observers. Both observers should sample and record all catch that is pumped/brought onboard their vessels. Record the other observer's TRIPID and HAUL NUMBER on the Discard Log.

*Example:* A small portion of fish remains in the net at the completion of pumping (operational discards). This haul is considered observed, if you are able to estimate the weight of the discards. Describe the operational discards on the Discard Log.

## Instructions

For instructions on completing fields **A-Z**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of

the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

- 000 = Unknown.
- 010 = No gear damage, or very few small, scattered holes.
- 020 = Wings twisted or torn, not exceeding 50% of meshes.
- 030 = Wings twisted or torn, exceeding 50% of meshes.
- 040 = Square and/or bosom torn, not exceeding 50% of meshes.
- 050 = Square and/or bosom torn, exceeding 50% of meshes.
- 060 = Belly torn, not exceeding 25% of meshes.
- 070 = Belly torn, exceeding 25% of meshes.
- 080 = Codend and/or extension piece torn, not exceeding 10% of meshes.
- 090 = Codend and/or extension piece torn, exceeding 10% of meshes.
- 100 = Hang-up, causing gear to be hauled back before scheduled time; minor damage.
- 110 = Parted bridle (legs), sweep, or headrope.
- 120 = Tear up exceeding gear condition of code 020, but not total net destruction.
- 130 = Obstruction in the gear, such as a large amount of fixed gear, boulders, *etc.*
- 140 = Crossed doors.
- 150 = Open codend.
- 160 = Major hang-up, tear-up, or loss of gear.
- 170 = Grate clogged with fish or debris.
- 990 = Other, specify in COMMENTS.

**2. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this haul began and ended

**3. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000-2359), that this haul began and ended (see Definitions).

**4. NUMBER OF TURNS:** Record the number of significant turns the vessel makes during this haul *i.e.*, greater than 90 degrees. This information may be obtained from the captain.

*NOTE:* This field should be filled out for both observed and unobserved hauls.

*NOTE:* If no turns are made during this haul, record a zero.

*NOTE:* If the number of turns is unknown, record a dash.

**5. TOW SPEED:** Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

**6. WIRE OUT:** Record, in whole fathoms, the amount of wire paid out for this haul. This measurement is taken from the towing blocks to the trawl doors (single trawl) or bridles (pair trawl). This information may be obtained from the captain.

**7. HAUL END WATER TEMPERATURE:**

Record, to the nearest tenth of a degree Fahrenheit, the surface water temperature when this haul **ended**.

*NOTE:* If this temperatures is obtained in Celsius, use Appendix I: Conversion Tables to convert it to Fahrenheit.

*NOTE:* Use a thermometer provided by FSB or your observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a **HAUL END WATER TEMPERATURE must** be recorded.

**8. DATE/TIME FISHING BEGINS:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000-2359), that the gear is fully deployed and actively fishing (this may be when the brakes are put on).

**9. DATE/TIME GEAR ONBOARD:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000-2359), that the gear from this haul is completely out of the water.

### Fish Pumping

During fish pumping, obtain subsamples from the chutes that lead to the fish holds. Review the Catch Composition Log protocols for details on sampling. Notify the captain that you need to view all catch, regardless of whether it is brought onboard the vessel or not. **Refer to the Discard Log for details on recording information on discards**, including operational discards (fish left in the net at the completion of pumping) and full/partial release events.

Record pumping dates and times only when the catch is being pumped onto your vessel. Any pumping to another vessel should not be included in this time.

**10. BEGIN/END DATE:** Record the month, day, and year, based on local time, that the fish pumping began and ended.

**11. BEGIN/END TIME:** Record the local time,

using the 24 hour clock (0000-2359), that the fish pumping began and ended, *i.e.*, when the fish pump is attached to codend and is initially turned on (fish pump begin) and when the fish pump is turned off and fish are no longer coming out of the dewatering box (fish pump end).

### Opening of Net

*NOTE:* The following 3 fields, VERTICAL OPENING (#12), HORIZONTAL OPENING (#13), and DOOR SPREAD (#14), should only be filled out if Gear Mounted Electronics are used.

**12. VERTICAL OPENING:** Record, in whole feet, the average distance from the top of the mouth to the bottom of the mouth while the net is fishing. This information may be obtained from the captain.

**13. HORIZONTAL OPENING:** Record, in whole feet, the average width of the mouth of the net, from wing tip to wing tip, while the net is fishing. This information may be obtained from the captain.

**14. DOOR SPREAD:** Record, in whole feet, the average distance from the door on one side of the net to the door on the other side of the net while the net is fishing. This information may be obtained from the captain.

*NOTE:* If there are no doors on the gear, dash this field.

**15. DEPTH RANGE, HEADROPE:** Record, in whole fathoms, the range of depths (shallowest to deepest), from the surface, the headrope fished for this haul.

This information should be obtained from the captain or the transducer screen/printout.

**16. DISTANCE RANGE BETWEEN BOATS:**

Record, in whole feet, the range of distances (shortest to longest) between the two boats while fishing. This information should be obtained from the captain.

*NOTE:* This information should be recorded when the gear begins to be towed (shortest distance) and the towing has ended (longest distance). Do not include values when vessels are passing warps at the begin/end of the haul, or when coming close together to complete a turn.

*NOTE:* This should only be filled out for pair trawl trips.

### **Comments**

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, tear-ups, reason to expect the gear was not fishing properly, *etc.* If turns were made during the haul, note whether the doors were left in the water (both, starboard, or port). If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

### **Required Comments**

If any catch is pumped or transferred to another vessel, record the vessel name in COMMENTS, even if that vessel is already listed as VESSEL #2 on the Vessel and Trip Information Log. For any vessel not documented on the Vessel and Trip Information Log, also record the USCG hull number.

**PAIR and SINGLE MID-WATER TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPRH OBHAU OBSPP 05/01/13**

OBS/TRIP ID <b>A</b>										
DATE LAND (mm/yy) <b>B</b>										
PAGE # <b>C</b> OF <b>1</b>										
GEAR CODE	D	GEAR #	E	HAUL #	F	HAUL OBS? NO 0 <b>G</b> YES 1	ON-EFFORT? NO 0 <b>H</b> YES 1	CATCH? NO 0 <b>I</b> YES 1	INC TAKE? NO 0 YES 1	WEATHER CODE <b>K</b>
WAVE HEIGHT <b>N</b> ft										
WIND DIRECTION <b>M</b>			SPEED <b>L</b> kn			TOW SPEED <b>5</b> kn			WIRE OUT <b>6</b> fm	
HAUL/FISHING DATE		TIME		LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXXX)			NUMBER OF TURNS <b>4</b>			
INFO mm/dd/yy		24 hours		Station 1			Station 2			
BEGIN	/	2	/	3	:	9960 -	P	9960 -	J	WATER TEMP
BEGIN	/	8	/	:						fm
FISHING	/	8	/	:						o
END	/	9	/	:						F
HAUL	/	9	/	:						
GEAR	/	9	/	:						
ONBOARD	/	9	/	:						
TARGET SPECIES <b>Q</b> CODE <b>R</b>										
DEPTH RANGE, HEADROPE <b>15</b> fm										
DISTANCE BETWEEN BOATS * <b>16</b> ft										

COMMENTS

SPECIES	SUB-SAMPLE WEIGHT	CODE	NAME	WEIGHT		ESTIMATION		DISP CODE	POUNDS	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	ESTIMATION	METHOD	CODE
				D/R	CODE	D/R	CODE								
<b>S</b>		<b>T</b>					<b>Y</b>	<b>W</b>							
									<b>V</b>						

\*Only fill in for pair trawl trips  
 \*\*Only fill in if gear mounted electronics are used

**PAIR and SINGLE MID-WATER TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPRH OBHAU OBSPP 05/01/13**

OBS/TRIP ID		A99012-	
DATE LAND (mm/yy)		10 / 13	
PAGE #		1 OF 3	

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
170	01	001	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	02	10 kn	2 ft	48 fm	010
HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / Bearing	LONGITUDE / Bearing							
BEGIN HAUL	10 / 11 / 13	23 : 28	43° 37.4	69° 42.7							
BEGIN FISHING	10 / 11 / 13	23 : 32									
END HAUL	10 / 12 / 13	05 : 04									
END GEAR ONBOARD	10 / 12 / 13										
<b>FISH PUMPING</b>			VERTICAL OPENING	HORIZONTAL OPENING	DOOR SPREAD						
BEGIN	10 / 12 / 13	07 : 45			**						
END	10 / 12 / 13	09 : 14									
COMMENTS			Haddock pulled out at grate and weighed. Spiny dogfish estimated as tally, crew tossed over before I could weigh them. See Discard Log about details about Fish, NK.								

SPECIES	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT		ESTIMATION METHOD CODE	SPECIES NAME	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT	
				D/R	ESTIMATION METHOD CODE						D/R	ESTIMATION METHOD CODE
Atlantic Herring		295,000	100	R	10							
Spiny Dogfish		150	001	R	05							
Haddock		100	172	R	01							
Fish, NK		1,000	049	R	04							
Atlantic Mackerel		2,750	100	R	10							

\*Only fill in for pair trawl trips  
 \*\*Only fill in if gear mounted electronics are used

SAMPLE WEIGHT MULTIPLIER

**PAIR and SINGLE MID-WATER TRAWL HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBPRH OBHAU OBSPP 05/01/13**

OBS/TRIP ID		DATE LAND (mm/yy)		PAGE #		OF							
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	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
HAUL INFO	DATE mm/dd/yy		TIME 24 hours	Station 1	Station 2	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXXX) Longitude / Bearing							
HAUL BEGIN	/ /		:	9960 -	9960 -				NUMBER OF TURNS	kn	ft	fm	o F
HAUL END	/ /		:						TARGET SPECIES				
FISHING	/ /		:						DEPTH RANGE, HEADROPE				
END	/ /		:					**	DOOR SPREAD				
HAUL	/ /		:	9960 -	9960 -				DISTANCE BETWEEN BOATS *				fm
GEAR	/ /		:										
ONBOARD	/ /		:										
<b>FISH PUMPING</b>													
BEGIN	/ /		:					**	HORIZONTAL OPENING				
END	/ /		:						VERTICAL OPENING				ft
COMMENTS													

SPECIES				WEIGHT				SAMPLE WEIGHT MULTIPLIER					
NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	ESTIMATION METHOD CODE	SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	ESTIMATION METHOD CODE

\*Only fill in for pair trawl trips  
 \*\*Only fill in if gear mounted electronics are used



## Twin Trawl Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hailed** during a trip. These unique configurations may be based on changes made to the length of the headrope, mesh size in the codend, *etc.* Any changes in these fields require the completion of another Twin Trawl Gear Characteristics Log. Do not solely use the COMMENTS section to explain these differences among gears. Number each gear configuration sequentially.

Note that a Twin Trawl gear is defined as a distinct combination of trawl nets (port and starboard) deployed during the trip. Both port and starboard nets will be described. If, during a trip, one of the nets is not fished, complete a Bottom Trawl Gear Characteristics Log for the net fished singly.

If the gear is set out and hauled more than once during a trip, do not complete a new Twin Trawl Gear Characteristics Log for the multiple hauls. Rather, record on the Twin Trawl Haul Log which gear numbers are being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If the vessel has two or more **identical** gears which are hauled during the trip, assign each gear its own gear number and record them on separate Twin Trawl Gear Characteristics Logs with 10 random codend mesh size measurements and 10 random liner (if present) mesh measurements collected for each codend/liner. See the trawl definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (-) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Otter Trawl:** A device constructed of twine webbing so that when fully assembled and rigged, it will take the shape of a huge funnel while being towed. To

spread the mouth so that it will cover the largest possible area, each wing is fastened to a trawl “door”. Each door is fitted with chains to be attached to a towing cable from the trawling vessel. The resistance of the water to the forward motion of the doors, as they are towed at different angles, forces them to pull in opposite directions and thus keep the mouth of the net open.

**Gear:** A twin trawl, commonly referred to as “the net(s)”. This includes ground cables, headrope, footrope, floats, weights, netting and any attached equipment of two nets. Twin Trawl gear is defined as a distinct combination of trawl nets (port and starboard) deployed during the trip. Both port and starboard nets, if used, should be described.

**Square:** The section of netting fitted between the top body and the two top wings so that it partially overhangs the FOOTROPE.

**Top Wings:** Two sections of netting usually shaped diagonally opposite to one another to form the upper mouth of the trawl. The HEADROPE is attached from one top wing end to the other, along the diagonal flymesh edges and across the bosom or center part of the square.

**Lower Wings:** Two narrow sections of netting fitted between the lower belly and the top wings to form the lower lip of the trawl net. The FOOTROPE is attached from one wing end to the other, along the flymesh edges and across the lower belly bosom meshes. The lower wings are subject to the most abrasion, and consequently they are the sections which have to be continually repaired or replaced when working rough ground.

**Bridle:** The bridle connects the wings of the net to the ground cable, which eventually leads to the doors.

**Codend:** Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvages are laced together and a codline or codend clip is woven through the lower meshes for securing the section into a bag where the fish are held until released onboard the trawler.

The codend is the section of a trawl net most often affected by mesh size regulations. The size of the codend depends on the species being targeted and regulations.

**Codend Liner:** A section of small mesh net sewn into the inside of the codend bag. The purpose of which is to restrict the escapement of smaller species, *e.g.*, squid.

**Fishing Circle:** The section of the net located behind the wings and before the belly. It is the area which creates the largest opening in the net.

**Headrope:** The line, generally of fiber rope or steel wire rope, which fits along the top wings and center part of the square to form the upper lip of the otter trawl.

**Codend Strengtheners:** Any material attached to the outside of the codend or liner to prevent a full net from bursting when it is being lifted aboard. This material may be in the form of strengthening ropes, which are attached lengthwise and/or circumferentially to restrict stretching of the codend, or a strengthening/lifting bag, which is a cylinder of netting surrounding the codend. A strengthening bag may also be considered chafing gear.

**Transducer:** Conveys information regarding the fishing status. Located on various parts of the fishing gear.

**Excluder/Separator Device:** A modification to a common bottom trawl that helps prevent the capture of non-target species. It can redirect or allow those species to naturally swim toward an escape outlet once inside the trawl. Alternatively, it can inhibit some species from entering the trawl.

*Example:* A horizontal separator panel in the belly of the net separates upward- and downward-swimming fishes.

*Example:* A panel of large meshes allows certain species to escape. Large meshes can also function as an escape outlet.

*Example:* A metal grate directs some animals towards an escape outlet.

*NOTE:* An excluder/separator device may be present without an escape outlet

*Example:* A raised footrope or drop chain sweep excludes fish on the bottom from entering the trawl. Some nets are designed with a longer headrope than footrope to prevent capture of upward-swimming fishes.

**Escape Outlet:** An opening, hole, or panel that allows unwanted species to exit the trawl upon encountering an excluder/separator device.

*NOTE:* Escape outlets are only present with an excluder/separator device. An unintentional

hole in the net is not considered an escape outlet.

## Instructions

For instructions on completing the Header Fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hauled.

*Example:* The first uniquely configured gear is gear number “1”, and will consist of a port net and a starboard net. The characteristics for both the port and starboard nets are recorded on separate Twin Trawl Gear Characteristics Logs. This gear number (“1”) will be used on the Twin Trawl Haul Log for each haul and will reflect that both the port and starboard net are fishing. If at any time, the gear configuration on either the port or starboard net changes, a new consecutive gear number (“2”) will be assigned.

**2. NET NAME:** Record the common name of the net. This information may be obtained from the captain.

00 = Unknown.

01 = Trouser Trawl.

02 = Beam Trawl.

03 = Twin Trawl.

04 = Bottom Trawl.

05 = Semi-Pelagic Trawl.

06 = Pelagic Trawl.

99 = Other (Comment).

**3. NET TYPE:** Record the name of the net type used. If it does not appear in the list below, record comments on any characteristics (*e.g.*, “short vertical opening”, “sweep gear not heavy”) that help to identify the net. This information may be obtained from the captain.

00 = Unknown.

08 = Flynet (seams unknown).

01 = Flynet, 2-Seam.

02 = Flynet, 4-Seam.

09 = Haddock Separator Trawl (seams unknown).

03 = Haddock Separator Trawl, 2-Seam.

04 = Haddock Separator Trawl, 4-Seam.

05 = Separator Trawl (seams unknown).

- 06 = Separator Trawl, 2-Seam.
- 07 = Separator Trawl, 4-Seam.
- 13 = Flounder Trawl, 2-Seam.
- 10 = Flatfish Trawl (seams unknown).
- 11 = Flatfish Trawl, 2-Seam.
- 12 = Flatfish Trawl, 4-Seam.
- 15 = Ruhle Trawl, 4-Seam.
- 16 = Rope Separator Trawl, 4-Seam.
- 18 = Millionaire Trawl, 4-Seam.
- 20 = Raised Footrope Trawl (seams unknown).
- 21 = Raised Footrope Trawl., 2-Seam
- 22 = Raised Footrope Trawl, 4-Seam.
- 24 = Box Trawl., 4-Seam
- 25 = Shrimp Trawl (seams unknown).
- 26 = Shrimp Trawl, 2-Seam.
- 27 = Shrimp Trawl, 4-Seam.
- 32 = Eliminator Trawl (seams unknown).
- 31 = Eliminator Trawl, 2-Seam.
- 30 = Eliminator Trawl, 4-Seam.
- 60 = Scallop Trawl (seams unknown).
- 61 = Scallop Trawl, 2-Seam.
- 62 = Scallop Trawl, 4-Seam.
- 65 = Monkfish Trawl (seams unknown).
- 66 = Monkfish Trawl, 2-Seam.
- 67 = Monkfish Trawl, 4-Seam.
- 70 = Sweepless Trawl (seams unknown).
- 71 = Sweepless Trawl, 2-Seam.
- 72 = Sweepless Trawl, 4-Seam.
- 80 = Shuman Trawl (seams unknown).
- 81 = Shuman Trawl, 2-Seam.
- 82 = Shuman Trawl, 4-Seam.
- 85 = Groundfish Trawl (seams unknown).
- 86 = Groundfish Trawl, 2-Seam.
- 87 = Groundfish Trawl, 4-Seam.
- 88 = Balloon Trawl (seams unknown).
- 89 = Balloon Trawl, 2-Seam.
- 90 = Balloon Trawl, 4-Seam.
- 91 = Unknown Trawl, 2-Seam.
- 92 = Unknown Trawl, 4-Seam.
- 99 = Other (Comment).

*NOTE:* See Specialized Trawl Net Types on page 86.

**4. NET BUILDER:** Record the name of the company or individual who made the net. This information may be obtained from the captain.

*NOTE:* If built by the captain or crew record

“Custom Built” in this field.

- 00 = Unknown.
- 01 = Custom Built.
- 02 = Le Drezen.
- 03 = Levine Marine Supply.
- 04 = Noreastern Trawl Systems, Ltd.
- 05 = Smart Net Systems, Ltd.
- 06 = Swan Net Gundry.
- 07 = Wanchese Trawl Supply.
- 08 = Wilcox Trawls.
- 09 = Superior Trawl.
- 10 = Trawlworks, Inc.
- 11 = Dantrawl.
- 12 = Reidar’s Manufacturing, Inc.
- 13 = Christiansen’s Nets.
- 14 = Jeff Flagg.
- 15 = Shumann.
- 16 = Yankee.
- 17 = IMP Group.
- 18 = Veidarfaer.
- 19 = Gearwork.
- 20 = VT Fishing Gear Supplies.
- 21 = Jamestown Trawl.
- 99 = Other, record the name in comments.

**5. NET LOCATION:** Record the location where the net is deployed.

- 1 = Port.
- 2 = Starboard.
- 9 = Other.

### Doors

**6. USED?:** Record whether doors are used with this gear by placing an “X” next to the appropriate code (see Figure 3):

- 0 = No.
- 1 = Yes.

**7. WEIGHT:** Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the captain.

**8. LINER USED?:** Record whether a liner is used inside the net’s codend by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* See the gear definitions in the introduction.

### Construction Material

**9. TYPE:** Record the type of construction material used in the body of the net, the codend and the liner by placing an "X" next to the appropriate code:

- 00 = Unknown.
- 01 = Nylon.
- 02 = Poly.
- 03 = Kevlar®.
- 04 = Spectra®.
- 05 = Tenex®.
- 06 = Nomex®.
- 98 = Combination, record all construction material types on line 9A.
- 99 = Other, record the construction material type on line 9A.

If no liner is used on this gear, leave the liner construction material type blank.

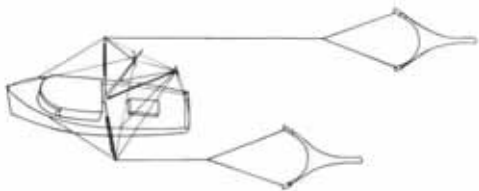
**10. NETS CONNECTED?:** Record whether the two nets are connected to each other while fishing, by the center ground cables or bridles. See Figure 1 and Figure 2.

- 0 = No.
- 1 = Yes.

Figure 1: Example of nets connected.



Figure 2: Example of nets not connected. Photo courtesy of: Sainsbury, J. (1996). Commercial fishing methods. 3rd ed. Cambridge: University Press.



### Kite Panel

**11. KITE USED?:** Record whether a kite(s) is (are) used in this net by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* The bag that holds the gear mounted electronics is **not** considered a kite.

**12. NUMBER:** Record the **total** number of panels used in a kite in this net.

**13. WIDTH:** Record, in whole inches, the average width of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is parallel to the headrope.

**14. LENGTH:** Record, in whole inches, the average length of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is perpendicular to the headrope.

### Length Measurements

**15. HEADROPE:** Record, in whole feet, the length of the rope along the top of the net. This information may be obtained from the captain. See Figure 3.

**16. FOOTROPE/SWEEP:** Record, in whole feet, the length of the rope along the bottom of the net. This information may be obtained from the captain. See Figure 3.

*NOTE:* This measurement is the distance from the lower bridle on one side of the net to the lower bridle on the other side of the net.

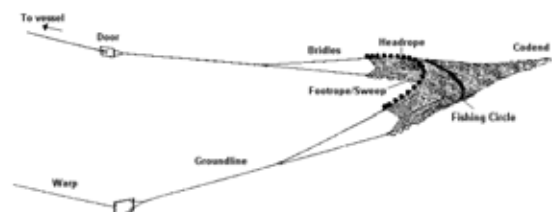
*NOTE:* The footrope may also be referred to as a fishing line in some regions.

**17. GROUND CABLE:** Record, in whole fathoms, the length of the wire connecting the bridles and the back strap on **one side** of the net. This information may be obtained from the captain. See Figure 3.

**18. BRIDLE:** Record, in whole fathoms, the length of the upper bridle on **one side** of the net. This information may be obtained from the captain. See Figure 3.

*NOTE:* The bridles may also be referred to as legs in some regions.

Figure 3: Doors, groundline, bridles, footrope/sweep, and headrope.



**19. STRENGTHENER USED?:** Record whether strengthener material is used in the codend of this net by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* See the gear definitions in the introduction.

**20. CHAFING GEAR USED?:** Record whether chafing gear is used on the codend by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

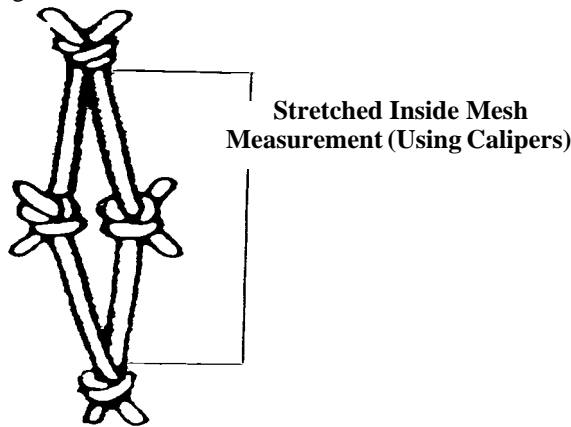
*NOTE:* A codend in which the meshes are “wrapped” is considered to have chafing gear. A codend with a strengthening bag may also be considered to have chafing gear.

**Fishing Circle**

**21. NUMBER OF MESHES:** Record the number of meshes in the fishing circle. This information may be obtained from the captain. See Figure 8 for the location of the fishing circle.

**22. FISHING CIRCLE MESH SIZE:** Record, to the nearest tenth of an inch, the largest mesh measurement (inside knot to knot) from the fishing circle. This information may be obtained from the captain. See Figure 4.

Figure 4: Illustration of diamond mesh.



**Ground Gear**

**23. TYPE:** Record the type of gear making up the ground cable, the bridles/legs, and the sweep by placing an “X” next to the appropriate code (see Figure 3, Figure 5, and Figure 6):

- 00 = Unknown.
- 01 = Chain.
- 02 = Cable/Wire.

- 03 = Wrapped Cable.
- 04 = Rock Hopper.
- 05 = Roller.
- 06 = Rubber Cookie.
- 07 = Bobbin (Half Round).
- 08 = Plate Gear.
- 98 = None.
- 99 = Other, record the ground gear type on line 23A.

*NOTE:* If more than one type of gear is used on a ground gear piece, record the type of gear with the **LARGEST** diameter. This is not always the longest piece.

*Example:* If the sweep has 80 feet of 1 inch wire, 25 feet of 3 inch rubber cookies and 15 feet of 5 inch rollers, record “Roller” (05) for SWEEP GROUND GEAR TYPE. See Figure 5.

Figure 5: Doors, ground cable, bridges, headrope, and footrope.

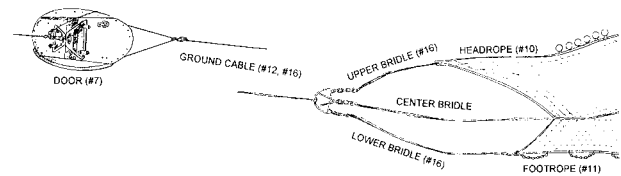
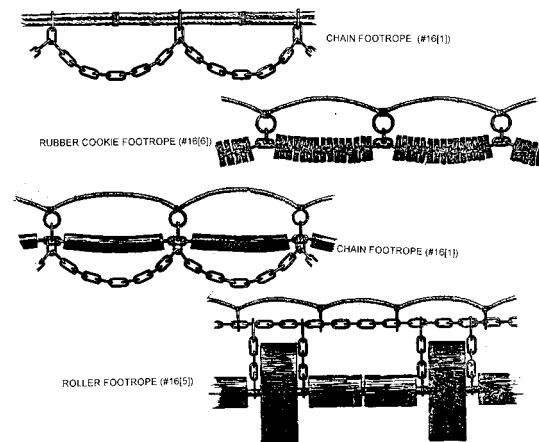


Figure 6: Types of sweeps.



**Sweep Gear**

**24. NUMBER:** Record the total number of the largest piece of gear present on the sweep (rollers, rock hoppers). Ask the captain if you are unable to obtain this number.

*NOTE:* If the largest piece of gear used on the sweep is chain or cable/wire or wrapped cable then dash this field.

**25. SIZE:** Record the diameter, in whole inches, of the largest piece of gear present on the sweep. Ask the captain if you are unable to measure this.

*NOTE:* If the largest piece of gear used on the sweep is chain or cable/wire or wrapped cable then dash this field.

*NOTE:* If the largest type of gear on the sweep are of multiple sizes, measure and record the diameter of the largest one.

*Example:* A net has both 3-inch and 5-inch rollers. Record the size as 5 inches.

*NOTE:* If the largest type of gear on the sweep is plate gear, measure the diagonal length of the plate.

### Floats

**26. NUMBER:** Record the total number of floats attached to the headrope.

**27. SIZE:** Record the diameter, in whole inches, of the majority of floats attached to the headrope.

### Codend/Liner

**28. HUNG:** Record the hanging configuration of the codend and liner by placing an "X" next to the appropriate code:

0 = Unknown.

1 = Diamond (see Figure 7).

2 = Square (see Figure 7).

3 = Square, Wrapped.

8 = Combination, record the hanging configuration in COMMENTS.

*NOTE:* If the codend is wrapped, this is considered chafing gear. Be sure to record "Yes" (1) for CHAFING GEAR USED (#20).

*NOTE:* See Figure 8 for the location of the codend.

*NOTE:* If no liner is used on this gear, leave the liner hanging configuration blank.

Figure 7: Mesh hanging patterns.

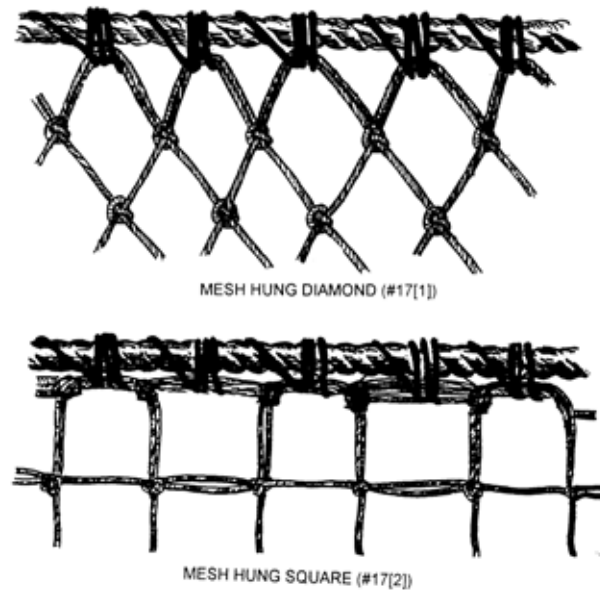
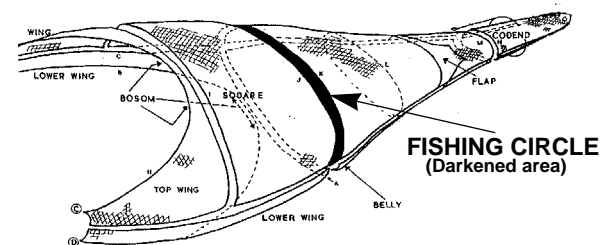


Figure 8: The sections of netting that make a trawl.



**29. TWINE TYPE:** Record whether the twine used in the codend and liner are single or double stranded by placing an "X" next to the appropriate code:

1 = Single.

2 = Double.

3 = Single on Top/Double on Bottom.

9 = Other, record the twine type in comments.

*NOTE:* If no liner is used on this gear, leave the liner twine type blank.

*NOTE:* Braided line is considered single twine.

### Mesh Sizes

Always use calipers issued by FSB or your observer provider to obtain mesh measurements. Do not use any other measuring tools (such as tape measures) as the measurements will not be useable.

All measurements should be stretched, inside knot-to-knot, taken in the direction in which the mesh is hung. These measurements are **not** bar lengths. See the [Bottom Trawl Gear Characteristics Log](#) and [Appendix E: Vernier Caliper Instructions](#) for further information.

Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the codend (or liner) and 5 meshes in from the side seam.

Take measurements after the gear has been fished for at least one haul, while the net is empty and wet. Do not take measurements when the codend is dry or frozen.

Ask the captain to lower the net on deck for you to measure. Do not take measurements while the net is hung on a net reel.

**30. CODEND MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the codend.

**31. LINER MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the liner in the codend.

*NOTE:* The liner mesh size should be smaller than the codend mesh size.

*NOTE:* If no liner is used on this gear, leave the liner mesh size blank.

### Gear Mounted Electronics

**32. USED?:** Record whether any transducers are used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**33. NUMBER OF TRANSDUCERS:** Record the number of transducers used on this gear.

**34. TYPE:** Record the type of transducer used on this gear by placing an “X” next to the appropriate code.

**35. BRAND:** Record the brand of transducers used on this gear by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Furuno®.
- 2 = Simrad®.
- 3 = Northstar Technical.
- 4 = Notus.
- 5 = Marport.
- 6 = Scanmar.
- 8 = Combination, record all transducer brands on line 35A.
- 9 = Other, record the transducer brand on line 35A.

**36. LOCATION:** Record the location of transducers

used on this gear by placing an “X” in the box of all locations that apply. (see Figure 3 and Figure 8):

- 0 = Unknown.
  - 1 = Headrope.
  - 2 = Wings.
  - 3 = Footrope.
  - 5 = Door.
  - 6 = Codend
  - 9 = Other the transducer locations on line 36A.
- NOTE:* Check all that apply.

### Excluder/Separator Device

**37. USED?:** Record whether an excluder or separator device is used on this gear by placing an “X” next to the appropriate code (see Figure 9):

- 0 = No.
- 1 = Yes.

**38. TYPE:** Record the type of excluder or separator device used on this gear by recording the appropriate two-digit code:

- 00 = Unknown.
- 01 = Nordmore Grate (see Figure 9)
- 03 = Separator Panel.
- 04 = Guiding Device, *i.e.*, a funnel or “flap” (see Figure 9).
- 05 = Raised Footrope.
- 06 = Compound Nordmore Grate (hinged grate).
- 07 = Double Nordmore Grate (2 grates).
- 08 = Large Mesh.
- 20 = T.E.D., Unknown.
- 21 = Standard T.E.D.
- 22 = Weedless T.E.D.
- 23 = Flounder T.E.D.
- 24 = Bent Rod T.E.D.
- 25 = Conch T.E.D.
- 26 = Flat Bottom T.E.D.
- 27 = Whelk T.E.D.
- 28 = Flexible T.E.D.
- 29 = Parker Soft T.E.D.
- 30 = Experimental T.E.D.
- 31 = Northeast Modified T.E.D.
- 32 = Large Flat Bar T.E.D.
- 98 = Combination, record all excluder/separator device types in comments.
- 99 = Other, record the excluder/separator device type on line comments.

See Figure 7 in the Bottom Trawl Gear Characteristics Log instructions for an illustration of T.E.D. types.

**39. T.E.D. EXTENSION MESH SIZE:** Record, to the nearest tenth of an inch, the size of the mesh of the T.E.D. extension or the webbing surrounding the T.E.D. This measurement should be taken 3-5 meshes forward of the leading edge of the grid. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. See Figure 10.

*NOTE:* The T.E.D. extension is a cylindrical piece of webbing distinct from the main trawl body, wings, codend and any other net extension(s).

**40. ACTUAL OR ESTIMATED:** Record whether the number recorded in T.E.D. EXTENSION MESH SIZE (#39) is an actual or an estimated value by circling the appropriate letter code:

A = Actual.

E = Estimated.

*NOTE:* An **actual T.E.D. extension mesh size** is obtained using a measuring tool provided by FSB or your observer provider. An **estimated T.E.D. extension mesh size** is provided by the captain.

### Escape Outlet

**41. USED?:** Record whether a escape outlet is used on this gear by placing an "X" next to the appropriate code (see Figure 9):

0 = No.

1 = Yes.

**42. ESCAPE OUTLET TYPE:** Record the type of escape outlet used on this gear by placing an "X" next to the appropriate code:

0 = Unknown.

1 = Panel.

2 = Opening.

3 = Single Flap.

4 = Double Flap.

9 = Other, record the escape outlet type on line 42A.

**43. MESH SIZE (LENGTH AND WIDTH):**

Record, in whole inches, the average size for the length (runs from the front of the net towards the codend) and the width (runs from side to side of the

net) of the meshes used in the escape outlet. This number may be obtained from the captain.

*NOTE:* It is preferred that all Escape Outlet measurements be taken by # MESHES (#44) and MESH SIZE (#43). Length and Width in inches of the escape outlet is an acceptable secondary method.

**44. # MESHES (LENGTH AND WIDTH):**

Record the number of meshes for the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. These numbers may be obtained from the captain.

*NOTE:* For T.E.D. outlets, the width measurement is taken by counting the number of meshes along the leading edge of the opening. If this cannot be obtained by the observer then dash this field.

*NOTE:* If the outlet shape is triangular, record the # of meshes on the side of the triangle which runs from side to side in the net for width, and record the # of meshes on either side which runs from front to back for length.

*NOTE:* If the outlet shape is trapezoid, record the number of meshes that are in the longer length and the wider width.

**45. ESCAPE OUTLET SIZE (LENGTH AND WIDTH):**

Record, in whole inches, the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. This information may be obtained from the captain.

**46. SHAPE:** Record the shape of the escape outlet by recording the appropriate code:

00 = Unknown.

01 = Rectangular.

05 = Trapezoid.

06 = Square.

07 = Diamond.

08 = Triangular.

09 = Semi-Circle.

11 = Horizontal Cut.

99 = Other, record the escape outlet shape in comments.

**47. LOCATION:** Record the location of the escape outlet used on this gear by recording the appropriate code:

0 = Unknown.



- 1 = Net Top.
- 2 = Net Bottom.
- 3 = Net Side.
- 4 = Codend Top.
- 5 = Codend Bottom.
- 8 = Combination, record all escape outlet locations in comments.
- 9 = Other, record the escape outlet location in comments.

### **Comments**

Record any additional information about this gear, *e.g.*, unusual arrangements of the gear, type of net, *etc.* If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

Figure 9: Funnel, Nordmore grate, and escape outlet.

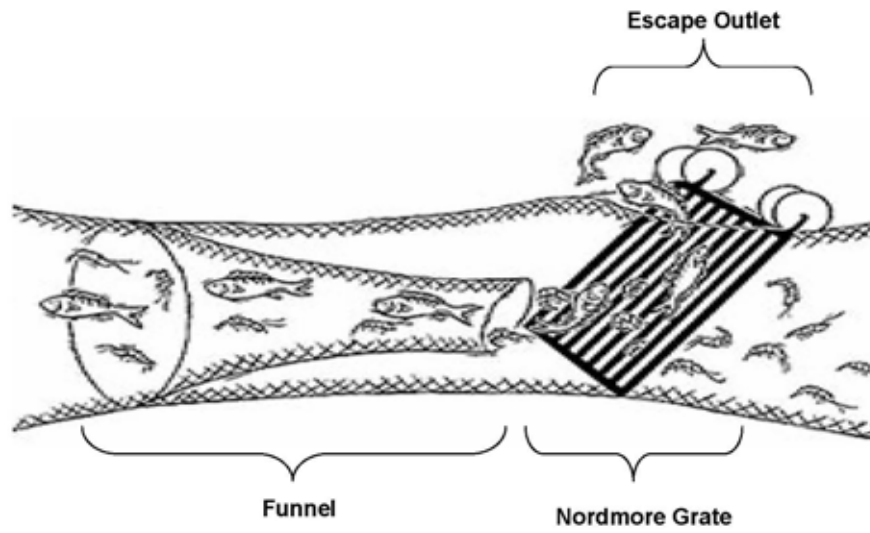
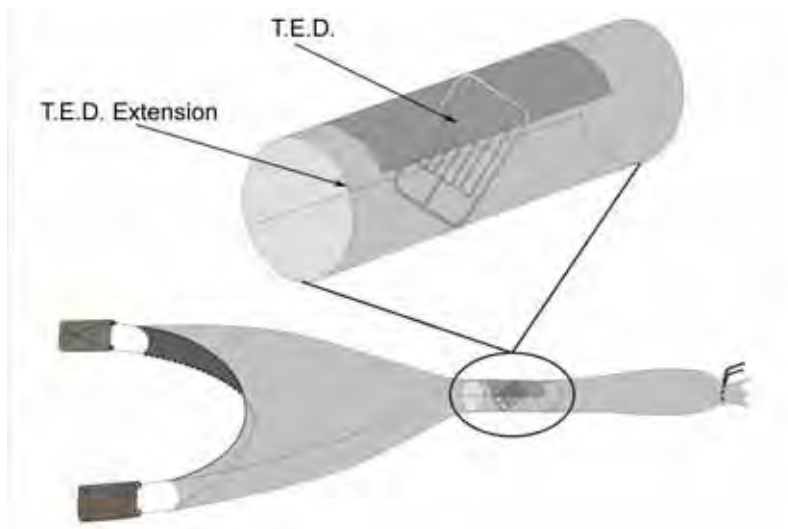


Figure 10: T.E.D. and T.E.D. extension.







**TWIN TRAWL GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBTTG 05/01/13**

OBS/TRIP ID		DATE LANDED mm/yy		PAGE #		OF	
GEAR CODE	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER		EXCLUDER/SEPARATOR DEVICE	
Port 1 _____ Starboard 2 _____ Other 9 _____	CONSTRUCTION MATERIAL TYPE NET BODY CODEND LINER Unknown _____ Nylon _____ Poly _____ Kevlar® _____ Spectra® _____ Tenex® _____ Nomex® _____ Combination 98 _____ Other 99 _____	LENGTH MEASUREMENTS Headrope _____ ft Footrope/Sweep _____ ft Ground Cable _____ fm Bridle _____ fm STRENGTHENER USED? NO 0 _____ YES 1 _____ CHAFING GEAR USED? NO 0 _____ YES 1 _____	HUNG _____ Unknown _____ Diamond _____ Square _____ Square, wrapped 3 _____ Combination 8 _____	CODEND/LINER TWINE TYPE CODEND LINER Single _____ Double _____ Single on Top/ _____ Double on Bottom 3 _____ Other 9 _____	GEAR MOUNTED ELECTRONICS USED? _____ NO 0 _____ YES 1 _____ Type Code _____ NUMBER OF TRANSDUCERS _____	USED? NO 0 _____ YES 1 _____	
DOORS USED? NO 0 _____ YES 1 _____	NETS CONNECTED? KITE PANEL KITE USED? NO 0 _____ YES 1 _____	FISHING CIRCLE # MESHES _____ in _____ MESH SIZE _____ in _____	CODEND MESH SIZE mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____		TYPE Unknown _____ Panel _____ Opening _____ Single Flap _____ Double Flap _____ Other 9 _____		ESCAPE OUTLET USED? NO 0 _____ YES 1 _____
WEIGHT OF ONE DOOR _____ kg	NETS CONNECTED? KITE PANEL KITE USED? NO 0 _____ YES 1 _____	FISHING CIRCLE # MESHES _____ in _____ MESH SIZE _____ in _____	CODEND MESH SIZE mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____		BRAND Unknown _____ Furuno® _____ Simrad® _____ Northstar Tech _____ Notus _____ Marport _____ Scanmar _____ Combination _____ Other _____		MESH SIZE _____ in _____
LINER USED? NO 0 _____ YES 1 _____	NETS CONNECTED? KITE PANEL KITE USED? NO 0 _____ YES 1 _____	FISHING CIRCLE # MESHES _____ in _____ MESH SIZE _____ in _____	CODEND MESH SIZE mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____		LOCATION (check all that apply) Unknown _____ Headrope _____ Wings _____ Footrope _____ Door _____ Codend _____ Other _____		LENGTH # MESHES _____ OR _____ in _____ WIDTH # MESHES _____ OR _____ in _____ SHAPE Type Code _____ LOCATION Type Code _____
COMMENTS	GROUND GEAR TYPE GROUND CABLE BRIDLE/LEG SWEEP Unknown _____ Chain _____ Cable / Wire _____ Wrapped Cable _____ Rock Hopper _____ Roller _____ Rubber Cookie _____ Bobbin _____ Plate Gear _____ None _____ Other _____	FISHING CIRCLE # MESHES _____ in _____ MESH SIZE _____ in _____	CODEND MESH SIZE mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____		LOCATION (check all that apply) Unknown _____ Headrope _____ Wings _____ Footrope _____ Door _____ Codend _____ Other _____		MESH SIZE _____ in _____
	SWEEP GEAR Number _____ Diameter _____ in	FLOATS Number _____ Diameter _____ in	CODEND MESH SIZE mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____		LOCATION (check all that apply) Unknown _____ Headrope _____ Wings _____ Footrope _____ Door _____ Codend _____ Other _____		MESH SIZE _____ in _____

<p><b>ADDITIONAL COMMENTS</b></p>	<p><b>EXCLUDER/SEPARATOR DEVICE TYPE CODES:</b></p> <ul style="list-style-type: none"> <li>00 = Unknown</li> <li>01 = Nordmore Grate</li> <li>03 = Separator Panel</li> <li>04 = Guiding Device</li> <li>05 = Raised Footrope</li> <li>06 = Compound Nordmore Grate</li> <li>07 = Double Nordmore Grate</li> <li>08 = Large Mesh</li> <li>20 = T.E.D., Unknown</li> <li>21 = Standard T.E.D.</li> <li>22 = Weedless T.E.D.</li> <li>23 = Flounder T.E.D.</li> <li>24 = Bent Rod T.E.D.</li> <li>25 = Conch T.E.D.</li> <li>26 = Flat Bottom T.E.D.</li> <li>27 = Wheelk T.E.D.</li> <li>28 = Flexible T.E.D.</li> <li>29 = Parker Soft T.E.D.</li> <li>30 = Experimental T.E.D.</li> <li>31 = Northeast Modified T.E.D.</li> <li>32 = Large Flat Bar T.E.D.</li> <li>98 = Combination (Comment)</li> <li>99 = Other (Comment)</li> </ul>	<p><b>ESCAPE OUTLET SHAPE CODES:</b></p> <ul style="list-style-type: none"> <li>00 = Unknown</li> <li>01 = Rectangular</li> <li>05 = Trapezoid</li> <li>06 = Square</li> <li>07 = Diamond</li> <li>08 = Triangular</li> <li>09 = Semi-Circle</li> <li>11 = Horizontal Cut</li> <li>99 = Other (Comment)</li> </ul>	<p><b>ESCAPE OUTLET LOCATION CODES:</b></p> <ul style="list-style-type: none"> <li>0 = Unknown</li> <li>1 = Net Top</li> <li>2 = Net Bottom</li> <li>3 = Net Side</li> <li>4 = Codend Top</li> <li>5 = Codend Bottom</li> <li>8 = Combination (Comment)</li> <li>9 = Other (Comment)</li> </ul>
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FOR OFFICE USE ONLY

## Twin Trawl Haul Log

This log contains detailed questions about the setting, hauling, and fishing time of the gear, as well as the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather related safety reasons, record as much information on this log as possible (*i.e.* Header Information, depths, times, positions, kept catch estimates, *etc.*).

If the gear is set, and only partially hauled back, include the time spent hauling and resetting the net in this haul's time. Record HAUL END TIME (#3) when the hauling equipment is put into gear.

The species summary section of this log should be used to record catches of all species (some exceptions listed below), debris and shells. Species caught that should not be recorded on this particular log include: pelagic species (*e.g.* swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an Individual Animal Log. All marine mammals, sea turtles, and sea birds caught in the gear must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Twin Trawl Haul Log making sure to complete all of the Header Information (A-C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a "No/Yes" question, record a dash (-) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of net deployed, *i.e.* net hits the water.

**Haul End:** Hauling equipment put into gear with the intention of hauling back.

### Instructions

For instructions on completing fields A–Z, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

000 = Unknown.

010 = No gear damage, or very few small, scattered holes.

020 = Wings twisted or torn, not exceeding 50% of meshes.

030 = Wings twisted or torn, exceeding 50% of meshes.

040 = Square and/or bosom torn, not exceeding 50% of meshes.

050 = Square and/or bosom torn, exceeding 50% of meshes.

060 = Belly torn, not exceeding 25% of meshes.

070 = Belly torn, exceeding 25% of meshes.

080 = Codend and/or extension piece torn, not exceeding 10% of meshes.

090 = Codend and/or extension piece torn, exceeding 10% of meshes.

100 = Hang-up, causing gear to be hauled back before scheduled time; minor damage.

110 = Parted bridle (legs), sweep, or headrope.

120 = Tear up exceeding gear condition of code 020, but not total net destruction.

130 = Obstruction in the gear, such as a large amount of fixed gear, boulders, *etc.*

140 = Crossed doors.

150 = Open codend.

160 = Major hang-up, tear-up, or loss of gear.

170 = Grate clogged with fish or debris.

990 = Other, specify in COMMENTS.

**NOTE:** If the gear condition code reflects only one net (*i.e.*, port or starboard) include a comment with the net location.

**2. BEGIN/END HAUL DATE:** Record the month, day, and year, based on local time, that this haul began and ended.

**3. BEGIN/END HAUL TIME:** Record the local time, using the 24 hour clock (0000-2359), that this haul began and ended, *i.e.* when the first component

of the net is deployed, or the net hits the water (Haul Begin) and when the hauling equipment is put into gear (Haul End).

**4. NUMBER OF TURNS:** Record the number of significant turns the vessel makes during this haul *i.e.*, greater than 90 degrees. This information may be obtained from the captain.

*NOTE:* This field should be filled out for both observed and unobserved hauls.

*NOTE:* If no turns are made during this haul, record a zero.

*NOTE:* If the number of turns is unknown, record a dash.

**5. TOW SPEED:** Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

**6. WIRE OUT:** Record, in whole fathoms, the amount of wire paid out for this haul. This measurement is taken from the towing blocks to the trawl doors. This information may be obtained from the captain.

**7. HAUL END WATER TEMPERATURE:**

Record, to the nearest tenth of a degree Fahrenheit, the surface water temperature when this haul ended, *i.e.* when the hauling equipment is put into gear.

*NOTE:* If this temperatures is obtained in Celsius, use [Appendix I: Conversion Tables](#) to convert it to Fahrenheit.

*NOTE:* Use a thermometer provided by FSB or your observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a HAUL END WATER TEMPERATURE **must** be recorded.

**8. NET OBSERVED:** Record the net(s) from which both kept and discard data was collected for this haul by placing an “X” next to the appropriate code:

- 1 = Port
- 2 = Starboard
- 3 = Both

*NOTE:* **Catch from both nets must be recorded.** If you cannot record complete catch information (kept and discard) from both nets, then the haul is unobserved.

**9. DATE/TIME FISHING BEGINS:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000–2359), that the gear is fully deployed and actively fishing (this may be when the

brakes are put on).

**10. DATE/TIME GEAR ONBOARD:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000–2359), that the gear from this haul is completely out of the water.

*NOTE:* If the gear is not brought onboard (*i.e.*, immediately set back out), record the date but dash the time, and describe the situation in COMMENTS.

**Opening of Net**

*NOTE:* The following 3 fields, VERTICAL OPENING (#11), HORIZONTAL OPENING (#12), and DOOR SPREAD (#13), should only be filled out if Gear Mounted Electronics are used.

**11. VERTICAL OPENING:** Record, in whole feet, the average distance from the top of the mouth to the bottom of the mouth while the net is fishing. This information may be obtained from the captain.

**12. HORIZONTAL OPENING:** Record, in whole feet, the average width of the mouth of the net, from wing tip to wing tip, when the doors are open while the net is fishing. This information may be obtained from the captain.

**13. DOOR SPREAD:**

If one set of doors are used: Record, in whole feet, the average distance from the door on one side of the net to the door on the other side of the net while the net is fishing. This information may be obtained from the captain.

If two sets of doors are used: Record, in whole feet, the door spread between each set of doors. Add those two values together and record the sum in the space provided. This information may be obtained from the captain.

**Comments**

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, tear-ups, reason to expect the gear was not fishing properly, *etc.* If turns were made during the haul, note whether the doors were left in the water (both, starboard, or port). If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.



**TWIN TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID <b>A</b>		DATE LAND (mm/yy) <b>B</b> / /		PAGE # <b>C</b> OF	
GEAR CODE <b>D</b>	GEAR # <b>E</b>	HAUL # <b>F</b>	HAUL OBS? <b>G</b>	ON-EFFORT? <b>H</b>	CATCH? <b>I</b>
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1
HAUL INFO	DATE mm/dd/yy	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		
BEGIN HAUL	/ 2 /	3 :	Station 1	Station 2	Longitude / Bearing
BEGIN FISHING	/ 9 /	:	9960 -	9960 -	
END HAUL	/ /	:	9960 -	9960 -	
GEAR ONBOARD	/ 10 /	:			

WIND SPEED <b>L</b>	WIND DIRECTION <b>M</b>	WAVE HEIGHT <b>N</b>	DEPTH, HAUL BEGIN <b>O</b>	GEAR COND CODE <b>1</b>
kn	kn	ft	fm	
NUMBER OF TURNS <b>4</b>	TOW SPEED <b>5</b>	WIRE OUT <b>6</b>	WATER TEMP <b>7</b>	
	kn	ft	° F	
TARGET SPECIES <b>Q</b>	CODE NET OBSERVED <b>8</b>			
<b>R</b>	Port <b>1</b>	Starboard <b>2</b>	Both <b>3</b>	
**Only fill in if gear mounted electronics are used				
VERTICAL OPENING <b>**</b>				
HORIZONTAL OPENING <b>**</b>				
DOOR SPREAD <b>**</b>				
SAMPLE WEIGHT MULTIPLIER <b>z</b> _____				

SPECIES	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT		ESTIMATION METHOD CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	ESTIMATION METHOD CODE
				D/R	X					
S	T	U	V	W	X	Y	z			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

**TWIN TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID **A99006-**  
 DATE LAND (mm/yy) **06 / 13**  
 PAGE # **1** OF **2**

GEAR CODE <b>0 5 3</b>	GEAR # <b>0 1</b>	HAUL # <b>0 0 7</b>	HAUL OBS? NO 0 YES 1 <input checked="" type="checkbox"/>	ON-EFFORT? NO 0 YES 1 <input checked="" type="checkbox"/>	CATCH? NO 0 YES 1 <input checked="" type="checkbox"/>	INC TAKE? NO 0 YES 1 <input checked="" type="checkbox"/>	WEATHER CODE <b>02</b>	WIND SPEED <b>15</b> kn DIRECTION <b>320</b>	WAVE HEIGHT DEPTH, HAUL BEGIN <b>4</b> ft HAUL END <b>35</b> fm	GEAR COND CODE <b>010</b>
HAUL INFO BEGIN HAUL	DATE mm/dd/yy <b>06 / 08 / 13</b>	TIME 24 hours <b>21:52</b>	Station 1 9960 -	Latitude / Bearing <b>40 ° 00.3</b>	Longitude / Bearing <b>71 ° 18.2</b>		NUMBER OF TURNS <b>0</b>	TOW SPEED <b>2.7</b> kn	WIRE OUT <b>120</b> fm	WATER TEMP <b>43.0</b> F
BEGIN FISHING END HAUL	<b>06 / 08 / 13</b>	<b>22:01</b>	Station 2 9960 -	<b>40 ° 12.1</b>	<b>71 ° 16.5</b>		TARGET SPECIES <b>Atlantic Longfin Squid</b>	NET OBSERVED Port <b>1</b> Starboard <b>2</b> Both <b>3 X</b>		
GEAR ONBOARD	<b>06 / 09 / 13</b>	<b>01:32</b>	**Only fill in if gear mounted electronics are used VERTICAL OPENING HORIZONTAL OPENING <b>8</b> ft DOOR SPREAD <b>40</b> ft SAMPLE WEIGHT MULTIPLIER <b>5.37</b> NET OBSERVED <b>85</b> ft							

Barndoor Skate and Monkfish taken out of pile before volume obtained, therefore actual weights obtained.

SPECIES	NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	ESTIMATION METHOD CODE	WEIGHT		ESTIMATION METHOD CODE	DISP CODE	POUNDS	SUB-SAMPLE WEIGHT	CODE	ESTIMATION METHOD CODE	D/R	WEIGHT
								ESTIMATION METHOD CODE	WEIGHT								
1	Atlantic Longfin Squid		134.0	720	100	R	02	02	11								
2	Silver Hake		84.7	455	100	R	02	02	12								
3	Monkfish			82	100	R	01	01	13								
4	Spiny Dogfish		10.5	56	001	R	02	02	14								
5	Barndoor Skate			22	001	R	01	01	15								
6	Redfish, nk			2	001	R	06	06	16								
7	Jonah Crab			5	001	R	06	06	17								
8	Rock Crab			5	001	R	06	06	18								
9	Seastar, Starfish, nk			2	001	R	06	06	19								
10	Conch, nk			5	001	R	06	06	20								

**TWIN TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID	/
DATE LAND (mm/yy)	/
PAGE #	OF

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	WIND	WAVE HEIGHT	DEPTH,	GEAR COND CODE
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1		SPEED	ft	HAUL BEGIN	
HAUL								DIRECTION			
HAUL								kn			
DATE	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		TOW SPEED		WIRE OUT		WATER TEMP			
mm/dd/yy	24 hours	Station 1	Station 2	Latitude / Bearing	Longitude / Bearing	ft	fm	ft	fm	°	F
/ /	:	9960 -	9960 -								
/ /	:										
/ /	:										
/ /	:										

BEGIN FISHING	END HAUL	GEAR ONBOARD	COMMENTS
/ /	/ /	/ /	
/ /	/ /	/ /	
/ /	/ /	/ /	
/ /	/ /	/ /	

**NET OBSERVED**  
Port 1 \_\_\_\_\_  
Starboard 2 \_\_\_\_\_  
Both 3 \_\_\_\_\_

**VERTICAL OPENING** \*\*

**HORIZONTAL OPENING** \*\*

**DOOR SPREAD** \*\*

**SAMPLE WEIGHT MULTIPLIER** \_\_\_\_\_

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

## Scallop Trawl Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hailed** during a trip. These unique configurations may be based on changes made to the length of the headrope, mesh size in the codend, *etc.* Any changes in these fields require the completion of another Scallop Trawl Gear Characteristics Log. Do not solely use the COMMENTS section to explain these differences among gears. Number each gear configuration sequentially.

Note that a Scallop Trawl gear is defined as a distinct combination of trawl nets (port and starboard) deployed during the trip. Both port and starboard nets, if used, will be described.

If the gear is set out and hauled more than once during a trip, do not complete a new Scallop Trawl Gear Characteristics Log for the multiple hauls. Rather, record on the Scallop Trawl Haul Log which gear numbers are being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If the vessel has two or more **identical** gears which are hauled during the trip, assign each gear its own gear number and record them on separate Scallop Trawl Gear Characteristics Logs with 10 random codend mesh size measurements and 10 random liner (if present) mesh measurements collected for each codend/liner. See the trawl definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (-) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Otter Trawl:** A device constructed of twine webbing so that when fully assembled and rigged, it will take the shape of a huge funnel while being towed. To spread the mouth so that it will cover the largest possible area, each wing is fastened to a trawl “door”.

Each door is fitted with chains to be attached to a towing cable from the trawling vessel. The resistance of the water to the forward motion of the doors, as they are towed at different angles, forces them to pull in opposite directions and thus keep the mouth of the net open.

**Gear:** A scallop trawl, commonly referred to as “the net(s)”. This includes ground cables, headrope, footrope, floats, weights, netting and any attached equipment of two nets. Scallop Trawl gear is defined as a distinct combination of scallop nets (port and starboard) deployed during the trip. Both port and starboard nets, if used, should be described.

**Square:** The section of netting fitted between the top body and the two top wings so that it partially overhangs the FOOTROPE.

**Top Wings:** Two sections of netting usually shaped diagonally opposite to one another to form the upper mouth of the trawl. The HEADROPE is attached from one top wing end to the other, along the diagonal flymesh edges and across the bosom or center part of the square.

**Lower Wings:** Two narrow sections of netting fitted between the lower belly and the top wings to form the lower lip of the trawl net. The FOOTROPE is attached from one wing end to the other, along the flymesh edges and across the lower belly bosom meshes. The lower wings are subject to the most abrasion, and consequently they are the sections which have to be continually repaired or replaced when working rough ground.

**Bridle:** The bridle connects the wings of the net to the ground cable, which eventually leads to the doors.

**Codend:** Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvages are laced together and a codline or codend clip is woven through the lower meshes for securing the section into a bag where the fish are held until released onboard the trawler.

The codend is the section of a trawl net most often affected by mesh size regulations. The size of the codend depends on the species being targeted and regulations.

**Codend Liner:** A section of small mesh net sewn into the inside of the codend bag. The purpose of

which is to restrict the escapement of smaller species, *e.g.*, squid.

**Fishing Circle:** The section of the net located behind the wings and before the belly. It is the area which creates the largest opening in the net.

**Headrope:** The line, generally of fiber rope or steel wire rope, which fits along the top wings and center part of the square to form the upper lip of the otter trawl.

**Codend Strengtheners:** Any material attached to the outside of the codend bag or liner to prevent a full net from bursting when it is being lifted aboard. This material may be in the form of strengthening ropes, which are attached lengthwise and/or circumferentially to restrict stretching of the codend, or a strengthening/lifting bag, which is a cylinder of netting surrounding the codend. A strengthening bag may also be considered chafing gear.

**Transducer:** Conveys information regarding the fishing status. Located on various parts of the fishing gear.

**Excluder/Separator Device:** A modification to a common bottom trawl that helps prevent the capture of non-target species. It can redirect or allow those species to naturally swim toward an escape outlet once inside the trawl. Alternatively, it can inhibit some species from entering the trawl.

*Example:* A horizontal separator panel in the belly of the net separates upward- and downward-swimming fishes.

*Example:* A panel of large meshes allows certain species to escape. Large meshes can also function as an escape outlet.

*Example:* A metal grate directs some animals towards an escape outlet.

**NOTE:** An excluder/separator device may be present without an escape outlet

*Example:* A raised footrope or drop chain sweep excludes fish on the bottom from entering the trawl. Some nets are designed with a longer headrope than footrope to prevent capture of upward-swimming fishes.

**Escape Outlet:** An opening, hole, or panel that allows unwanted species to exit the trawl upon encountering an excluder/separator device.

Escape outlets are only present with an excluder/separator device. An unintentional hole in the net is not considered an escape outlet.

## Instructions

For instructions on completing the Header Fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hauled.

*Example:* The first uniquely configured gear is gear number “1”, and may consist of a port net and a starboard net. The characteristics for both the port and starboard nets are recorded on separate Scallop Trawl Gear Characteristics Logs. This gear number (“1”) will be used on the Scallop Trawl Haul Log for each haul and will reflect that both the port and starboard net are fishing. If at any time, the gear configuration on either the port or starboard net changes, a new consecutive gear number (“2”) will be assigned.

**2. NET NAME:** Record the common name of the net. This information may be obtained from the captain.

00 = Unknown.

01 = Trouser Trawl.

02 = Beam Trawl.

03 = Twin Trawl.

04 = Bottom Trawl.

05 = Semi-Pelagic Trawl.

06 = Pelagic Trawl.

99 = Other (Comment).

**3. NET TYPE:** Record the name of the net type used. If it does not appear in the list below, record comments on any characteristics (*e.g.*, “short vertical opening”, “sweep gear not heavy”) that help to identify the net. This information may be obtained from the captain.

00 = Unknown.

08 = Flynet (seams unknown).

01 = Flynet, 2-Seam.

02 = Flynet, 4-Seam.

09 = Haddock Separator Trawl (seams unknown).

03 = Haddock Separator Trawl, 2-Seam.

04 = Haddock Separator Trawl, 4-Seam.

05 = Separator Trawl (seams unknown).

06 = Separator Trawl, 2-Seam.

07 = Separator Trawl, 4-Seam.

13 = Flounder Trawl, 2-Seam.

- 10 = Flatfish Trawl (seams unknown).
- 11 = Flatfish Trawl, 2-Seam.
- 12 = Flatfish Trawl, 4-Seam.
- 15 = Ruhle Trawl, 4-Seam.
- 16 = Rope Separator Trawl, 4-Seam.
- 18 = Millionaire Trawl, 4-Seam.
- 20 = Raised Footrope Trawl (seams unknown).
- 21 = Raised Footrope Trawl., 2-Seam
- 22 = Raised Footrope Trawl, 4-Seam.
- 24 = Box Trawl., 4-Seam
- 25 = Shrimp Trawl (seams unknown).
- 26 = Shrimp Trawl, 2-Seam.
- 27 = Shrimp Trawl, 4-Seam.
- 32 = Eliminator Trawl (seams unknown).
- 31 = Eliminator Trawl, 2-Seam.
- 30 = Eliminator Trawl, 4-Seam.
- 60 = Scallop Trawl (seams unknown).
- 61 = Scallop Trawl, 2-Seam.
- 62 = Scallop Trawl, 4-Seam.
- 65 = Monkfish Trawl (seams unknown).
- 66 = Monkfish Trawl, 2-Seam.
- 67 = Monkfish Trawl, 4-Seam.
- 70 = Sweepless Trawl (seams unknown).
- 71 = Sweepless Trawl, 2-Seam.
- 72 = Sweepless Trawl, 4-Seam.
- 80 = Shuman Trawl (seams unknown).
- 81 = Shuman Trawl, 2-Seam.
- 82 = Shuman Trawl, 4-Seam.
- 85 = Groundfish Trawl (seams unknown).
- 86 = Groundfish Trawl, 2-Seam.
- 87 = Groundfish Trawl, 4-Seam.
- 88 = Balloon Trawl (seams unknown).
- 89 = Balloon Trawl, 2-Seam.
- 90 = Balloon Trawl, 4-Seam.
- 91 = Unknown Trawl, 2-Seam.
- 92 = Unknown Trawl, 4-Seam.
- 99 = Other (Comment).

*NOTE:* See Specialized Trawl Net Types on page 86.

**4. NET BUILDER:** Record the name of the company or individual who made the net. This information may be obtained from the captain.

*NOTE:* If built by the captain or crew record "Custom Built" in this field.

- 00 = Unknown.
- 01 = Custom Built.

- 02 = Le Drezen.
- 03 = Levine Marine Supply.
- 04 = Noreastern Trawl Systems, Ltd.
- 05 = Smart Net Systems, Ltd.
- 06 = Swan Net Gundry.
- 07 = Wanchese Trawl Supply.
- 08 = Wilcox Trawls.
- 09 = Superior Trawl.
- 10 = Trawlworks, Inc.
- 11 = Dantrawl.
- 12 = Reidar's Manufacturing, Inc.
- 13 = Christiansen's Nets.
- 14 = Jeff Flagg.
- 15 = Shumann.
- 16 = Yankee.
- 17 = IMP Group.
- 18 = Veidarfaer.
- 19 = Gearwork.
- 20 = VT Fishing Gear Supplies.
- 21 = Jamestown Trawl.
- 99 = Other, record the name in comments.

**5. NET LOCATION:** Record the location where the net is deployed.

- 1 = Port.
- 2 = Starboard.
- 3 = Aft.
- 9 = Other.

*NOTE:* Aft refers to a single net fished over the stern of the vessel.

### Doors

**6. USED?:** Record whether doors are used with this gear by placing an "X" next to the appropriate code (see Figure 3):

- 0 = No.
- 1 = Yes.

**7. WEIGHT:** Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the captain.

**8. LINER USED?:** Record whether a liner is used inside the net's codend by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* See the gear definitions in the introduction.

**Construction Material**

**9. TYPE:** Record the type of construction material used in the body of the net, the codend and the liner by placing an “X” next to the appropriate code:

- 00 = Unknown.
- 01 = Nylon.
- 02 = Poly.
- 03 = Kevlar®.
- 04 = Spectra®.
- 05 = Tenex®.
- 06 = Nomex®.
- 98 = Combination, record all construction material types on line 9A.
- 99 = Other, record the construction material type on line 9A.

*NOTE:* If no liner is used on this gear, leave the liner construction material type blank.

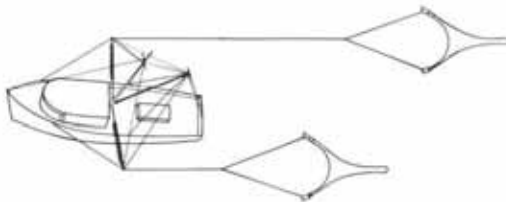
**10. NETS CONNECTED?** Record whether the two nets are connected to each other while fishing, by the center ground cables or bridles. See Figure 1 and Figure 2.

- 0 = No.
- 1 = Yes.

Figure 1: Example of nets connected.



Figure 2: Example of nets not connected. Photo courtesy of: Sainsbury, J. (1996). Commercial fishing methods. 3rd ed. Cambridge: University Press.



**Kite Panel**

**11. KITE USED?:** Record whether a kite(s) is (are) used in this net by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

*NOTE:* The bag that holds the gear mounted electronics is **not** considered a kite.

**12. NUMBER:** Record the **total** number of panels used in a kite in this net.

**13. WIDTH:** Record, in whole inches, the average width of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is parallel to the headrope.

**14. LENGTH:** Record, in whole inches, the average length of the panels used in a kite in this net. This measurement will be taken along the edge of the panel which is perpendicular to the headrope.

**Length Measurements**

**15. HEADROPE:** Record, in whole feet, the length of the rope along the top of the net. This information may be obtained from the captain. See Figure 3.

**16. FOOTROPE/SWEEP:** Record, in whole feet, the length of the rope along the bottom of the net. This information may be obtained from the captain. See Figure 3.

*NOTE:* This measurement is the distance from the lower bridle on one side of the net to the lower bridle on the other side of the net.

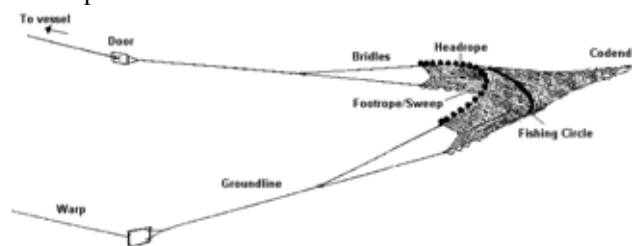
*NOTE:* The footrope may also be referred to as a fishing line in some regions.

**17. GROUND CABLE:** Record, in whole fathoms, the length of the wire connecting the bridles and the back strap on **one side** of the net. This information may be obtained from the captain. See Figure 3.

**18. BRIDLE:** Record, in whole fathoms, the length of the upper bridle on **one side** of the net. This information may be obtained from the captain. See Figure 3.

*NOTE:* The bridles may also be referred to as legs in some regions.

Figure 3: Doors, groundline, bridles, footrope/sweep, and headrope.



**19. STRENGTHENER USED?:** Record whether strengthener material is used in the codend of this net by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* See the gear definitions in the introduction.

**20. CHAFING GEAR USED?:** Record whether chafing gear is used on the codend by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

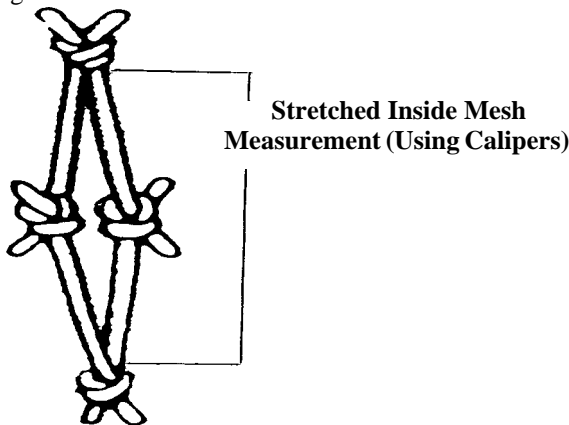
*NOTE:* A codend in which the meshes are “wrapped” is considered to have chafing gear. A codend with a strengthening bag may also be considered to have chafing gear.

**Fishing Circle**

**21. NUMBER OF MESHES:** Record the number of meshes in the fishing circle. This information may be obtained from the captain. See Figure 8 for the location of the fishing circle.

**22. FISHING CIRCLE MESH SIZE:** Record, to the nearest tenth of an inch, the largest mesh measurement (inside knot to knot) from the fishing circle. This information may be obtained from the captain. See Figure 4.

Figure 4: Illustration of diamond mesh.



**Ground Gear**

**23. TYPE:** Record the type of gear making up the ground cable, the bridles/legs, and the sweep by placing an “X” next to the appropriate code (see Figure 3, Figure 5, and Figure 6):

00 = Unknown.

01 = Chain.

02 = Cable/Wire.

03 = Wrapped Cable.

04 = Rock Hopper.

05 = Roller.

06 = Rubber Cookie.

07 = Bobbin (Half Round).

08 = Plate Gear.

98 = None.

99 = Other, record the ground gear type on line 23A.

*NOTE:* If more than one type of gear is used on a ground gear piece, record the type of gear with the LARGEST diameter. This is not always the longest piece.

*Example:* If the sweep has 80 feet of 1 inch wire, 25 feet of 3 inch rubber cookies and 15 feet of 5 inch rollers, record “Roller” (05) for SWEEP GROUND GEAR TYPE. See Figure 5.

Figure 5: Doors, ground cable, bridges, headrope, and footrope.

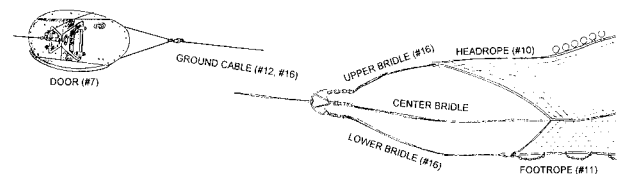
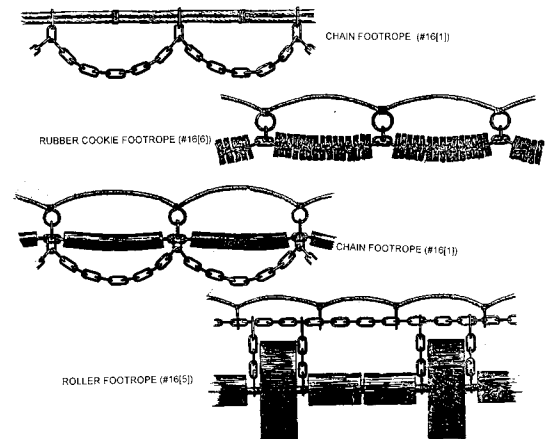


Figure 6: Types of sweeps.



**Sweep Gear**

**24. NUMBER:** Record the total number of the largest piece of gear present on the sweep (rollers, rock hoppers). Ask the captain if you are unable to obtain this number.

*NOTE:* If the largest piece of gear used on the sweep is chain or cable/wire or wrapped cable then dash this field.

**25. SIZE:** Record the diameter, in whole inches, of the largest piece of gear present on the sweep. Ask the captain if you are unable to measure this.



*NOTE:* If the largest piece of gear used on the sweep is chain or cable/wire or wrapped cable then dash this field.

*NOTE:* If the largest type of gear on the sweep are of multiple sizes, measure and record the diameter of the largest one.

*Example:* A net has both 3-inch and 5-inch rollers. Record the size as 5 inches.

*NOTE:* If the largest type of gear on the sweep is plate gear, measure the diagonal length of the plate.

**Floats**

**26. NUMBER:** Record the total number of floats attached to the headrope.

**27. SIZE:** Record the diameter, in whole inches, of the majority of floats attached to the headrope.

**Codend/Liner**

**28. HUNG:** Record the hanging configuration of the codend and liner by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Diamond (see Figure 7).
- 2 = Square (see Figure 7).
- 3 = Square, Wrapped.
- 8 = Combination, record the hanging configuration in COMMENTS.

*NOTE:* If the codend is wrapped, this is considered chafing gear. Be sure to record “Yes” (1) for CHAFING GEAR USED (#20).

*NOTE:* See Figure 8 for the location of the codend.

*NOTE:* If no liner is used on this gear, leave the liner hanging configuration blank.

Figure 7: Mesh hanging patterns.

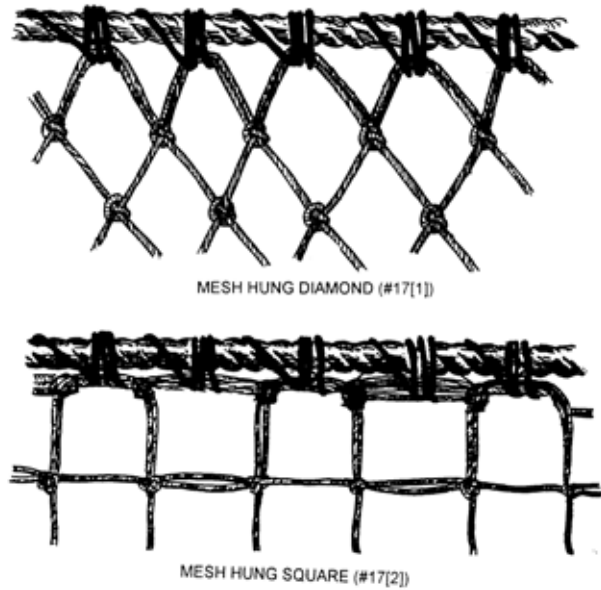
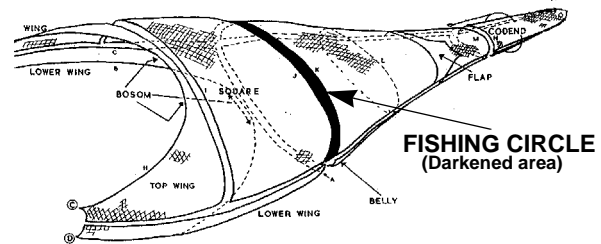


Figure 8: The sections of netting that make a trawl.



**29. TWINE TYPE:** Record whether the twine used in the codend and liner are single or double stranded by placing an “X” next to the appropriate code:

- 1 = Single.
- 2 = Double.
- 3 = Single on Top/Double on Bottom.
- 9 = Other, record the twine type in comments.

*NOTE:* If no liner is used on this gear, leave the liner twine type blank.

*NOTE:* Braided line is considered single twine.

**Mesh Sizes**

Always use calipers issued by FSB or your observer provider to obtain mesh measurements. Do not use any other measuring tools (such as tape measures) as the measurements will not be useable.

All measurements should be stretched, inside knot-to-knot, taken in the direction in which the mesh is hung. These measurements are **not** bar lengths. See the Bottom Trawl Gear Characteristics Log and Appendix E: Vernier Caliper Instructions for further information.

Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the codend (or liner) and 5 meshes in from the side seam.

Take measurements after the gear has been fished for at least one haul, while the net is empty and wet. Do not take measurements when the codend is dry or frozen.

Ask the captain to lower the net on deck for you to measure. Do not take measurements while the net is hung on a net reel.

**30. CODEND MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the codend.

**31. LINER MESH SIZE:** Record, in whole millimeters, ten randomly selected meshes from the liner in the codend.

*NOTE:* The liner mesh size should be smaller than the codend mesh size.

*NOTE:* If no liner is used on this gear, leave the liner mesh size blank.

### Gear Mounted Electronics

**32. USED?:** Record whether any transducers are used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**33. NUMBER OF TRANSDUCERS:** Record the number of transducers used on this gear.

**34. TYPE:** Record the type of transducer used on this gear by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Wired.
- 2 = Wireless.
- 3 = Both.

**35. BRAND:** Record the brand of transducers used on this gear by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Furuno®.
- 2 = Simrad®.
- 3 = Northstar Technical.
- 4 = Notus.
- 5 = Marport.
- 6 = Scanmar.

8 = Combination, record all transducer brands on line 35A.

9 = Other, record the transducer brand on line 35A.

**36. LOCATION:** Record the location of transducers used on this gear by placing an “X” in the box of all locations that apply. (see Figure 3 and Figure 8):

- 0 = Unknown.
- 1 = Headrope.
- 2 = Wings.
- 3 = Footrope.
- 5 = Door.
- 6 = Codend
- 9 = Other the transducer locations on line 34A.

*NOTE:* Check all that apply.

### Excluder/Separator Device

**37. USED?:** Record whether an excluder or separator device is used on this gear by placing an “X” next to the appropriate code (see Figure 9):

- 0 = No.
- 1 = Yes.

**38. TYPE:** Record the type of excluder or separator device used on this gear by recording the appropriate two-digit code:

- 00 = Unknown.
- 01 = Nordmore Grate (see Figure 9)
- 03 = Separator Panel.
- 04 = Guiding Device, *i.e.*, a funnel or “flap” (see Figure 9).
- 05 = Raised Footrope.
- 06 = Compound Nordmore Grate (hinged grate).
- 07 = Double Nordmore Grate (2 grates).
- 08 = Large Mesh.
- 20 = T.E.D., Unknown.
- 21 = Standard T.E.D.
- 22 = Weedless T.E.D.
- 23 = Flounder T.E.D.
- 24 = Bent Rod T.E.D.
- 25 = Conch T.E.D.
- 26 = Flat Bottom T.E.D.
- 27 = Whelk T.E.D.
- 28 = Flexible T.E.D.
- 29 = Parker Soft T.E.D.
- 30 = Experimental T.E.D.
- 31 = Northeast Modified T.E.D.

32 = Large Flat Bar T.E.D.

98 = Combination, record all excluder/separator device types in comments.

99 = Other, record the excluder/separator device type on line comments.

See Figure 7 in the Bottom Trawl Gear Characteristics Log instructions for an illustration of T.E.D. types.

**39. T.E.D. EXTENSION MESH SIZE:** Record, to the nearest tenth of an inch, the size of the mesh of the T.E.D. extension or the webbing surrounding the T.E.D. This measurement should be taken 3-5 meshes forward of the leading edge of the grid. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. See Figure 10.

*NOTE:* The T.E.D. extension is a cylindrical piece of webbing distinct from the main trawl body, wings, codend and any other net extension(s).

**40. ACTUAL OR ESTIMATED:** Record whether the number recorded in T.E.D. EXTENSION MESH SIZE (#39) is an actual or an estimated value by circling the appropriate letter code:

A = Actual.

E = Estimated.

*NOTE:* An **actual T.E.D. extension mesh size** is obtained using a measuring tool provided by FSB or your observer provider. An **estimated T.E.D. extension mesh size** is provided by the captain.

### Escape Outlet

**41. USED?:** Record whether a escape outlet is used on this gear by placing an "X" next to the appropriate code (see Figure 9):

0 = No.

1 = Yes.

**42. ESCAPE OUTLET TYPE:** Record the type of escape outlet used on this gear by placing an "X" next to the appropriate code:

0 = Unknown.

1 = Panel.

2 = Opening.

3 = Single Flap.

4 = Double Flap.

9 = Other, record the escape outlet type on line 42A.

### 43. MESH SIZE (LENGTH AND WIDTH):

Record, in whole inches, the average size for the length (runs from the front of the net towards the codend) and the width (runs from side to side of the net) of the meshes used in the escape outlet. This number may be obtained from the captain.

*NOTE:* It is preferred that all Escape Outlet measurements be taken by # MESHES (#44) and MESH SIZE (#43). Length and Width in inches of the escape outlet is an acceptable secondary method.

### 44. # MESHES (LENGTH AND WIDTH):

Record the number of meshes for the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet.

These numbers may be obtained from the captain.

*NOTE:* For T.E.D. outlets, the width measurement is taken by counting the number of meshes along the leading edge of the opening. If this cannot be obtained by the observer then dash this field.

*NOTE:* If the outlet shape is triangular, record the # of meshes on the side of the triangle which runs from side to side in the net for width, and record the # of meshes on either side which runs from front to back for length.

*NOTE:* If the outlet shape is trapezoid, record the number of meshes that are in the longer length and the wider width.

### 45. ESCAPE OUTLET SIZE (LENGTH AND WIDTH):

Record, in whole inches, the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. This information may be obtained from the captain.

**46. SHAPE:** Record the shape of the escape outlet by recording the appropriate code:

00 = Unknown.

01 = Rectangular.

05 = Trapezoid.

06 = Square.

07 = Diamond.

08 = Triangular.

09 = Semi-Circle.

11 = Horizontal Cut.

99 = Other, record the escape outlet shape in comments.

**47. LOCATION:** Record the location of the escape

outlet used on this gear by recording the appropriate code:

- 0 = Unknown.
- 1 = Net Top.
- 2 = Net Bottom.
- 3 = Net Side.
- 4 = Codend Top.
- 5 = Codend Bottom.
- 8 = Combination, record all escape outlet locations in comments.
- 9 = Other, record the escape outlet location in comments.

### **Comments**

Record any additional information about this gear, *e.g.*, unusual arrangements of the gear, type of net, *etc.* If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

Figure 9: Funnel, Nordmore grate, and escape outlet.

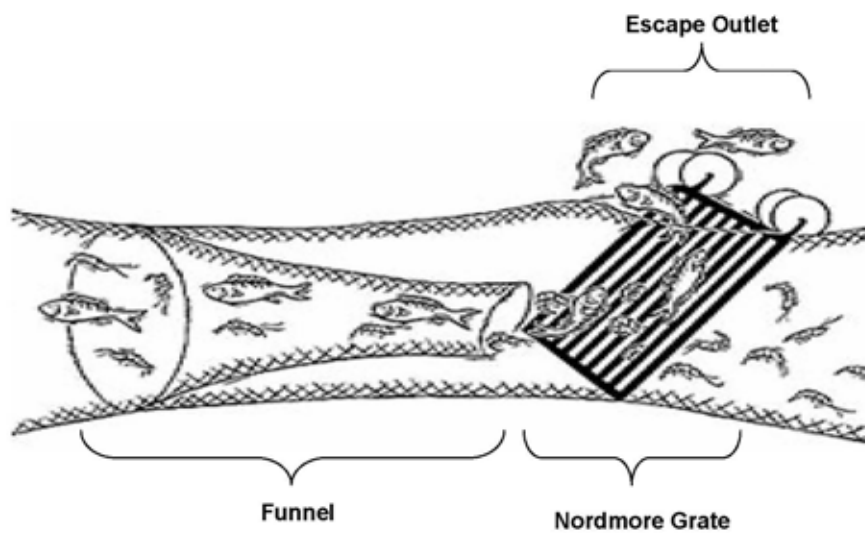
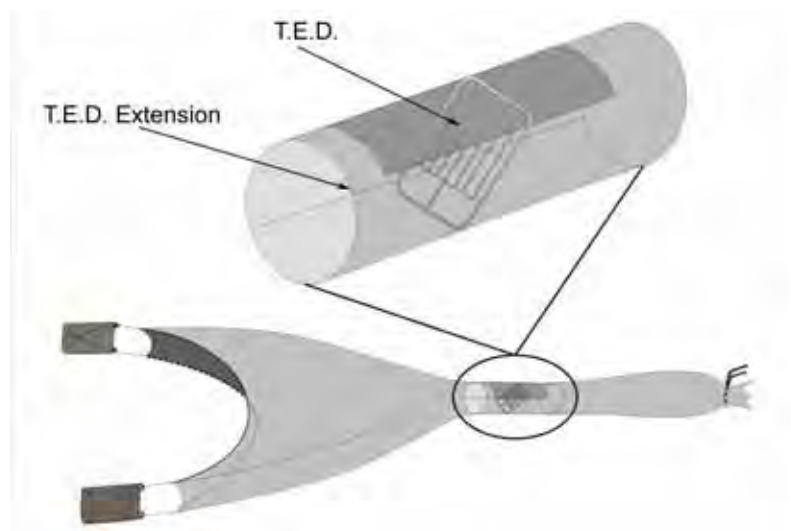


Figure 10: T.E.D. and T.E.D. extension.



**SCALLOP TRAWL GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSTG 05/01/13**

OBS/TRIP ID		A					
DATE LANDED mm/yy		B /					
PAGE #		C OF					
GEAR CODE	D	GEAR #	NET NAME	NET TYPE	NET BUILDER	GEAR MOUNTED ELECTRONICS	EXCLUDER/SEPARATOR DEVICE
		1	2	3	4	USED? NO 0 YES 1	37
NET LOCATION	5	CONSTRUCTION MATERIAL		LENGTH MEASUREMENTS		USED? NO 0 YES 1	Type Code
Port	1	TYPE	NET BODY	CODEND	LINER	NO 0	38
Starboard	2	Unknown	00			YES 1	
Aft	3	Nylon	01	Headrope			
Other	9	Poly	02	Footrope/Sweep			
DOORS USED?	6	Kevlar®	03	Ground Cable		NUMBER OF TRANSDUCERS	39
NO 0		Spectra®	04	Bridle			Mesh Size _____ in
YES 1		Tenex®	05	STRENGTHENER USED?	19	TYPE	(circle one) A / E 40
WEGHT OF ONE DOOR	7	Nomex®	06	NO 0 YES 1	20	Unknown	
		Combination	98	CHAFING GEAR USED?	20	Wired	ESCAPE OUTLET
		Other	99	NO 0 YES 1	20	Wireless	41
			9A	NO 0 YES 1	20	Both	
LINER USED?		NETS CONNECTED?	KITE PANEL	FISHING CIRCLE		BRAND	42
NO 0	8	NO 0	KITE USED? 11	Number	12	Unknown	
YES 1		YES 1	NO 0	Width	13	Furunc®	0 _____
			YES 1	Length	14	Panel	1 _____
COMMENTS		GROUND GEAR 23	TYPE	GROUND CABLE	BRIDLE/LEG	Opening	2 _____
		Unknown	00			Single Flap	3 _____
		Chain	01			Double Flap	4 _____
		Cable / Wire	02			Other	9 _____
		Wrapped Cable	03			MESH SIZE	43 in _____
		Rock Hopper	04			LENGTH	44 OR 45 in _____
		Roller	05			# MESHES	44 OR 45 in _____
		Rubber Cookie	06			WIDTH	44 OR 45 in _____
		Bobbin	07			SHAPE Type Code	46 _____
		Plate Gear	08			LOCATION Type Code	47 _____
		None	09				
		Other	99				
		SWEEP GEAR	24				
		Number	24				
		Diameter	25				
		FLOATS	26				
		Number	26				
		Diameter	27				
			27				
			27				

**SCALLOP TRAWL GEAR CHARACTERISTICS LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBSTG 05/01/13**

OBS/TRIP ID <b>A99062-</b>		DATE LANDED mm/yy <b>06 / 13</b>		PAGE # <b>1</b> OF <b>1</b>		
GEAR CODE <b>0 5 2</b>	GEAR #(s) <b>01</b>	NET NAME <b>Twin Trawl</b>	NET TYPE <b>4-Seam Scallop Trawl</b>	NET BUILDER <b>Superior Trawl</b>	EXCLUDER/SEPARATOR DEVICE USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in (circle one) A / E _____ <b>ESCAPE OUTLET</b> USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	
NET LOCATION Port <input checked="" type="checkbox"/> Starboard <input type="checkbox"/> Aft <input type="checkbox"/> Other <input type="checkbox"/>	CONSTRUCTION MATERIAL TYPE NET BODY CODEND LINER Unknown 00 _____ Nylon 01 _____ Poly 02 _____ Kevlar® 03 _____ Spectra® 04 _____ Tenex® 05 _____ Nomex® 06 _____ Combination 98 _____ Other 99 _____	LENGTH MEASUREMENTS Headrope <b>70</b> ft Footrope/Sweep <b>70</b> ft Ground Cable <b>25</b> fm Bridle <b>25</b> fm STRENGTHENER USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> CHAFING GEAR USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>				GEAR MOUNTED ELECTRONICS USED? _____ NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> Type Code _____ NUMBER OF TRANSDUCERS _____ TYPE _____ Unknown _____ Wired _____ Wireless _____ Both _____
DOORS USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	WEIGHT OF ONE DOOR <b>270</b> kg	KITE PANEL KITE USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> Number <b>3</b> Width <b>39</b> in Length <b>39</b> in		CODEND/LINER HUNG CODEND LINER Unknown _____ Diamond <input checked="" type="checkbox"/> Square _____ Square, wrapped _____ Combination _____ TWINE TYPE CODEND LINER Single <b>1</b> _____ Double <input checked="" type="checkbox"/> Single on Top/Double on Bottom <b>3</b> _____ Other <b>9</b> _____ CODEND MESH SIZE <b>141</b> mm <b>143</b> mm <b>145</b> mm <b>147</b> mm <b>145</b> mm <b>142</b> mm <b>143</b> mm <b>150</b> mm <b>146</b> mm <b>149</b> mm LINER MESH SIZE _____		BRAND Unknown _____ Furunc® _____ Simrad® _____ Northstar Tech _____ Notus _____ Marport _____ Scanmar _____ Combination _____ Other _____
LINER USED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	NETS CONNECTED? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	GROUND GEAR TYPE GROUND CABLE BRIDLE/LEG SWEEP Unknown 00 _____ Chain 01 _____ Cable / Wire <input checked="" type="checkbox"/> Wrapped Cable 03 _____ Rock Hopper 04 _____ Roller 05 _____ Rubber Cookie 06 _____ Bobbin 07 _____ Plate Gear 08 _____ None 98 _____ Other 99 _____		MESH SIZE _____ in LENGTH # MESHES _____ OR _____ in WIDTH # MESHES _____ OR _____ in SHAPE Type Code _____ LOCATION Type Code _____		
COMMENTS	SWEEP GEAR Number _____ Diameter _____ in FLOATS Number <b>30</b> Diameter <b>10</b> in					

**SCALLOP TRAWL GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSTG 05/01/13**

OBS/TRIP ID _____		DATE LANDED mm/yy / ____ / ____		PAGE # ____ OF ____	
GEAR CODE [ ] [ ] [ ]	GEAR #(s)	NET NAME	NET TYPE	NET BUILDER	
<b>NET LOCATION</b> Port 1 _____ Starboard 2 _____ Aft 3 _____ Other 9 _____		<b>CONSTRUCTION MATERIAL</b> TYPE NET BODY CODEND LINER Unknown 00 _____ Nylon 01 _____ Poly 02 _____ Kevlar® 03 _____ Spectra® 04 _____ Tenex® 05 _____ Nomex® 06 _____ Combination 98 _____ Other 99 _____		<b>LENGTH MEASUREMENTS</b> Headrope _____ ft Footrope/Sweep _____ ft Ground Cable _____ fm Bridle _____ fm	
<b>DOORS USED?</b> NO 0 _____ YES 1 _____		<b>WEIGHT OF ONE DOOR</b> _____ kg		<b>STRENGTHENER USED?</b> NO 0 _____ YES 1 _____ <b>CHAFING GEAR USED?</b> NO 0 _____ YES 1 _____	
<b>LINER USED?</b> NO 0 _____ YES 1 _____		<b>NETS CONNECTED?</b> NO 0 _____ YES 1 _____		<b>KITE PANEL</b> KITE USED? Number _____ NO 0 _____ Width _____ in YES 1 _____ Length _____ in <b>FISHING CIRCLE</b> # MESHES _____ MESH SIZE _____ in	
<b>COMMENTS</b> _____ _____ _____		<b>GROUND GEAR</b> TYPE GROUND CABLE BRIDLE/ LEG SWEEP Unknown 00 _____ Chain 01 _____ Cable / Wire 02 _____ Wrapped Cable 03 _____ Rock Hopper 04 _____ Roller 05 _____ Rubber Cookie 06 _____ Bobbin 07 _____ Plate Gear 08 _____ None 98 _____ Other 99 _____		<b>SWEEP GEAR</b> Number _____ Diameter _____ in <b>FLOATS</b> Number _____ Diameter _____ in	
<b>GEAR MOUNTED ELECTRONICS</b> USED? NO 0 _____ YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in (circle one) A / E _____ <b>ESCAPE OUTLET</b> USED? NO 0 _____ YES 1 _____		<b>CODEND/LINER</b> HUNG CODEND LINER Unknown 0 _____ Diamond 1 _____ Square 2 _____ Square, wrapped 3 _____ Combination 8 _____ TWINE TYPE CODEND LINER Single 1 _____ Double 2 _____ Single on Top/ Double on Bottom 3 _____ Other 9 _____ CODEND MESH SIZE _____ mm LINER MESH SIZE _____ mm		<b>GEAR MOUNTED ELECTRONICS</b> USED? NO 0 _____ YES 1 _____ NUMBER OF TRANSDUCERS _____ TYPE _____ Unknown _____ Wired _____ Wireless _____ Both _____ BRAND _____ Unknown _____ Furuno® _____ Simrad® _____ Northstar Tech _____ Notus _____ Marport _____ Scanmar _____ Combination _____ Other _____ MESH SIZE _____ in LOCATION (check all that apply) Unknown _____ Headrope _____ Wings _____ Footrope _____ Door _____ Codend _____ Other _____	
<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 _____ YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in (circle one) A / E _____ <b>ESCAPE OUTLET</b> USED? NO 0 _____ YES 1 _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 _____ YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in (circle one) A / E _____ <b>ESCAPE OUTLET</b> USED? NO 0 _____ YES 1 _____		<b>EXCLUDER/SEPARATOR DEVICE</b> USED? NO 0 _____ YES 1 _____ Type Code _____ T.E.D. EXTENSION _____ Mesh Size _____ in (circle one) A / E _____ <b>ESCAPE OUTLET</b> USED? NO 0 _____ YES 1 _____	



ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES:	ESCAPE OUTLET SHAPE CODES:	ESCAPE OUTLET LOCATION CODES:
	00 = Unknown 01 = Nordmore Grate 03 = Separator Panel 04 = Guiding Device 05 = Raised Footrope 06 = Compound Nordmore Grate 07 = Double Nordmore Grate 08 = Large Mesh 20 = T.E.D., Unknown 21 = Standard T.E.D. 22 = Weedless T.E.D. 23 = Flounder T.E.D.	00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

## Scallop Trawl Haul Log

This log contains detailed questions about the setting, hauling and fishing time of the gear, as well as the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather-related safety reasons, record as much information on this log as possible (*i.e.*, Header Information, depths, times, positions, kept catch estimates, *etc.*).

Most scallop trawl vessels fish 24 hours a day. Following a regular on-/off-watch schedule (6, 8, or 12 hours) will allow you to observe the required 50% of the hauls and rest in between. Every on-watch haul should be observed, and every off-watch haul should be documented on the [Scallop Trawl Gear Off-Watch Haul Log](#).

At approximately the midpoint of the trip, switch watches in order to ensure collection of data most representative of the entire trip.

*Example:* If you are following a 6-hour watch schedule, work one 12-hour watch at the midpoint of the trip to switch to the opposite watch.

*Example:* If you are following a 12-hour watch schedule, work two 6-hour watches at the midpoint of the trip to switch to the opposite watch.

*Example:* If you are following an 8-hour watch, you will rotate through the whole schedule, and no switching of shifts is needed.

The species summary section of this log should be used to record catches of all species (some exceptions listed below), debris and shells. Species caught that should not be recorded on this particular log include: pelagic species (*e.g.* swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an [Individual Animal Log](#). All Marine mammals, sea turtles, and sea birds must be recorded on a [Marine Mammal, Sea Turtle, and Seabird Incidental Take Log](#). See [Appendix O: Species List and Corresponding Logs](#) for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional [Scallop Trawl Haul Log](#), making sure to complete all of the Header Information (A-C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a "No/Yes" question, record a dash (-) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of net deployed, *i.e.* net hits the water.

**Haul End:** Hauling equipment put into gear with the intention of hauling back.

### Instructions

For instructions on completing fields A–Z, refer to the [Common Haul Log Data](#) section of the [NEFSC Observer Program Manual](#).

**1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in [Appendix K: Gear Condition Codes](#):

- 000 = Unknown.
- 010 = No gear damage, or very few small, scattered holes.
- 020 = Wings twisted or torn, not exceeding 50% of meshes.
- 030 = Wings twisted or torn, exceeding 50% of meshes.
- 040 = Square and/or bosom torn, not exceeding 50% of meshes.
- 050 = Square and/or bosom torn, exceeding 50% of meshes.
- 060 = Belly torn, not exceeding 25% of meshes.
- 070 = Belly torn, exceeding 25% of meshes.
- 080 = Codend and/or extension piece torn, not exceeding 10% of meshes.
- 090 = Codend and/or extension piece torn, exceeding 10% of meshes.
- 100 = Hang-up, causing gear to be hauled back before scheduled time; minor damage.
- 110 = Parted bridle (legs), sweep, or headrope.
- 120 = Tear up exceeding gear condition of code 020, but not total net destruction.

130 = Obstruction in the gear, such as a large amount of fixed gear, boulders, *etc.*

140 = Crossed doors.

150 = Open codend.

160 = Major hang-up, tear-up, or loss of gear.

170 = Grate clogged with fish or debris.

990 = Other, specify in COMMENTS.

*NOTE:* If the gear condition code reflects only one net (*i.e.*, port, starboard, or aft) include a comment with the net location.

**2. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this haul began and ended.

**3. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000-2359), that this haul began and ended, *i.e.*, when the first component of the net(s) is (are) deployed, or the net(s) hit the water (Haul Begin), and when the hauling equipment is put into gear (Haul End).

**4. NET OBSERVED:** Record the net(s) from which both kept and discard data was collected for this haul by placing an "X" next to the appropriate code:

1 = Port

2 = Starboard

3 = Both

4 = Aft

*NOTE:* If two nets are deployed, **catch from both nets must be recorded**. If you cannot record complete catch information (kept and discard) from both nets, then the haul is unobserved.

*NOTE:* Aft refers to a single net fished over the stern of the vessel.

**5. TOW SPEED:** Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

**6. WIRE OUT:** Record, in whole fathoms, the amount of wire paid out for this haul. This measurement is taken from the towing blocks to the trawl doors. This information may be obtained from the captain.

**7. DATE/TIME FISHING BEGINS:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000-2359), that the gear is fully deployed and actively fishing (this may be when the brakes are put on).

**8. DATE/TIME GEAR ONBOARD:** Record the local date (month, day, and year) and time, using the

24 hour clock (0000-2359), that the gear from this haul is completely out of the water.

*NOTE:* If the gear is not brought onboard (*i.e.*, immediately set back out), record the date but dash the time, and describe the situation in COMMENTS.

#### **9. SEA SCALLOP CLAPPERS OBSERVED?:**

Record whether sea scallop clappers are found in the gear from this haul by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* Include pounds of clappers in the species of the Haul Log with a disposition code of 054 (empty shells).

*NOTE:* If haul is unobserved, record "9" (Unknown).

**10. NUMBER OF TURNS:** Record the number of significant turns the vessel makes during this haul *i.e.*, greater than 90 degrees. This information may be obtained from the captain.

*NOTE:* This field should be filled out for both observed and unobserved hauls.

*NOTE:* If no turns are made during this haul, record a zero.

*NOTE:* If the number of turns is unknown, record a dash.

**11. WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface sea water temperature when the gear has been set and the winches are locked. The temperature must be recorded for every on-watch observed haul during the entire trip.

*NOTE:* Use a thermometer provided by FSB or your observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a **WATER TEMPERATURE must** be recorded.

#### **Opening of Net**

*NOTE:* The following 3 fields, VERTICAL OPENING (#12), HORIZONTAL OPENING (#13), and DOOR SPREAD (#14), should only be filled out if Gear Mounted Electronics are used.

**12. VERTICAL OPENING:** Record, in whole feet, the average distance from the top of the mouth to the bottom of the mouth while the net is fishing. This

information may be obtained from the captain.

**13. HORIZONTAL OPENING:** Record, in whole feet, the average width of the mouth of the net, from wing tip to wing tip, when the doors are open while the net is fishing. This information may be obtained from the captain.

**14. DOOR SPREAD:**

If one set of doors are used: Record, in whole feet, the average distance from the door on one side of the net to the door on the other side of the net while the net is fishing. This information may be obtained from the captain.

If two sets of doors are used: Record, in whole feet, the door spread between each set of doors. Add those two values together and record the sum in the space provided. This information may be obtained from the captain.

### **Recording Kept Scallop Weights**

For all scallop trips (open bottom and Access Areas) record the total weight of kept scallops as a dressed (meat) weight. See the Catch Estimation Worksheet and Biological Sampling Manual for details on how to obtain scallop weights.

If scallops are retained in the shell (*i.e.*, not shucked at sea), record the total weight of kept scallops as a round weight.

### **Comments**

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, tear-ups, reason to expect the gear was not fishing properly, *etc.* If turns were made during the haul, note whether the doors were left in the water (both, starboard, or port). If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

**SCALLOP TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A	
DATE LAND (mm/yy)		B /	
PAGE #		C OF	

GEAR CODE	D	GEAR #	E	HAUL #	F	HAUL OBS?	G	ON-EFFORT?	H	CATCH?	I	INC TAKE?	J	WEATHER CODE	K	SPEED	L	WIND	M	DIRECTION	N	WAVE HEIGHT	O	DEPTH, HAUL BEGIN	P	GEAR COND CODE
HAUL INFO	2	/	/	3	:	NO 0	9960 -	NO 0	1	NO 0	9960 -	NO 0	1													
BEGIN HAUL	7	/	/	:	:	YES 1	9960 -	YES 1	1	YES 1	9960 -	YES 1	1													
BEGIN FISHING																										
END HAUL																										
GEAR ONBOARD	8	/	/	:	:																					

NET OBSERVED	4	Port	1	Starboard	2	Both	3	Aft	4
SEA SCALLOP CLAPPERS OBS?	9	NO	0	YES	1				

TOW SPEED	5	WIRE OUT	6	TARGET SPECIES	Q
NUMBER OF TURNS	10	WATER TEMP	11	CODE	R

S	SPECIES		WEIGHT		DISP CODE	SUB-SAMPLE WEIGHT	POUNDS	D/R	ESTIMATION METHOD CODE	Y	Z	SAMPLE WEIGHT MULTIPLIER	VERTICAL OPENING	HORIZONTAL OPENING	DISP CODE	SUB-SAMPLE WEIGHT	POUNDS	D/R	ESTIMATION METHOD CODE	
	NAME	CODE	T	U																V
1													12	13						
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

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

OMB Control No.: 0648-0593  
 Expires on: 11/30/2015

**SCALLOP TRAWL HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID: **A99013-**  
 DATE LAND (mm/yy): **06 / 13**  
 PAGE #: **1** OF **2**

GEAR CODE <b>0 5 2</b>	GEAR # <b>0 1</b>	HAUL # <b>0 2 1</b>	HAUL OBS? NO 0 YES 1 <input checked="" type="checkbox"/>	ON-EFFORT? NO 0 YES 1 <input checked="" type="checkbox"/>	CATCH? NO 0 YES 1 <input checked="" type="checkbox"/>	INC TAKE? NO 0 YES 1 <input checked="" type="checkbox"/>	WEATHER CODE <b>01</b>	WIND DIRECTION <b>90</b> SPEED <b>10</b> kn	WAVE HEIGHT <b>2</b> ft	DEPTH, HAUL BEGIN <b>35</b> fm	GEAR COND CODE <b>010</b>
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1 Latitude / Bearing		Station 2 Longitude / Bearing		TOW SPEED NET OBSERVED				
BEGIN HAUL	<b>06 / 12 / 13</b>	<b>12 : 25</b>	9960 -	<b>35 ° 38.3</b>	9960 -	<b>75 ° 17.3</b>	Port 1 Starboard 2 Both 3 <input checked="" type="checkbox"/> Aft 4				
BEGIN FISHING	<b>06 / 12 / 13</b>	<b>12 : 29</b>					TARGET SPECIES <b>Sea Scallops</b>				
END HAUL	<b>06 / 12 / 13</b>	<b>13 : 21</b>	9960 -	<b>35 ° 34.2</b>	9960 -	<b>75 ° 19.9</b>	SEA SCALLOP CLAPPERS OBS? <b>10</b>				
GEAR ONBOARD	<b>06 / 12 / 13</b>	<b>13 : 38</b>	COMMENTS								

NUMBER OF TURNS  
**1**

WATER TEMP  
**0**

SAMPLE WEIGHT MULTIPLIER	VERTICAL OPENING **	HORIZONTAL OPENING **	DOOR SPREAD **	SPECIES			WEIGHT ESTIMATION METHOD CODE	D/R	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	ESTIMATION METHOD CODE	D/R	WEIGHT
				NAME	CODE	WEIGHT								
	<b>6</b> ft	<b>12</b> ft	<b>15</b> ft											
1				<b>8009</b>		<b>49</b>	<b>100</b>	<b>D</b>	<b>03</b>					
2						<b>16</b>	<b>002</b>	<b>R</b>	<b>04</b>					
3						<b>26</b>	<b>100</b>	<b>D</b>	<b>01</b>					
4						<b>13</b>	<b>100</b>	<b>R</b>	<b>01</b>					
5						<b>70</b>	<b>001</b>	<b>R</b>	<b>06</b>					
6						<b>10</b>	<b>054</b>	<b>R</b>	<b>06</b>					
7						<b>22</b>	<b>001</b>	<b>R</b>	<b>01</b>					
8														
9														
10														

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

**SCALLOP TRAWL HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBSTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID	/
DATE LAND (mm/yy)	/
PAGE #	OF

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	DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	Station 1	LATITUDE / Bearing	LONGITUDE (DD MM.M) - LORAN (XXXXX)	Longitude / Bearing		NET OBSERVED		ft	ft	fm
BEGIN HAUL	/ /	:	9960 -	Station 2	9960 -		Port 1	kn	o			fm
BEGIN FISHING	/ /	:					Starboard 2					fm
END HAUL	/ /	:	9960 -				Both 3					fm
GEAR ONBOARD	/ /	:					Aft 4					fm
COMMENTS	TARGET SPECIES <b>Sea Scallops</b> CODE <b>8009</b> NUMBER OF TURNS SEA SCALLOP CLAPPERS OBS? NO 0 YES 1 WATER TEMP o F											

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

SPECIES	SAMPLE WEIGHT MULTIPLIER	VERTICAL OPENING ft	HORIZONTAL OPENING ft	DOOR SPREAD ft	WEIGHT			ESTIMATION METHOD CODE
					SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	
SPECIES NAME	CODE	ESTIMATION METHOD CODE	D/R	DISP CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	ESTIMATION METHOD CODE
1 Sea Scallops	8009			100				
2								
3								
4								
5								
6								
7								
8								
9								
10								

## Scallop Trawl Gear Off-Watch Haul Log

This log is to be used for recording dates, times, locations, and the amount of kept sea scallops for **off-watch** hauls on scallop trawl gear trips. Complete a single section for each off-watch period.

If the observer is aware of an incidental take of a marine mammal, sea turtle, or sea bird during an off-watch period, complete as many fields as possible on a Scallop Trawl Haul Log in addition to completing a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of net(s) deployed, *i.e.*, net(s) hit the water.

**Haul End:** Hauling equipment put into gear with the intention of hauling back.

### Instructions

For instructions on completing fields **A**, **B**, and **C**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

Fields 1, 2, 4, 6, and 8 should be completed **before** going off-watch. Fields 3, 5, 7, 9, and 10 should be completed **after** your off-watch ends (*i.e.*, before coming back on-watch).

**1. WATCH NUMBER:** Consecutive numbers are assigned to each off-watch recorded on this log. If there are insufficient lines on one form, continue listing off-watches on an additional Scallop Trawl Gear Off-Watch Haul Log, making sure to fill in the preceding number.

**2. FIRST HAUL:** Record the first haul number for this off-watch period. This number should be one more than the last haul in your previous on-watch.

*Example:* After haul 7, you decide to go off watch. Record '008' as your FIRST HAUL number.

**3. LAST HAUL:** Record the last haul number for this off-watch period. This number may be obtained by asking the captain or mate how many hauls were completed during your off-watch. Your on-watch will begin with the following haul number.

*Example:* Your off-watch began on haul 8. When you come back, the captain tells you they have completed 8 hauls during your off-watch period. Record '015' as your LAST

HAUL number. Your next on-watch haul will be haul number 16.

**4. FIRST HAUL BEGIN DATE:** Record the month, day, and year, based on local time, that the first haul in this off-watch began.

**5. LAST HAUL END DATE:** Record the month, day, and year, based on local time, that the last haul in this off-watch ended.

**6. FIRST HAUL BEGIN TIME:** Record the local time, using the 24 hour clock (0000-2359), that the first haul in this off-watch began, *i.e.*, when the first component of the net(s) is (are) deployed or the net(s) hit the water.

**7. LAST HAUL END TIME:** Record the local time, using the 24 hour clock (0000-2359), that the last haul in this off-watch ended, *i.e.*, when the hauling equipment is put into gear.

**8. FIRST HAUL BEGIN POSITION:** Record the coordinate position where the first haul in this off-watch began. Refer to the Common Haul Log Data section for more information on collecting positional data.

**9. LAST HAUL END POSITION:** Record the coordinate position where the last haul in this off-watch ended. Refer to the Common Haul Log Data section for more information on collecting positional data.

**10. AVERAGE NUMBER OF BASKETS KEPT:** Record, to the nearest whole basket, the captain's or mate's estimated average number of baskets **per haul** of sea scallops, in the shell, kept from **both nets** for the hauls in this off-watch period.

*NOTE:* Kept is defined as brought on board the vessel and retained for market or consumptive purposes.



**SCALLOP TRAWL OFF-WATCH HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDO OBHAU 05/01/13**

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> of <input type="checkbox"/>

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	
1								
FIRST HAUL	2	BEGIN	4	9960-	8	9960-		10
LAST HAUL	3	END	5	9960-	9	9960-		
2								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
3								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
4								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
5								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
6								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
7								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
8								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
9								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		
10								
FIRST HAUL		BEGIN		9960-		9960-		
LAST HAUL		END		9960-		9960-		

**SCALLOP TRAWL OFF-WATCH HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDO OBHAU 05/01/13**

OBS/TRIP ID	A99012-
DATE LANDED mm/yy	05 / 13
PAGE #	1 of 2

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	
<b>01</b>								
FIRST HAUL	9	BEGIN		9960-	41° 07.2	9960-	69° 22.8	30
LAST HAUL	15	END	06:00	9960-	41° 08.3	9960-	69° 25.6	
		05 / 06 / 13	00:00					
<b>02</b>								
FIRST HAUL	21	BEGIN		9960-	41° 08.3	9960-	69° 25.6	40
LAST HAUL	27	END	18:00	9960-	41° 07.4	9960-	69° 22.3	
		05 / 07 / 13	12:00					
<b>03</b>								
FIRST HAUL	33	BEGIN		9960-	41° 07.4	9960-	69° 22.3	35
LAST HAUL	39	END	06:00	9960-	41° 07.9	9960-	69° 24.9	
		05 / 08 / 13	00:00					
<b>04</b>								
FIRST HAUL	45	BEGIN		9960-	41° 07.9	9960-	69° 24.9	35
LAST HAUL	51	END	18:00	9960-	41° 06.9	9960-	69° 21.5	
		05 / 08 / 13	12:00					
<b>05</b>								
FIRST HAUL	57	BEGIN		9960-	41° 06.9	9960-	69° 21.5	50
LAST HAUL	63	END	06:00	9960-	41° 07.6	9960-	69° 23.4	
		05 / 09 / 13	00:00					
<b>06</b>								
FIRST HAUL	69	BEGIN		9960-	41° 07.6	9960-	69° 23.4	45
LAST HAUL	75	END	18:00	9960-	41° 07.2	9960-	69° 22.8	
		05 / 09 / 13	12:00					
<b>07</b>								
FIRST HAUL	81	BEGIN		9960-	41° 06.9	9960-	69° 21.5	55
LAST HAUL	87	END	06:00	9960-	41° 07.2	9960-	69° 22.8	
		05 / 10 / 13	00:00					
<b>08</b>								
FIRST HAUL	93	BEGIN		9960-	41° 07.9	9960-	69° 24.9	55
LAST HAUL	99	END	18:00	9960-	41° 07.2	9960-	69° 22.8	
		05 / 10 / 13	12:00					
<b>09</b>								
FIRST HAUL	105	BEGIN		9960-	41° 06.9	9960-	69° 21.5	50
LAST HAUL	111	END	12:00	9960-	41° 07.9	9960-	69° 24.9	
		05 / 11 / 13	06:00					
<b>10</b>								
FIRST HAUL	117	BEGIN		9960-	41° 08.3	9960-	69° 25.6	45
LAST HAUL	123	END	00:00	9960-	41° 06.9	9960-	69° 21.5	
		05 / 11 / 13	18:00					

**SCALLOP TRAWL OFF-WATCH HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDO OBHAU 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	of

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	
1	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
2	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
3	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
4	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
5	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
6	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
7	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
8	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
9	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		
10	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
LAST HAUL	END	/ /	:	9960-		9960-		

## Scallop Dredge Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hailed** during a trip. These unique configurations may be based on variables such as frame height, frame width, number of tickler chains, *etc.* Any changes in these fields require completion of a new Scallop Dredge Gear Characteristics Log. Number each gear configuration sequentially.

Note that a scallop gear is defined as a distinct combination of scallop dredges (port and starboard or aft) deployed during the trip. If two dredges are deployed at the same time (*i.e.*, port and starboard), describe both dredges on a single Scallop Dredge Gear Characteristics Log.

If a gear is set out and hailed more than once during a trip, do not complete a new Scallop Dredge Gear Characteristics Log for *each haul* rather record on the Scallop Dredge Haul Log which gear number was being hailed. In addition, record any other information necessary to understand the manner in which the gear was set/hailed in COMMENTS.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (-) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Dredge:** A towed steel frame with a cutting bar on the bottom and a steel ring-bag for holding the scallops. A club stick is attached to the end of the chain bag.

**Club Stick:** A device used to hold the shape of the dredge while it is being towed and to facilitate dumping the dredge on deck. See Figure 6.

**Pressure Plate:** An angled piece of steel welded along the length of the top of the dredge frame. It uses the downward pressure created by the dredge being pulled through the water to keep the dredge on the sea bottom. See Figure 1 and Figure 7.

**Gear:** The combination of dredges fished at any one time. This may include one dredge deployed singly (*i.e.*, port, starboard, or aft) or two dredges deployed at the same time (*i.e.*, port and starboard).

**Cutting Bar:** A piece of steel welded along the length of the bottom of the dredge frame. The downward pressure of the pressure plate keeps the cutting bar on the sea bottom. See Figure 1 and Figure 7.

**Bale Bars:** Steel support bars that run perpendicular to the dredge frame. One side of a bar is welded to the cutting bar and the other side to the triangular bar frame. See Figure 1 and Figure 7.

**Strut:** A piece of steel welded between the cutting bar and pressure plate. A strut can also be welded between the pressure plate and a bale bar. See Figure 1.

**Aft:** Towards the stern of the vessel. Here, “aft” refers to a single dredge fished over the stern of the vessel.

### Instructions

For instructions on completing the Header fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hailed.

*Example:* Gear number “1” consists of a port and a starboard dredge fished together. After several hauls, a tickler chain is removed from the port dredge. A new Scallop Dredge Gear Characteristics Log is required with gear number “2”. Record the new characteristics of the port dredge and the same characteristics from the starboard dredge information from gear number “1”.

*Example:* After fishing the above configuration, the captain decides to only fish the port dredge. A new Scallop Dredge Gear Characteristics Log is required with gear number “3”. Record the same characteristics of the port dredge from gear number “2”. All fields describing the starboard dredge should be left blank.

*NOTE:* The “Gear Number” field on all haul logs after the gear change must reflect the new gear number that was assigned.

**2. DREDGE POSITION:** Record whether the dredge was fished off the stern of the vessel by checking the box next to "AFT (A)".

*NOTE:* If the dredge is not fished off the stern and fished off the port and/or starboard then leave the box next to "AFT (A)" blank.

*NOTE:* If the dredge is fished off the stern, fill in the gear information under the port dredge fields, and leave the starboard dredge fields blank.

### Dredge Frame

**3. FRAME TYPE:** Record the type of dredge frame used by placing an "X" next to the appropriate code:

0 = Unknown

1 = Standard

2 = Turtle Deflector Dredge (TDD)

9 = Other, record a detailed description in COMMENTS of any dredge that is not Standard or TDD.

*NOTE:* This information should be verified with the captain. See Figure 1.

**STANDARD:** A steel, triangular-shaped frame with a cutting bar, pressure plate and bale bars. The pressure plate is mounted along the top of the frame and the cutting bar runs along the bottom of the frame coming in contact with the ocean bottom. Generally, the upward-most angle of the pressure plate is located directly above the cutting bar, creating a straight line (frame height).

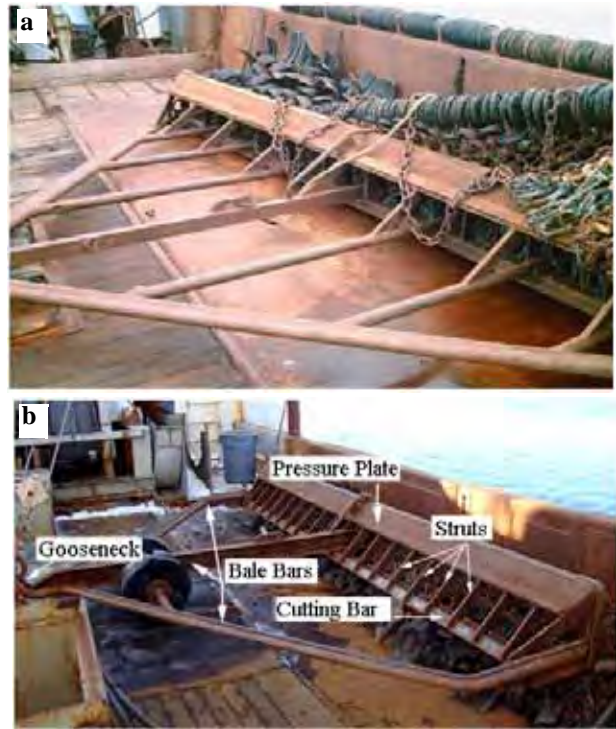
**TDD<sup>1</sup>:** Any scallop dredge frame with all of the following characteristics in which:

- The cutting bar must be located in front of the pressure plate.
- The angle between the front edge of the cutting bar and the top of the dredge frame must be less than or equal to 45 degrees.
- All bale bars must be removed, except the outer bale (single or double) bars and the center support beam, leaving an otherwise unobstructed space between the cutting bar and forward bale wheels, if present. The center support beam must be less than 6" wide. For the purpose of flaring and safe handling of the dredge, a minor

appendage, not to exceed 12" in length, may be attached to the outer bale bar.

- Struts must be spaced no more than 12" apart from each other.
- For all dredges with widths of 10' 6" or greater, the TDD must include a straight extension ("bump out") connecting the outer bale bars to the dredge frame. This "bump out" must exceed 12" in length.

Figure 1: Comparison of Standard Dredge Frame (a) and Turtle Deflector Dredge (b).



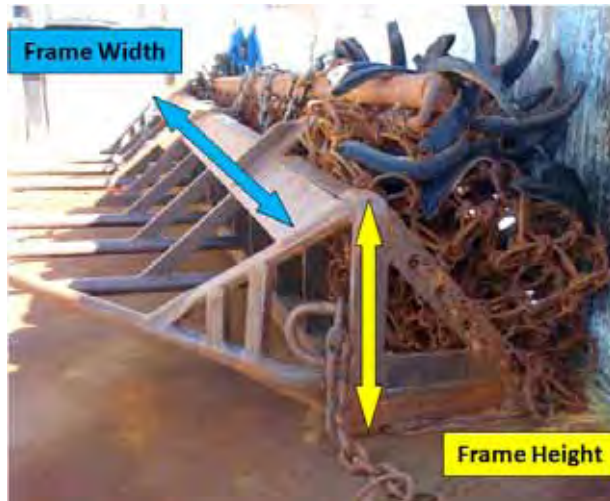
**4. FRAME HEIGHT:** Record, in whole inches, the overall height of the dredge frame. Measure this distance from the bottom of the cutting bar to the top of the pressure plate. See Figure 2.

*NOTE:* If shoes (plates of steel welded to the bottom of the cutting bar) are used, do NOT include the thickness of the shoe in this measurement. See Figure 7.

**5. FRAME WIDTH:** Record, in whole feet, the dredge frame width. See Figure 2.

1. Definition from "Fisheries of the Northeastern United States; Atlantic Sea Scallop Fishery; Framework Adjustment 23", Title 50 Code of Federal Regulations, Part 648. (April 6, 2012), pp 20728-20742.

Figure 2: Dredge frame height and width.



**Chains**

**6. ROCK CHAINS USED?:** Record whether rock chains (see Figure 3) are hung perpendicular to the dredge frame by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**7. NUMBER:** Record the number of rock chains used.

*NOTE:* If there are a different number of rock chains between each tickler chain, leave this field blank. Record the number of rock chains in the COMMENTS section.

*Example:* There are 4 rock chains between the dredge frame and the first tickler, 7 rock chains between the first and second tickler, etc.

**8. TICKLER CHAINS USED?:** Record whether tickler chains (see Figure 3) are hung parallel to the dredge frame by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

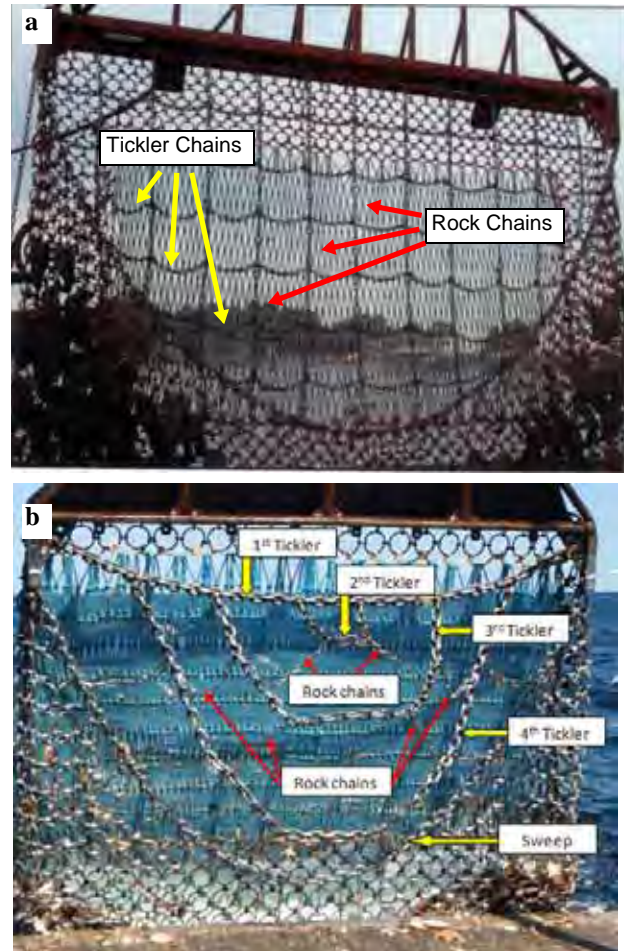
**9. NUMBER:** Record the number of tickler chains used.

**10. CONFIGURATION:** Record the type of configuration of the scallop dredge by placing an “X” next to the appropriate code:

- 1 = Standard.
- 2 = Turtle Chain Mat.

Figure 3: Comparison of turtle chain mat for excluding tur-

bles (a) and “spider” chains (b).



*NOTE:* This information should be verified by the captain. See Figure 3.

*NOTE:* If no rock or tickler chains are used, record this as a “Standard” configuration.

*NOTE:* A Turtle Chain Mat consists of a modified chain arrangement composed of tickler and rock chains that are configured such that the openings formed by the intersecting chains have no more than 4 sides. The tickler and rock chains must be hung to cover the opening of the dredge bag such that the rock chains extend from the back of the cutting bar to the sweep. The length of each side of the openings formed by the intersecting chains must be less than or equal to 14 inches with the exception of the side of any individual opening created by the sweep. The tickler and rock chains must be connected to each other with a shackle or link at each intersection point.<sup>1</sup>

*NOTE:* If “Spider” chains are used (see Figure 3, bottom), record a dash for NUMBER OF

ROCK CHAINS (#7), and include the number of rock chains between each tickler chain in COMMENTS.

*Example:* No rock chains between 1st and 2nd tickler. Two rock chains between 2nd and 3rd tickler. Four rock chains between 3rd and 4th tickler. Six rock chains between 4th tickler and sweep. Number of Tickler Chains = 4.

### Twine Top

**11. MESH SIZE:** Record, in whole millimeters, ten randomly selected **inside** mesh measurements from the twine top. Use calipers for these measurements. See [Appendix E: Vernier Caliper Instructions](#) for further information.

**12. # MESHES WIDE:** Record the number of whole meshes for the width of the twine top (runs from one side of the dredge frame to the other side of the dredge frame).

**13. # MESHES LONG:** Record the number of whole meshes for the length of the twine top (runs from the dredge frame to the chain bag).

**14. HUNG:** Record the hanging configuration of the twine top by placing an "X" next to the appropriate code:

0 = Unknown.

1 = Diamond.

2 = Square.

8 = Combination, record the hanging configuration in COMMENTS.

**15. # RINGS:** Record the number of rings that the twine top is hung from. See Figure 4.

*NOTE:* If the twine top is hung from something other than rings (e.g., shackles or rope), record the number of the item the twine top hangs from and record the type of item in COMMENTS.

Figure 4: Example of methods used to hand the twine top: rings (a) and chains (b).



### Chain Bag

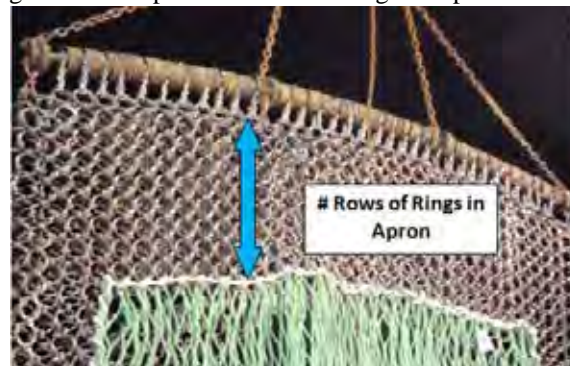
**16. CHAFING GEAR USED?:** Record whether chafing gear is used on the bottom of the chain bag by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**17. # ROWS OF RINGS IN APRON:** Record the number of the rows of rings in the apron (start counting with the row of rings attached to the bottom of the twine top and stop counting with the row of rings attached to the clubstick). See Figure 5.

Figure 5: Example of # Rows of Rings in Apron.



**18. INSIDE RING SIZE (TOP OF BAG):** Record, in whole millimeters, the inside diameters of five randomly selected rings from the top (apron; see Figure 5) of the chain bag. Use calipers for these measurements. See [Appendix E: Vernier Caliper Instructions](#) for further information.

**19. INSIDE RING SIZE (BOTTOM OF BAG):** Record, in whole millimeters, the inside diameters of five randomly selected rings from the bottom of the chain bag. Use calipers for these measurements. See [Appendix E: Vernier Caliper Instructions](#) for further information.

1. Definition based on "Endangered and Threatened Wildlife; Sea Turtle Conservation", Title 50 Code of Federal Regulations, Part 223. (April 8, 2008), pp 18984-19000.

**Comments**

Record any additional information about either dredge in the appropriate comment block. If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

Figure 6: New Bedford style scallop dredge.

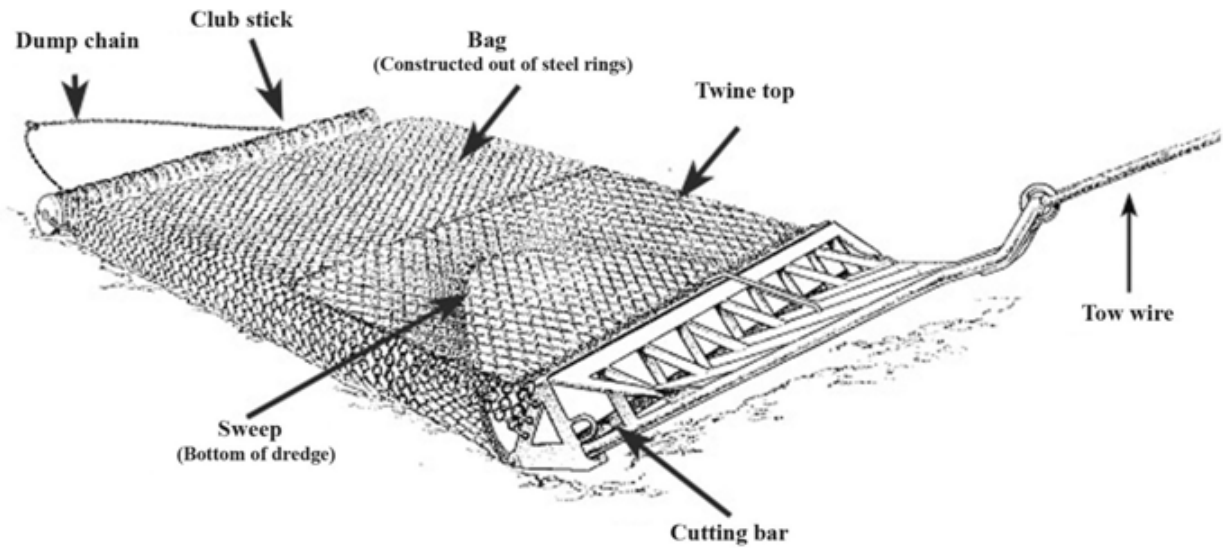
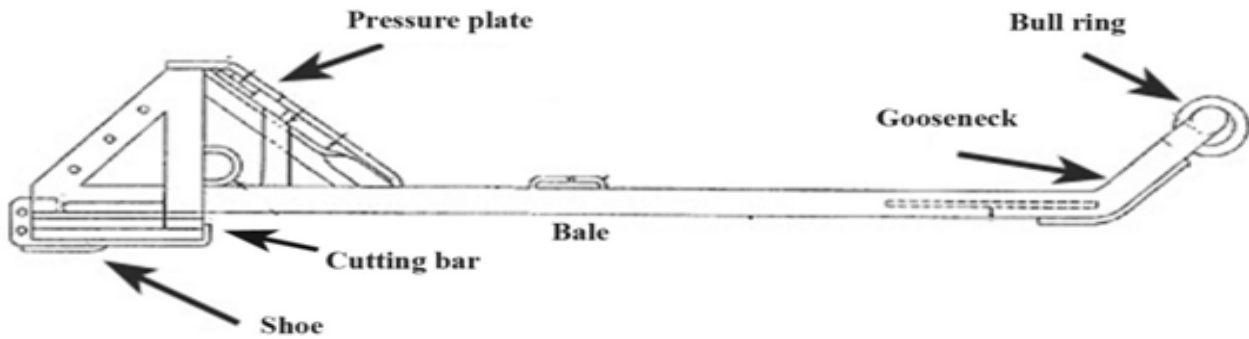


Figure 7: Frame and bale.





**SCALLOP DREDGE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDG 05/01/13**

OBS/STRIP ID	A
DATE LANDED mm/yy	B / /
PAGE #	C OF

GEAR CODE:     **D**

GEAR NUMBER(S): 1

If the dredge is fished off the stern, check box here:  **AFT (A)**  **2**

**PORT DREDGE (P)**

**DREDGE FRAME**  
 FRAME TYPE 3  
 Unknown 0  FRAME HEIGHT 4 in  
 Standard 1   
 TDD 2   
 Other 9

**CHAINS**  
 USED? NO YES NUMBER  
 ROCK 7 0  1  8  
 TICKLER 1 0  1  10  
 CONFIGURATION 11  
 STANDARD   
 TURTLE CHAIN MAT 1  2

**CHAIN BAG**  
 CHAFING GEAR USED? 17  
 NO 0   
 YES 1

INSIDE RING SIZE (mm)  
 (5 random measurements)

TOP OF BAG 22

BOTTOM OF BAG 23

# ROWS IN APRON 20

**TWINE TOP MESH SIZE 12**  
 WIDE 13  
 LONG 14  
 HUNG 15  
 Unknown   
 Diamond 1   
 Square 2   
 Combination 8   
 # RINGS ON WHICH TWINE TOP HANGS 16

**PORT DREDGE COMMENTS**

**STARBOARD DREDGE (S)**

**DREDGE FRAME**  
 FRAME TYPE 0  
 Unknown 0  FRAME HEIGHT \_\_\_\_\_ in  
 Standard 1   
 TDD 2   
 Other 9

**CHAINS**  
 USED? NO YES NUMBER  
 ROCK 0  1   
 TICKLER 0  1   
 CONFIGURATION  
 STANDARD   
 TURTLE CHAIN MAT 1  2

**CHAIN BAG**  
 CHAFING GEAR USED?  
 NO 0   
 YES 1

INSIDE RING SIZE (mm)  
 (5 random measurements)

TOP OF BAG \_\_\_\_\_

BOTTOM OF BAG \_\_\_\_\_

# ROWS IN APRON \_\_\_\_\_

**TWINE TOP MESH SIZE**  
 WIDE \_\_\_\_\_  
 LONG \_\_\_\_\_  
 HUNG \_\_\_\_\_  
 Unknown   
 Diamond 1   
 Square 2   
 Combination 8   
 # RINGS ON WHICH TWINE TOP HANGS \_\_\_\_\_

**STARBOARD DREDGE COMMENTS**

**SCALLOP DREDGE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDG 05/01/13**

OBSTRIP ID A99012-  
 DATE LANDED mm/yy 05 / 13  
 PAGE # 1 OF 1

GEAR CODE \_\_\_\_\_

GEAR NUMBER(S) 1 AFT (A)

If the dredge is fished off the stern, check box here

**PORT DREDGE (P)**

DREDGE FRAME  
 FRAME TYPE  
 Unknown 0 \_\_\_\_\_  
 Standard 1 \_\_\_\_\_  
 TDD 2  \_\_\_\_\_  
 Other 9 \_\_\_\_\_

FRAME HEIGHT 19 in  
 FRAME WIDTH 13 ft

CHAINS USED? NO YES NUMBER  
 ROCK 0 \_\_\_\_\_ 1  9  
 TICKLER 0 \_\_\_\_\_ 1  6

CONFIGURATION  
 STANDARD 1 \_\_\_\_\_  
 TURTLE CHAIN MAT 2

CHAIN BAG  
 CHAFING GEAR USED?  
 NO 0 \_\_\_\_\_  
 YES 1

INSIDE RING SIZE (mm)  
 (5 random measurements)

TOP OF BAG \_\_\_\_\_ 102 \_\_\_\_\_ 105 \_\_\_\_\_ 103 \_\_\_\_\_ 105 \_\_\_\_\_  
 BOTTOM OF BAG \_\_\_\_\_ 106 \_\_\_\_\_ 106 \_\_\_\_\_ 104 \_\_\_\_\_ 103 \_\_\_\_\_ 104 \_\_\_\_\_

# ROWS IN APRON \_\_\_\_\_ 9 \_\_\_\_\_

TWINE TOP MESH SIZE  
 WIDE \_\_\_\_\_ 75 \_\_\_\_\_  
 LONG \_\_\_\_\_ 6 \_\_\_\_\_

HUNG  
 Unknown 0 \_\_\_\_\_  
 Diamond 1  \_\_\_\_\_  
 Square 2 \_\_\_\_\_  
 Combination 8 \_\_\_\_\_

# RINGS ON WHICH TWINE TOP HANGS \_\_\_\_\_ 32 \_\_\_\_\_

PORT DREDGE COMMENTS  
 Rock and tickler chains connected at intersection point. Captain said squares equal 12 inches on each side and is turtle chain mat.  
 See photos for TDD dredge. Dredge had 2 outside bail bars and 1 center bar. Cutting bar as positioned forward of the pressure plate.

**STARBOARD DREDGE (S)**

DREDGE FRAME  
 FRAME TYPE  
 Unknown 0 \_\_\_\_\_  
 Standard 1 \_\_\_\_\_  
 TDD 2  \_\_\_\_\_  
 Other 9 \_\_\_\_\_

FRAME HEIGHT 19 in  
 FRAME WIDTH 13 ft

CHAINS USED? NO YES NUMBER  
 ROCK 0 \_\_\_\_\_ 1  9  
 TICKLER 0 \_\_\_\_\_ 1  5

CONFIGURATION  
 STANDARD 1 \_\_\_\_\_  
 TURTLE CHAIN MAT 2

CHAIN BAG  
 CHAFING GEAR USED?  
 NO 0 \_\_\_\_\_  
 YES 1

INSIDE RING SIZE (mm)  
 (5 random measurements)

TOP OF BAG \_\_\_\_\_ 103 \_\_\_\_\_ 105 \_\_\_\_\_ 102 \_\_\_\_\_ 105 \_\_\_\_\_ 105 \_\_\_\_\_  
 BOTTOM OF BAG \_\_\_\_\_ 102 \_\_\_\_\_ 102 \_\_\_\_\_ 105 \_\_\_\_\_ 104 \_\_\_\_\_ 103 \_\_\_\_\_

# ROWS IN APRON \_\_\_\_\_ 9 \_\_\_\_\_

TWINE TOP MESH SIZE  
 WIDE \_\_\_\_\_ 77 \_\_\_\_\_  
 LONG \_\_\_\_\_ 7 \_\_\_\_\_

HUNG  
 Unknown 0 \_\_\_\_\_  
 Diamond 1  \_\_\_\_\_  
 Square 2 \_\_\_\_\_  
 Combination 8 \_\_\_\_\_

# RINGS ON WHICH TWINE TOP HANGS \_\_\_\_\_ 32 \_\_\_\_\_

STARBOARD DREDGE COMMENTS  
 Same comments as port dredge

**SCALLOP DREDGE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDG 05/01/13**

OBSSTRIP ID \_\_\_\_\_  
 DATE LANDED mm/yy \_\_\_\_\_ / \_\_\_\_ / \_\_\_\_  
 PAGE # \_\_\_\_\_ OF \_\_\_\_\_

GEAR NUMBER(S) \_\_\_\_\_

If the dredge is fished off the stern, check box here  
 AFT (A)

**PORT DREDGE (P)**

**DREDGE FRAME**  
 FRAME TYPE  
 Unknown 0 \_\_\_\_\_ in  
 Standard 1 \_\_\_\_\_  
 TDD 2 \_\_\_\_\_ ft  
 Other 9 \_\_\_\_\_

FRAME HEIGHT \_\_\_\_\_ in  
 FRAME WIDTH \_\_\_\_\_ ft

**CHAINS**  
 USED? NO YES NUMBER  
 ROCK 0 \_\_\_\_\_ 1 \_\_\_\_\_  
 TICKLER 0 \_\_\_\_\_ 1 \_\_\_\_\_

**CONFIGURATION**  
 STANDARD \_\_\_\_\_  
 TURTLE CHAIN MAT 1 \_\_\_\_\_ 2 \_\_\_\_\_

**CHAIN BAG**  
 CHAFING GEAR USED?  
 NO 0 \_\_\_\_\_  
 YES 1 \_\_\_\_\_

INSIDE RING SIZE (mm)  
 (5 random measurements) \_\_\_\_\_

TOP OF BAG \_\_\_\_\_  
 BOTTOM OF BAG \_\_\_\_\_

# ROWS IN APRON \_\_\_\_\_

**TWINE TOP MESH SIZE**  
 WIDE \_\_\_\_\_ mm  
 LONG \_\_\_\_\_ mm  
 HUNG \_\_\_\_\_ mm  
 Unknown \_\_\_\_\_ mm  
 Diamond \_\_\_\_\_ mm  
 Square \_\_\_\_\_ mm  
 Combination \_\_\_\_\_ mm

# MESHES  
 Unknown \_\_\_\_\_  
 Diamond \_\_\_\_\_  
 Square \_\_\_\_\_  
 Combination \_\_\_\_\_

# RINGS ON WHICH TWINE TOP HANGS \_\_\_\_\_

**PORT DREDGE COMMENTS**

**STARBOARD DREDGE (S)**

**DREDGE FRAME**  
 FRAME TYPE  
 Unknown 0 \_\_\_\_\_ in  
 Standard 1 \_\_\_\_\_  
 TDD 2 \_\_\_\_\_ ft  
 Other 9 \_\_\_\_\_

FRAME HEIGHT \_\_\_\_\_ in  
 FRAME WIDTH \_\_\_\_\_ ft

**CHAINS**  
 USED? NO YES NUMBER  
 ROCK 0 \_\_\_\_\_ 1 \_\_\_\_\_  
 TICKLER 0 \_\_\_\_\_ 1 \_\_\_\_\_

**CONFIGURATION**  
 STANDARD \_\_\_\_\_  
 TURTLE CHAIN MAT 1 \_\_\_\_\_ 2 \_\_\_\_\_

**CHAIN BAG**  
 CHAFING GEAR USED?  
 NO 0 \_\_\_\_\_  
 YES 1 \_\_\_\_\_

INSIDE RING SIZE (mm)  
 (5 random measurements) \_\_\_\_\_

TOP OF BAG \_\_\_\_\_  
 BOTTOM OF BAG \_\_\_\_\_

# ROWS IN APRON \_\_\_\_\_

**TWINE TOP MESH SIZE**  
 WIDE \_\_\_\_\_ mm  
 LONG \_\_\_\_\_ mm  
 HUNG \_\_\_\_\_ mm  
 Unknown \_\_\_\_\_ mm  
 Diamond \_\_\_\_\_ mm  
 Square \_\_\_\_\_ mm  
 Combination \_\_\_\_\_ mm

# MESHES  
 Unknown \_\_\_\_\_  
 Diamond \_\_\_\_\_  
 Square \_\_\_\_\_  
 Combination \_\_\_\_\_

# RINGS ON WHICH TWINE TOP HANGS \_\_\_\_\_

**STARBOARD DREDGE COMMENTS**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	OF

ADDITIONAL COMMENTS: PORT DREDGE

ADDITIONAL COMMENTS: STARBOARD DREDGE

FOR OFFICE USE ONLY

## Scallop Dredge Haul Log

This log contains detailed questions about the setting, hauling and fishing time of the gear, as well as the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather-related safety reasons, record as much information on this log as possible (*i.e.*, Header Information, depths, times, positions, kept catch estimates, *etc.*).

Most scallop dredge vessels fish 24 hours a day. Following a regular on-/off-watch schedule (6, 8, or 12 hours) will allow you to observe the required 50% of the hauls and rest in between. Every on-watch haul should be observed, and every off-watch haul should be documented on the Scallop Dredge Off-Watch Haul Log.

At approximately the midpoint of the trip, switch watches in order to ensure collection of data most representative of the entire trip.

*Example:* If you are following a 6-hour watch schedule, work one 12-hour watch at the midpoint of the trip to switch to the opposite watch.

*Example:* If you are following a 12-hour watch schedule, work two 6-hour watches at the midpoint of the trip to switch to the opposite watch.

*Example:* If you are following an 8-hour watch, you will rotate through the whole schedule, and no switching of shifts is needed.

The species summary section of this log should be used to record catches of all species (some exceptions listed below), debris, and shells. Species caught that should not be recorded on this particular log include: pelagic species (*e.g.*, swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays, or tagged fish. Those species must be recorded on an Individual Animal Log. Marine mammals, sea turtles, and sea birds must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Scallop Dredge Haul Log, making sure to complete all of the Header Information (A-C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (-) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of dredge(s) deployed, *i.e.*, dredge(s) hit the water.

**Haul End:** Hauling equipment put into gear with the intention of hauling back.

### Instructions

For instructions on completing fields **A–Z**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below and in Appendix K: Gear Condition Codes:

000 = Unknown.

710 = No gear damage or insignificant gear damage.

711 = Hang-up, causing gear to be hauled back before scheduled time; minor damage.

712 = Chains (rock, tickler, sweep) detached.

713 = Twine top torn but was able to be repaired.

714 = Twine top torn completely and had to be replaced.

715 = One dredge fished on top of the other dredge (Rider on dredge).

716 = Hydraulic issue (*e.g.*, hose leak or blown, winch broken).

717 = Obstruction in the gear, such as large amount of fixed gear, boulders, etc.

720 = Chain bag broken, partially detached, or lost.

730 = Several rings destroyed.

740 = Club stick caught in twine top, chains or chain bag. Club stick detached from chain bag.

750 = One dredge turned over.

- 760 = Two dredges turned over.  
 770 = Dredges crossed.  
 780 = One dredge lost or totally damaged.  
 790 = Two dredges lost or totally damaged.  
 990 = Other, specify in COMMENTS.

*NOTE:* If the gear condition code reflects only one dredge (*i.e.*, port, starboard, or aft) include a comment with the net location.

**2. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this haul began and ended.

**3. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000-2359), that this haul began and ended, *i.e.*, when the first component of the dredge(s) is (are) deployed, or the dredge(s) hit the water (Haul Begin), and when the hauling equipment is put into gear (Haul End).

**4. DREDGE OBSERVED:** Record the dredge(s) from which both kept and discard data was collected for this haul by placing an “X” next to the appropriate code:

- 1 = Port  
 2 = Starboard  
 3 = Both  
 4 = Aft

*NOTE:* If two dredges are deployed, **catch from both dredges must be recorded.** If you cannot record complete catch information (kept and discard) from both dredges, then the haul is unobserved.

*NOTE:* Aft refers to a single net fished over the stern of the vessel.

**5. TOW SPEED:** Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

**6. WIRE OUT:** Record, in whole fathoms, the amount of wire paid out for this haul. This measurement is taken from the towing blocks to the dredge. This information may be obtained from the captain.

**7. WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface sea water temperature when the gear has been set and the winches are locked. The temperature must be recorded for every on-watch observed haul during the entire trip.

*NOTE:* Use a thermometer provided by FSB or your observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a **WATER TEMPERATURE must** be recorded.

### Date/Time

**8. FISHING BEGINS:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000-2359), that the gear is fully deployed and actively fishing (this may be when the brakes are put on).

**9. DATE/TIME GEAR ONBOARD:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000-2359), that the gear from this haul is completely out of the water.

**10. SEA SCALLOP CLAPPERS OBSERVED?:** Record whether **sea scallop** clappers are found in the gear from this haul by placing an “X” next to the appropriate code:

- 0 = No.  
 1 = Yes.

*NOTE:* Include pounds of clappers in the species of the Haul Log with a disposition code of ‘054’ (empty shells).

*NOTE:* If haul is unobserved, record “9” (Unknown).

### Recording Kept Scallop Weights

For all scallop trips (open bottom and Access Areas) record the total weight of kept scallops as a dressed (meat) weight. See the [Catch Estimation Worksheet](#) and [Biological Sampling Manual](#) for details on how to obtain scallop weights.

If scallops are retained in the shell (*i.e.*, not shucked at sea), record the total weight of kept scallops as a round weight.

### Comments

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, tear-ups, reason to expect the gear was not fishing properly, *etc.* If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

**SCALLOP DREDGE HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID **A**  
 DATE LAND (mm/yyyy) **B** / /  
 PAGE # **C** OF **D**

GEAR CODE	GEAR #	E	HAUL #	F	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	SPEED	L	WIND	DIRECTION	M	O	WAVE HEIGHT	N	DEPTH, HAUL BEGIN	O	GEAR CONDITION	HAUL BEGIN CODE	1		
1	3	2			NO 0	NO 0	NO 0	NO 0	J															
HAUL/FISHING DATE	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)																						
mm/dd/yy	24 hours	Station 1	Latitude / Bearing	Station 2	Longitude / Bearing																			
BEGIN HAUL	3	9960 -	P	9960 -																				
BEGIN FISHING	8																							
END HAUL		9960 -		9960 -																				
GEAR ONBOARD	9																							
COMMENTS	SEA SCALLOP CLAPPERS OBS? <b>10</b>																							
	NO YES 0 1																							

SPECIES NAME	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT EST METHOD CODE	SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT EST METHOD CODE	SAMPLE WEIGHT MULTIPLIER	
													D/R	WEIGHT
1							T							
2														
3														
4														
5														
6														
7														
8														
9														
10														

**SCALLOP DREDGE HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A99012-	
DATE LAND (mm/yy)		05 / 13	
PAGE #		1 OF 2	

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	SPEED	WIND	DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR CONDITION
1 3 2	0 1	1 4 5	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	01	5	5	0	3	35	710
HAUL INFO	DATE	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		DREDGE OBSERVED		TOW SPEED		WIRE OUT		WATER TEMP		
BEGIN HAUL	05 / 12 / 13	05 : 00	Station 1 Latitude / Bearing	Station 2 Longitude / Bearing	Port 1 Starboard 2 Both 3 <input checked="" type="checkbox"/> Alt 4		3 . 5		100		58 . 0 F		
BEGIN FISHING	05 / 12 / 13	05 : 06	41 ° 07.2		69 ° 22.8		Sea Scallops		8009		CODE		
END HAUL	05 / 12 / 13	05 : 55	41 ° 07.3		69 ° 23.0		SEA SCALLOP CLAPPERS OBS?						
ONBOARD GEAR	05 / 12 / 13	06 : 08											
COMMENTS													

SPECIES NAME	SUB-SAMPLE WEIGHT	DISP CODE	WEIGHT D/R	EST METHOD CODE	SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	DISP CODE	POUNDS	WEIGHT	
										D/R	EST METHOD CODE
1 Sea Scallops	8009	100	R	03					569	100	11
2 Monkfish (tail)		100	D	01					29	100	12
3 Monkfish		012	R	01					18	012	13
4 Yellowtail Flounder		100	R	01					6.4	100	14
5 Shells, nk		054	R	02					141	054	15
6 Starfish, Seastar, nk		001	R	02					26 . 0	141	16
7 Debris, Rock		053	R	06					12 . 5	053	17
8 Little Skate		001	R	02					7 . 3	001	18
9 Clappers, Scallop		054	R	02					14 . 0	054	19
10 Jonah Crab		001	R	02					1 . 6	001	20



**SCALLOP DREDGE HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		DATE LAND (mm/yy)		PAGE #		/		OF	
GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	SPEED	WIND
1 3 2			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1			
HAUL INFO	DATE	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		DREDGE OBSERVED		TOW SPEED		
BEGIN HAUL	mm/dd/yy	24 hours	Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	Port 1		WIRE OUT
BEGIN FISHING	/ /	:	9960 -		9960 -		Starboard 2		DEPTH, HAUL BEGIN
END HAUL	/ /	:	9960 -		9960 -		Both 3		ft
ONBOARD GEAR	/ /	:	9960 -		9960 -		Alt 4		kn
COMMENTS							SEA SCALLOP CLAPPERS OBS?		WATER TEMP
							NO 0 YES 1		°
							Sea Scallops		
							8009		

SPECIES NAME	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT		EST METHOD CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT	
				D/R	EST METHOD CODE					D/R	EST METHOD CODE
1 Sea Scallops	8009		100								
2											
3											
4											
5											
6											
7											
8											
9											
10											

## Scallop Dredge Off-Watch Haul Log

This log is to be used for recording dates, times, locations, and the amount of kept sea scallops for **off-watch** hauls on scallop dredge gear trips. Complete a single section for each off-watch period.

If the observer is aware of an incidental take of a marine mammal, sea turtle, or sea bird during an off-watch period, complete as many fields as possible on a Scallop Dredge Haul Log in addition to completing a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of dredge(s) deployed, *i.e.*, dredge(s) hit the water.

**Haul End:** Hauling equipment put into gear with the intention of hauling back.

### Instructions

For instructions on completing fields **A**, **B**, and **C**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

Fields 1, 2, 4, 6, and 8 should be completed **before** going off-watch. Fields 3, 5, 7, 9, and 10 should be completed **after** your off-watch ends (*i.e.*, before coming back on-watch).

**1. WATCH NUMBER:** Consecutive numbers are assigned to each off-watch recorded on this log. If there are insufficient lines on one form, continue listing off-watches on an additional Scallop Dredge Off-Watch Haul Log, making sure to fill in the preceding number.

**2. FIRST HAUL:** Record the first haul number for this off-watch period. This number should be one more than the last haul in your previous on-watch.

*Example:* After haul 7, you decide to go off watch. Record '008' as your FIRST HAUL number.

**3. LAST HAUL:** Record the last haul number for this off-watch period. This number may be obtained by asking the captain or mate how many hauls were completed during your off-watch. Your on-watch will begin with the following haul number.

*Example:* Your off-watch began on haul 8. When you come back, the captain tells you they have completed 8 hauls during your off-watch period. Record '015' as your LAST

HAUL number. Your next on-watch haul will be haul number 16.

**4. FIRST HAUL BEGIN DATE:** Record the month, day, and year, based on local time, that the first haul in this off-watch began.

**5. LAST HAUL END DATE:** Record the month, day, and year, based on local time, that the last haul in this off-watch ended.

**6. FIRST HAUL BEGIN TIME:** Record the local time, using the 24 hour clock (0000-2359), that the first haul in this off-watch began, *i.e.*, when the first component of the dredge(s) is (are) deployed or the dredge(s) hit the water.

**7. LAST HAUL END TIME:** Record the local time, using the 24 hour clock (0000-2359), that the last haul in this off-watch ended, *i.e.*, when the hauling equipment is put into gear.

**8. FIRST HAUL BEGIN POSITION:** Record the coordinate position where the first haul in this off-watch began. Refer to the Common Haul Log Data section for more information on collecting positional data.

**9. LAST HAUL END POSITION:** Record the coordinate position where the last haul in this off-watch ended. Refer to the Common Haul Log Data section for more information on collecting positional data.

**10. AVERAGE NUMBER OF BASKETS KEPT:** Record, to the nearest whole basket, the captain's or mate's estimated average number of baskets **per haul** of sea scallops, in the shell, kept from **both dredges** for the hauls in this off-watch period.

*NOTE:* Kept is defined as brought on board the vessel and retained for market or consumptive purposes.

**SCALLOP DREDGE OFF-WATCH HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDO OBHAU 05/01/13**

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> of <input type="checkbox"/>

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)			
				Station 1	Latitude / Bearing	Station 2		Longitude / Bearing		
1										
FIRST HAUL	<input type="checkbox"/> 2	BEGIN	4	:	6	9960-	8	9960-		10
LAST HAUL	<input type="checkbox"/> 3	END	5	:	7	9960-	9	9960-		
2										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
3										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
4										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
5										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
6										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
7										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
8										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
9										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		
0										
FIRST HAUL	<input type="checkbox"/>	BEGIN	/ /	:		9960-		9960-		
LAST HAUL	<input type="checkbox"/>	END	/ /	:		9960-		9960-		

**SCALLOP DREDGE OFF-WATCH HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDO OBHAU 05/01/13**

OBS/TRIP ID	A99012-
DATE LANDED mm/yy	05 / 13
PAGE #	1 of 2

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)
				Station 1	Latitude / Bearing	Station 2	
01	BEGIN	05 / 06 / 13	00:00	9960-	41° 07.2	9960-	30
FIRST HAUL	009					69° 22.8	
01	END	05 / 07 / 13	06:00	9960-	41° 08.3	9960-	
LAST HAUL	015					69° 25.6	
02	BEGIN	05 / 07 / 13	12:00	9960-	41° 08.3	9960-	40
FIRST HAUL	021					69° 25.6	
02	END	05 / 07 / 13	18:00	9960-	41° 07.4	9960-	
LAST HAUL	027					69° 22.3	
03	BEGIN	05 / 08 / 13	00:00	9960-	41° 07.4	9960-	35
FIRST HAUL	033					69° 22.3	
03	END	05 / 08 / 13	06:00	9960-	41° 07.9	9960-	
LAST HAUL	039					69° 24.9	
04	BEGIN	05 / 08 / 13	12:00	9960-	41° 07.9	9960-	35
FIRST HAUL	045					69° 24.9	
04	END	05 / 08 / 13	18:00	9960-	41° 06.9	9960-	
LAST HAUL	051					69° 21.5	
05	BEGIN	05 / 09 / 13	00:00	9960-	41° 06.9	9960-	50
FIRST HAUL	057					69° 21.5	
05	END	05 / 09 / 13	06:00	9960-	41° 07.6	9960-	
LAST HAUL	063					69° 23.4	
06	BEGIN	05 / 09 / 13	12:00	9960-	41° 07.6	9960-	45
FIRST HAUL	069					69° 23.4	
06	END	05 / 09 / 13	18:00	9960-	41° 07.2	9960-	
LAST HAUL	075					69° 22.8	
07	BEGIN	05 / 10 / 13	00:00	9960-	41° 06.9	9960-	55
FIRST HAUL	081					69° 21.5	
07	END	05 / 10 / 13	06:00	9960-	41° 07.2	9960-	
LAST HAUL	087					69° 22.8	
08	BEGIN	05 / 10 / 13	12:00	9960-	41° 07.9	9960-	55
FIRST HAUL	093					69° 24.9	
08	END	05 / 10 / 13	18:00	9960-	41° 07.2	9960-	
LAST HAUL	099					69° 22.8	
09	BEGIN	05 / 11 / 13	06:00	9960-	41° 06.9	9960-	50
FIRST HAUL	105					69° 21.5	
09	END	05 / 11 / 13	12:00	9960-	41° 07.9	9960-	
LAST HAUL	111					69° 24.9	
10	BEGIN	05 / 11 / 13	18:00	9960-	41° 08.3	9960-	45
FIRST HAUL	117					69° 25.6	
10	END	05 / 11 / 13	00:00	9960-	41° 06.9	9960-	
LAST HAUL	123					69° 21.5	

**SCALLOP DREDGE OFF-WATCH HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBSDO OBHAU 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	of

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)
				Station 1	Latitude / Bearing	Station 2	
1	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
2	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
3	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
4	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
5	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
6	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
7	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
8	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
9	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	
10	BEGIN	/ /	:	9960-		9960-	
FIRST HAUL							
LAST HAUL	END	/ /	:	9960-		9960-	

## Lobster, Crab, and Fish Pot Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hauled** during a trip. These unique configurations may be based on variables such as number of pots, baiting method, etc. Number each gear configuration sequentially. Any changes in these fields require the completion of a new Lobster, Crab, and Fish Pot Gear Characteristics Log.

If a gear is set out and hauled more than once during a trip do not complete a new Lobster, Crab, and Fish Pot Gear Characteristics Log for the multiple hauls. Rather, record on the Lobster, Crab, and Fish Pot Haul Log which gear number is being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If the vessel has two or more identical gears which are hauled separately, complete only one Lobster, Crab, and Fish Pot Gear Characteristics Log and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). See the lobster, crab, and fish pot definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (-) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Lobster, Crab, or Fish Pot Trawl:** A series of traps attached to a groundline (“the trawl or string”). Each trap contains a ballast to ensure minimal movement on the ocean floor. The traps are baited, and configured to allow entry, but no exit, of the targeted species. Traps are configured to allow entry of target species and exit of undersided target species and non-desired species.

**Kitchen:** Section of the trap where the bait is located.

**Parlor:** Section of the trap from which animals are removed by the fisherman.

**Collar:** A non-return device in the shape of a funnel whose tapered end is directed away from the opening and into the catch/bait chamber. This device is common in crab, eel, and fish pots and is also called “the throat”.

**Gear:** An individual lobster, crab, or fish pot trawl.

**Surface System:** The configuration of high flyers and buoys/floats at the surface of the water. See Figure 2.

**Buoyline:** A line that connects the surface system to the gear (anchor or pot/trap) fishing in the water below. A line that connects the gear to the vessel is not considered a buoyline.

**Groundline:** A line that connects the pot/traps to form a pot/trap trawl or string.

**Gangion:** A line that attaches a pot/trap to the groundline.

**Anchor Line:** A line that connects the anchor to the closest (first or last) gangion.

**Weak link:** A breakable component of gear that will part when subjected to a certain tension load. Common types of weaklinks are:

- *rope of appropriate breaking strength* - will break at a certain tension;
- *off the shelf* - commercially available and stamped with the breaking weight;
- *overhand knot* - a line that is cut and retied back together with an overhand knot; and
- *hog rings* - steel rings which are clamped down on a line that can be released with a certain amount of tension.

*NOTE:* Please reference the NOAA Northeast Regional Office's outreach supplement titled 'Techniques for Making Weak Links and Marking Buoy Lines' for an explanation of weak link types.

### Instructions

For instructions on completing Header Fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hauled and for which characteristics are described. See the definition of gear in the introduction.

*NOTE:* Gears should be numbered consecutively according to the order in which they are hauled aboard the vessel to which you are deployed.

*Example:* First gear hauled is “1”, next gear hauled is “2”, etc.

*NOTE:* If two or more identical gears are used, assign consecutive numbers to each gear and record all of these numbers on one Lobster, Crab, and Fish Pot Gear Characteristics Log.

*Example:* The first uniquely configured gear is “1”, and its characteristics will be recorded on one Lobster, Crab, and Fish Pot Gear Characteristics Log. The next two **identical** gears are “2, 3”, and their identical characteristics will be recorded on a second Lobster, Crab, and Fish Pot Gear Characteristics Log.

**2. NUMBER OF POTS:** Record the **total** number of individual pots used in this gear.

### Pot Characteristics

*NOTE:* If a trawl includes more than one type of pot, complete a Lobster, Crab, and Fish Pot Gear Characteristics Log for the pot type that makes up the majority (>50%) of the trawl, and record the number of the pots of each different type in COMMENTS.

**3. SHAPE:** Record the shape of the pot(s) used on this gear by placing an “X” next to the appropriate code:

- 00 = Unknown.
- 01 = Rectangular.
- 02 = Round/Oval.
- 03 = 1/2 Round, record only the **BOTTOM LENGTH (#7)**, **BOTTOM WIDTH (#8)** and **HEIGHT (#9)**.
- 04 = Cone.
- 05 = Trapezoid.
- 99 = Other, record the pot shape in COMMENTS.

**4. SIDE CONSTRUCTION:** Record the type of material used in the construction of the sides of the pot, by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = Wood Lathe.
- 2 = Plastic Coated Wire.

3 = Twine Mesh.

4 = Plastic Mesh.

8 = Combination, record the side construction materials in COMMENTS.

9 = Other, record the side construction material in COMMENTS.

**5. TOP LENGTH:** Record, in whole inches, the length of the top of the pots used on this gear.

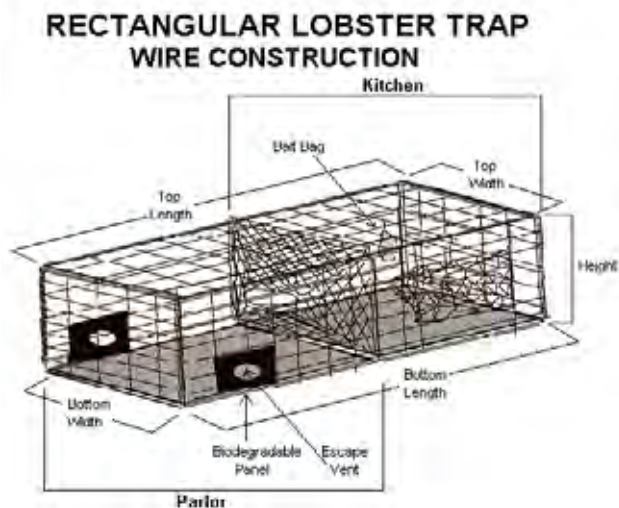
**6. TOP WIDTH:** Record, in whole inches, the width of the top of the pots used on this gear.

**7. BOTTOM LENGTH:** Record, in whole inches, the length of the bottom of the pots used on this gear.

**8. BOTTOM WIDTH:** Record, in whole inches, the width of the bottom of the pots used on this gear.

**9. HEIGHT:** Record, in whole inches, the height of the pots used on this gear.

Figure 1: Typical lobster trap configuration.



### Groundline

**10. LENGTH BETWEEN POTS:** Record, in whole feet, the weighted average length between the pots used on this gear. See Figure 2.

**11. TYPE CODE:** Indicate the type of groundline used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Sinking / Neutrally Buoyant.

2 = Floating.

8 = Combination, record all groundline types used in the COMMENTS.

9 = Other, record groundline type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**12. DIAMETER:** Record, in inches, the **average** fractional diameter of the groundline used on this gear. This information may be obtained from the captain.

*Example:* 3/8 inches.

### Escape Vent

**13. USED?:** Record whether any escape vent(s) is (are) used in the pots on this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**14. NUMBER:** Record the average number of escape vent(s) used in the pots on this gear. This should be a weighted average.

*Example:* There are 40 pots on this gear. 30 of those pots have 4 escape vents, and 10 pots have 2 escape vents. The average number of escape vents would be recorded as:

$$[(30*4) + (10*2)] \div 40 = 3.5$$

Round 3.5 to 4.

**15. SHAPE:** Record the shape of the escape vent(s) used in the pots on this gear by placing an “X” next to the appropriate code:

00 = Unknown.

01 = Rectangular.

02 = Round/Oval.

99 = Other, record the escape vent shape in the COMMENTS.

**16. LENGTH:** Record, to the nearest tenth of an inch, the length of the escape vent(s) used in the pots on this gear. Use calipers to obtain this measurement. See [Appendix E: Vernier Caliper Instructions](#) for further information.

**17. HEIGHT:** Record, to the nearest tenth of an inch, the height of the escape vent(s) used in the pots on this gear. Use calipers to obtain this measurement. See [Appendix E: Vernier Caliper Instructions](#) for further information.

**18. LOCATION:** Record the location of the escape vent(s) used in the pots on this gear, by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Top.

2 = Side.

3 = End.

8 = Combination, record all escape vent locations on line 18A.

9 = Other, record the escape vent location on line 18A.

### Entrance

**19. NUMBER:** Record the average number of entrances used in the pots on this gear. This should be a weighted average.

*Example:* There are 40 pots on this gear. 30 of those pots have 4 entrances, and 10 pots have 2 entrances. The average number of entrances would be recorded as:

$$[(30*4) + (10*2)] \div 40 = 3.5$$

Round 3.5 to 4.

**20. RING SIZE:** Record, to the nearest tenth of an inch, the inside ring diameter from the entrance(s) used in the pots on this gear. Use calipers for this measurement. If no ring is used, record a dash (-). See [Appendix E: Vernier Caliper Instructions](#) for further information.

**21. LOCATION:** Record the location of the entrance(s) used in the pots on this gear by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Top.

2 = Side.

3 = End.

8 = Combination, record all entrance locations on line 21A.

9 = Other, record the entrance location on line 21A.

### Biodegradable Panel

**22. USED?:** Record whether a biodegradable panel is used in the pots on this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* If an escape vent is held in place by or made out of biodegradable material, record ‘Yes’ and record the appropriate ATTACHMENT TYPE (#23).

**23. ATTACHMENT TYPE:** Record the material used to attach the biodegradable panel to the pots on this gear, by placing an “X” next to the appropriate code:



- 0 = Unknown.
- 1 = Iron Hog Rings.
- 2 = Degradable Plastic.
- 3 = Softwood Lathe.
- 4 = Uncoated Wire.
- 8 = Combination, record all attachment types on line 23A.
- 9 = Other, record the attachment type on line 23A.

### Bait

**24. METHOD:** Record the method used to bait the pots on this gear by placing an “X” next to the appropriate code:

- 0 = Unknown.
- 1 = String.
- 2 = Bait Bag.
- 3 = Metal Ring.
- 7 = Not attached.
- 8 = Combination, record all baiting methods on line 24A.
- 9 = Other, record the baiting method on line 24A.

### Surface System

**25. NUMBER OF HIGH FLYER(S):** Record the **total** number of high flyer(s) used on this gear.

**26. NUMBER OF BUOY(S):** Record the **total** number of surface buoy(s) used on this gear. These buoy(s) may be referred to as tide buoy(s) and are connected to the buoyline.

**27. SURFACE LINE LENGTH:** Record, in whole feet, the **average** length between the high flyer(s) and buoy(s) which are attached to the same buoyline. This length may be obtained from the captain.

**28. TYPE CODE:** Indicate the type of line used between the high flyer(s) and buoy(s) on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

- 0 = Unknown.
- 1 = Sinking / Neutrally Buoyant.
- 2 = Floating.
- 8 = Combination, record all line types used in the COMMENTS.
- 9 = Other, record line type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**29. DIAMETER:** Record, in inches, the **average** fractional diameter of the line between the high

flyer(s) and buoy(s) used on this gear. This information may be obtained from the captain.

*Example:* 5/8 inches.

**30. MARK?:** Indicate if the surface system buoy(s) is (are) marked to identify the vessel or fishery by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

### Weak Links

**31. USED ON SURFACE?:** Record whether any weak links are used on the surface system of this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**32. NUMBER:** Record the **total** number of surface system weak links used on this gear. This information may be obtained from the captain. See Figure 2.

**33. TYPE CODE:** Indicate the type of weak link(s) used on the surface system of this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

- 0 = Unknown.
- 1 = Rope of Appropriate Breaking Strength.
- 2 = Off the Shelf.
- 3 = Overhand Knot.
- 4 = Hog Rings.
- 8 = Combination, record all weak link types used in the COMMENTS.
- 9 = Other, record the weak link type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

### Gangions

**34. USED?:** Record whether any gangions are used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**35. LENGTH:** Record, in whole feet, the **average** length of the gangion(s) used on this gear. This information may be obtained from the captain.

**36. TYPE CODE:** Indicate the type of gangion(s) used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

- 0 = Unknown.  
 1 = Sinking / Neutrally Buoyant.  
 2 = Floating.  
 8 = Combination, record all gangion types used in the COMMENTS.  
 9 = Other, record gangion type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**37. DIAMETER:** Record, in inches, the **average** fractional diameter of the gangion(s) used on this gear. This information may be obtained from the captain.

*Example:* 5/8 inches.

### Buoyline

**38. NUMBER OF BUOYLINE(S):** Record the number of buoyline(s) used on this gear. See Figure 2.

**39. LENGTH:** Record, in whole feet, the **average** length of the buoyline(s) used on this gear. This information may be obtained from the captain.

**40. TYPE CODE:** Indicate the type of buoyline(s) used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

- 0 = Unknown.  
 1 = Sinking / Neutrally Buoyant.  
 2 = Floating.  
 8 = Combination, record all buoyline types used in the COMMENTS.  
 9 = Other, record buoyline type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**41. PERCENT OF TYPE:** Record the **average** percent of buoyline type (sinking/ neutrally buoyant to floating) used on this gear. This information may be obtained from the captain.

*NOTE:* This field should only be completed if Combination (8) is selected for Buoyline Type Code (#40), otherwise dash '-' the field.

*Example:* The captain states that he has 40 fathoms of sinking line and 20 fathoms of floating line. This should be recorded as "67%/33%".

**42. DIAMETER:** Record, in inches, the **average** fractional diameter of the buoyline(s) used on this gear. This information may be obtained from the cap-

tain.

*Example:* 5/8 inches.

**43. MARK?:** Indicate if the buoyline has one 4" colored mark mid-way on the buoyline by placing an "X" next to the appropriate code:

- 0 = No.  
 1 = Yes.

### Anchors

**44. USED?:** Record whether any anchor(s) are used on this gear by placing an "X" next to the appropriate code:

- 0 = No.  
 1 = Yes.

**45. NUMBER:** Record the number of anchor(s) used on this gear.

**46. WEIGHT:** Record, in whole pounds, the **total** weight of the anchor(s) used to hold this gear in place. This information may be obtained from the captain.

**47. WEIGHT - ACTUAL OR ESTIMATED:** Record whether the weight recorded in ANCHOR WEIGHT (#46) is an actual or estimated value by circling the appropriate letter code:

- A = Actual.  
 E = Estimated.

**48. TYPE(S):** Indicate which type(s) of anchor(s) are used on this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.  
 1 = Danforth-style.  
 2 = Dead Weight (i.e. railroad tracks, mushroom weights, pile of leadline tied together).  
 8 = Combination, record all anchor types used in the COMMENTS.  
 9 = Other, record the anchor type on line 48A.

*NOTE:* For examples of common anchor types, reference Figure 2 in the Gillnet Gear Characteristics Log section of this manual.

### Anchor Line

**49. LENGTH OF LINE BETWEEN ANCHOR AND GANGION:** Record, in whole feet, the **average** length between the anchor and the closest gangion attached to the groundline used on this gear.

**50. TYPE CODE:** Indicate the type of anchor line used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Sinking / Neutrally Buoyant.

2 = Floating.

8 = Combination, record all anchor line types used in the COMMENTS.

9 = Other, record anchor line type in the COMMENTS.

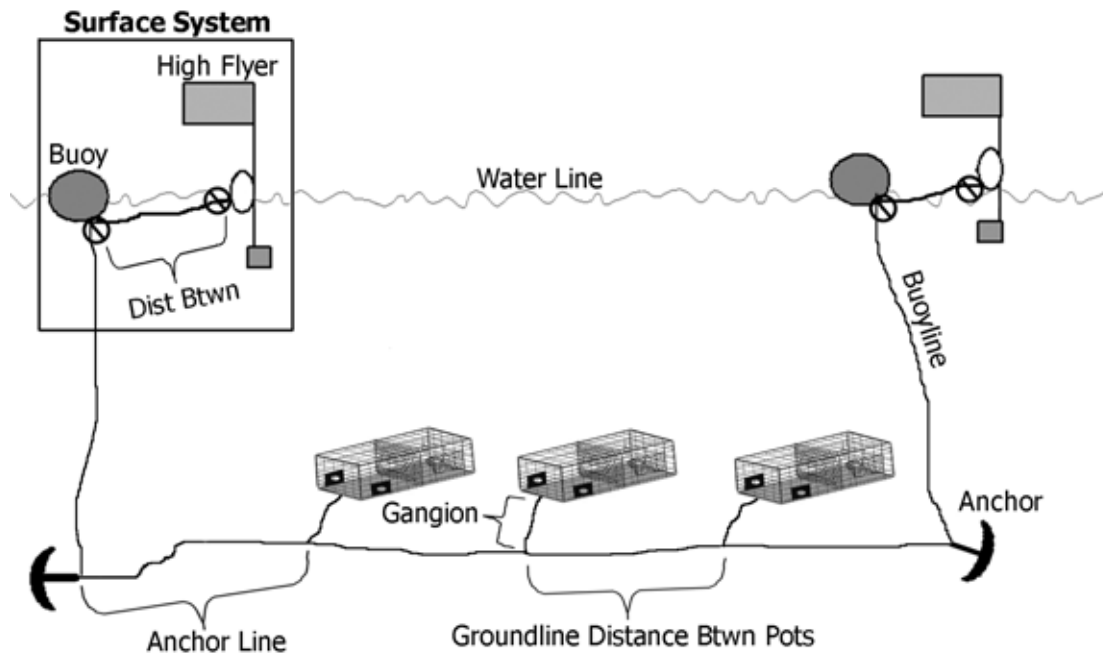
*NOTE:* This information may be obtained from the captain.

**51. DIAMETER:** Record, in inches, the **average** fractional diameter of the anchor line used on this gear. This information may be obtained from the captain.

*Example:* 3/8 inches.

Figure 2: Typical pot/trap trawl gear configuration.

Photo credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

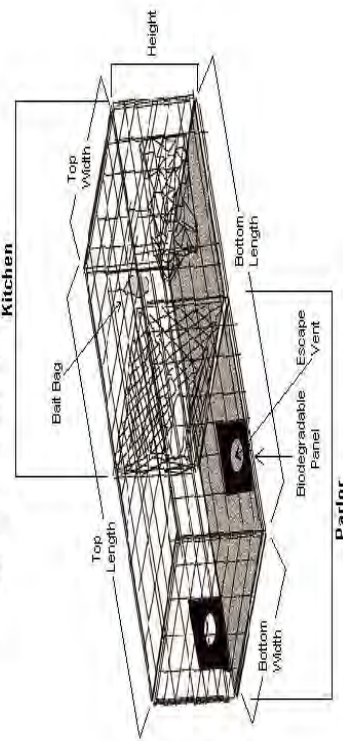


**Comments**

Record any additional information about this gear. Be sure to include a description if a 'combination' or 'other' code is used for one or more fields (e.g. surface weak link type = other, modified swivel). Record any calculations used to answer any questions. If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

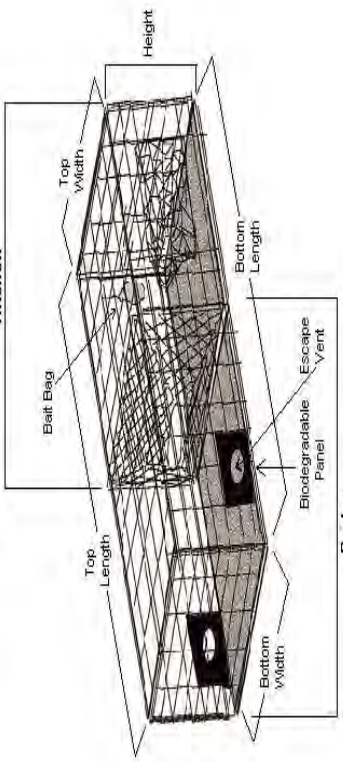
**LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG**  
**NIMFS FISHERIES OBSERVER PROGRAM**  
**OBPTG 05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> / /
PAGE #	<b>C</b> OF <input type="checkbox"/>

GEAR CODE <b>D</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		GEAR NUMBER(S) <b>1</b>		NUMBER OF POTS <b>2</b>		COMMENTS	
<b>POT CHARACTERISTICS</b> Shape Code <b>3</b> Side Construction <b>4</b> Code DIMENSIONS Length (in) Width (in) Top <b>5</b> <b>6</b> Bottom <b>7</b> <b>8</b> Height <b>9</b> in		<b>ENTRANCE</b> Number <b>19</b> Inside Ring Size <b>20</b> in Location <b>21</b> Unknown Top Side End Combination Other <b>21A</b>		<b>SURFACE SYSTEMS</b> # of High Flyer(s) <b>25</b> # of Buoys <b>26</b> Surface Line Length (avg) <b>27</b> ft Type Code <b>28</b> Diameter <b>29</b> / in Mark? <b>30</b> NO 0 YES 1 <b>WEAK LINKS</b> <b>31</b> NO YES USED ON SURFACE? 0 1 Number (total) <b>32</b> Type Code <b>33</b>		<b>ANCHOR(S)</b> USED? <b>44</b> NO 0 YES 1 Number <b>45</b> Weight (total) <b>46</b> lbs <b>47</b> A / E Type <b>48</b> Unknown 0 Danforth-style 1 Dead Weight 2 Combination 8 Other 9 <b>48A</b> ANCHOR LINE Length of Line Btwn Anchor & Ganglion (avg) <b>49</b> ft Type Code <b>50</b> Diameter <b>51</b> / in	
<b>GROUNDLINE</b> Length of Line Btw Pots (avg) <b>10</b> ft Type code <b>11</b> Diameter <b>12</b> / in <b>ESCAPE VENT</b> NO YES USED? <b>13</b> 0 1 Number <b>14</b> Shape Code <b>15</b>		<b>BIODEGRADABLE PANEL</b> USED? NO 0 YES 1 Attachment Type <b>23</b> Unknown Iron Hog Rings Degradable Plastic Softwood Lathe Uncoated Wire Combination Other <b>23A</b>		<b>GANGIONS</b> USED? <b>34</b> NO 0 YES 1 Length (avg) <b>35</b> ft Type Code <b>36</b> Diameter <b>37</b> / in		<b>RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION</b> 	
Length <b>16</b> in Height <b>17</b> in Location <b>18</b> Unknown 0 Top 1 Side 2 End 3 Combination 8 Other 9 <b>18A</b>		<b>BAIT METHOD</b> <b>24</b> Unknown String Bait Bag Metal Ring Not Attached Combination Other <b>24A</b>		<b>BUOYLINE</b> # of Buoyline(s) <b>38</b> Length (avg) <b>39</b> ft Type Code <b>40</b> Percent of Type <b>41</b> % / % (sinking/floating) Diameter <b>42</b> / in Mark? <b>43</b> NO 0 YES 1			

**LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPTG 05/01/13**

OBS/TRIP ID **A99025-**  
 DATE LANDED mm/yy **05 / 13**  
 PAGE # **1** OF **1**

GEAR CODE <div style="border: 1px solid black; padding: 2px; display: inline-block;">                     2 0 0                 </div>	GEAR NUMBER(S) 1, 2, 9, 10, 13, 15-19, 21, 25, 28, 32-35, 37-40	NUMBER OF POTS 10	COMMENTS
<b>POT CHARACTERISTICS</b> Shape Code <u>05</u> Side Construction Code <u>1</u> DIMENSIONS Length (in)    Width (in) Top <u>48</u> <u>26</u> Bottom <u>48</u> <u>32</u> Height <u>18</u> in	<b>ENTRANCE</b> Number <u>2</u> Inside Ring Size <u>7</u> . <u>0</u> in Location Unknown 0 Top 1 Side 2 <input checked="" type="checkbox"/> <b>X</b> End 3 Combination 8 Other 9	<b>SURFACE SYSTEMS</b> # of High Flyer(s) <u>2</u> # of Buoys <u>2</u> Surface Line Length (avg) <u>5</u> ft Type Code <u>1</u> Diameter <u>5</u> / <u>8</u> in	<b>ANCHOR(S)</b> USED? NO 0 YES 1 <input checked="" type="checkbox"/> <b>X</b> Number <u>2</u> (circle one) Weight (total) <u>44</u> lbs <b>A(E)</b> Type Unknown 0 Danforth-style 1 <input checked="" type="checkbox"/> <b>X</b> Dead Weight 2 Combination 8 Other 9
<b>GROUNDLINE</b> Length of Line Btw Pots (avg) <u>138</u> ft Type code <u>1</u> Diameter <u>3</u> / <u>8</u> in	<b>BIODEGRADABLE PANEL</b> USED? NO 0 YES 1 <input checked="" type="checkbox"/> <b>X</b> Attachment Type Unknown 0 Iron Hog Rings 1 Degradable Plastic 2 Softwood Lathe 3 <input checked="" type="checkbox"/> <b>X</b> Uncoated Wire 4 Combination 8 Other 9	Mark? NO 0 YES 1 <input checked="" type="checkbox"/> <b>X</b> <b>WEAK LINKS</b> NO YES USED ON SURFACE? 0 <u>1</u> <input checked="" type="checkbox"/> <b>X</b> Number (total) <u>5</u> Type Code <u>2</u> <b>GANGIONS</b> USED? NO 0 YES 1 <input checked="" type="checkbox"/> <b>X</b> Length (avg) <u>4</u> ft Type Code <u>1</u> Diameter <u>3</u> / <u>8</u> in	ANCHOR LINE Length of Line Btw Anchor & Gangion (avg) <u>10</u> ft Type Code <u>1</u> Diameter <u>3</u> / <u>8</u> in
<b>ESCAPE VENT</b> USED? NO YES 0 <u>1</u> <input checked="" type="checkbox"/> <b>X</b> Number <u>3</u> Shape Code <u>01</u> Length <u>5</u> . <u>8</u> in Height <u>1</u> . <u>8</u> in Location Unknown 0 Top 1 <input checked="" type="checkbox"/> <b>X</b> Side 2 End 3 Combination 8 Other 9	<b>BAIT</b> METHOD Unknown 0 String 1 Bait Bag 2 <input checked="" type="checkbox"/> <b>X</b> Metal Ring 3 Not Attached 7 Combination 8 Other 9	<b>BUOYLINE</b> # of Buoyline(s) <u>2</u> Length (avg) <u>100</u> ft Type Code <u>8</u> Percent of Type (sinking/floating) <b>67 % / 33 %</b> Diameter <u>5</u> / <u>8</u> in Mark? NO 0 YES 1 <input checked="" type="checkbox"/> <b>X</b>	<b>RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION</b> Kitchen Parlor 

**LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPTG 05/01/13**

OBS/TRIP ID \_\_\_\_\_  
 DATE LANDED mm/yy / \_\_\_\_ / \_\_\_\_  
 PAGE # \_\_\_\_ OF \_\_\_\_

GEAR CODE		GEAR NUMBER(S)		NUMBER OF POTS		COMMENTS
1	2	3	4	5	6	
<b>POT CHARACTERISTICS</b> Shape Code _____ Side Construction _____ Code _____ DIMENSIONS Length (in) _____ Width (in) _____ Top _____ Bottom _____ Height _____ in		<b>ENTRANCE</b> Number _____ Inside Ring Size _____ in Location _____ Unknown _____ Top _____ Side _____ End _____ Combination _____ Other _____		<b>SURFACE SYSTEMS</b> # of High Flyer(s) _____ # of Buoys _____ Surface Line Length (avg) _____ ft Type Code _____ Diameter _____ in Mark? NO 0 YES 1 _____		<b>ANCHOR(S)</b> USED? NO 0 YES 1 _____ Number _____ Weight (total) _____ lbs Type (circle one) Unknown _____ Danforth-style _____ Dead Weight _____ Combination _____ Other _____ Length of Line Btwn Anchor & Ganglion (avg) _____ ft Type Code _____ Diameter _____ in
<b>GROUNDLINE</b> Length of Line Btw Pots (avg) _____ ft Type code _____ Diameter _____ / _____ in		<b>BIODEGRADABLE PANEL</b> USED? NO 0 YES 1 _____ Attachment Type _____ Unknown _____ Iron Hog Rings _____ Degradable Plastic _____ Softwood Lathe _____ Uncoated Wire _____ Combination _____ Other _____		<b>WEAK LINKS</b> USED ON SURFACE? 0 _____ 1 _____ Number (total) _____ Type Code _____ <b>GANGIONS</b> USED? NO 0 YES 1 _____ Length (avg) _____ ft Type Code _____ Diameter _____ in		
<b>ESCAPE VENT</b> USED? NO _____ YES _____ 0 _____ 1 _____ Number _____ Shape Code _____		<b>BAIT METHOD</b> Unknown _____ String _____ Bait Bag _____ Metal Ring _____ Not Attached _____ Combination _____ Other _____		<b>BUOYLINE</b> # of Buoyline(s) _____ Length (avg) _____ ft Type Code _____ Percent of Type (sinking/floating) _____ % Diameter _____ in Mark? NO 0 YES 1 _____		<p style="text-align: center;"><b>RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION</b></p>

DIAGRAM FOR REFERENCE ONLY

○ = Weak Link

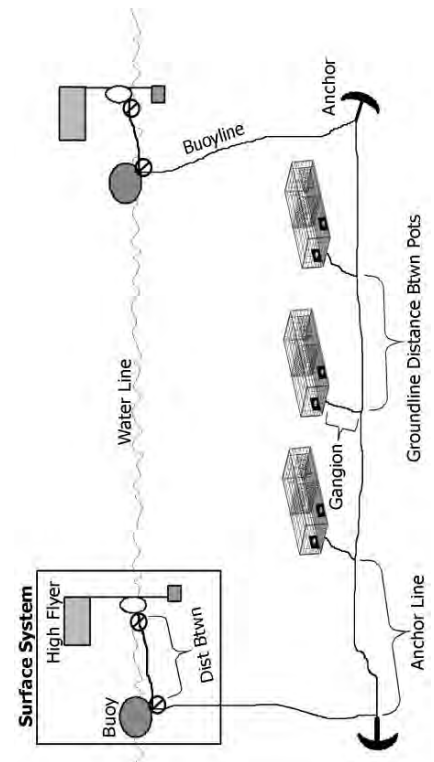


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

ADDITIONAL COMMENTS

SHAPE CODES:	SIDE CONSTRUCTION CODES:	LINE / GANGION TYPE CODES:	WEAK LINK TYPE CODES:
00 = Unknown	0 = Unknown	0 = Unknown	0 = Unknown
01 = Rectangular	1 = Wood Lathe	1 = Sinking / Neutrally Buoyant	1 = Rope of Appropriate Breaking Strength
02 = Round / Oval	2 = Plastic Coated Wire	2 = Floating	2 = Off the Shelf
03 = 1/2 Round	3 = Twine Mesh	8 = Combination	3 = Overhand Knot
04 = Cone	4 = Plastic Mesh	9 = Other	4 = Hog Rings
05 = Trapezoid	8 = Combination		8 = Combination
99 = Other	9 = Other		9 = Other

FOR OFFICE USE ONLY

## Lobster, Crab, and Fish Pot Haul Log

This log contains detailed questions about the setting and hauling of gear, and the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather related safety reasons, record as much information on this log as possible (*i.e.* Header Information, depths, times, positions, kept catch estimates, *etc.*).

If the gear is set and only partially hauled, complete a Lobster, Crab, and Fish Pot Haul Log with the species summary section completed as fully as possible, and "Haul Aborted" recorded following the last species record. An aborted haul should be recorded as observed, whenever it fits the definition of an observed haul.

If any pelagic species (*i.e.* swordfish, billfish, large tuna species, sharks, *etc.*), sturgeons, rays or tagged fish are caught by the gear, an Individual Animal Log must be completed to provide information on each animal. This Lobster, Crab, and Fish Pot Haul Log will serve as a cover sheet for any Individual Animal Log(s) corresponding to this haul that may follow. All marine mammals, sea turtles and sea birds caught by the gear must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Lobster, Crab, and Fish Pot Haul Log, making sure to complete all of the Header Information (A–C), GEAR CODE (D), GEAR NUMBER (E), and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a "No/Yes" question, record a dash (—) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

Become familiar with the following definitions.

### Definitions

**Set Begin:** First component of lobster, crab, or fish pot gear deployed, *i.e.* high flyer and/or anchor hits the water.

**Set End:** Trawl secured to anchoring device, *i.e.* trawl completely deployed.

**Haul Begin:** Hauling equipment put into gear.

**Haul End:** Lobster, crab, and fish pot gear completely retrieved and aboard vessel.

*NOTE:* Lobster, crab, and fish pots are usually set in trawls. A trawl consists of a mainline to which multiple pots are attached.

### Instructions

For instructions on completing fields A–Y, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

000 = Unknown.

410 = No gear damage.

420 = Less than 25% of the pots have enough damage to allow the target species to be released. This damage includes loss of the escape panel.

430 = Between 25% and 50% of the pots have enough damage to allow the target species to be released.

440 = Greater than 50% of the pots have enough damage to allow the target species to be released.

450 = Less than 25% of the pots are unfishable.

460 = Between 25% and 50% of the pots are unfishable.

470 = Greater than 50% of the pots are unfishable.

990 = Other, specify in COMMENTS.

### Set/Haul Information

**Set Information** for the next 3 fields (#'s 3, 4, 5): If set is witnessed, record Set BEGIN/ END DATES and BEGIN/ END TIMES but **not** SOAK DURATION. If set is not witnessed, fill in SOAK DURATION only.

**2. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this set began and ended. If the setting of the gear is not witnessed do not complete this field, instead, complete SOAK DURA-



TION (#4). Record the month, day, and year, based on local time, that this haul began and ended.

**3. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000-2359), that this set began and ended, *i.e.* when the first component of the lobster, crab, or fish pot gear is deployed, or the high flyer and/or anchor hits the water (Set Begin), and when the trawl is secured to the anchoring device, or completely deployed (Set End). **If the setting of the gear is not witnessed do not complete this field, instead, complete SOAK DURATION (#4) and record the estimated set times in COMMENTS.** Record the local time, using the 24 hour clock (0000-2359), that this haul began and ended, *i.e.* when the hauling equipment is put into gear (Haul Begin), and when the lobster, crab, or fish pot gear is completely retrieved and aboard the vessel (Haul End).

**4. SOAK DURATION:** Record, to the nearest tenth of an hour, the amount of time that the gear for this haul is in the water fishing. This is the amount of time from when the trawl is secured to an anchoring device, *i.e.* when the gear is completely deployed (Set End), until the hauling equipment is put into gear (Haul Begin). Obtain this time from the captain. **If the setting of the gear is witnessed do not complete this field, instead, complete SET BEGIN AND END DATES AND TIMES (#'s 2 and 3).**

*NOTE:* If estimated set times from the captain are used to calculate SOAK DURATION record them in COMMENTS.

**5. HAUL END WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface water temperature when this haul ended.

*NOTE:* Use a thermometer provided by FSB or observer provider to obtain these temperatures.

*NOTE:* If these temperatures are obtained in Celsius, use Appendix I: Conversion Tables to convert them to Fahrenheit.

### Number of Pots

**6. SET:** Record the **total** number of pots that are/were used for this set. This number should agree with the number recorded in NUMBER OF POTS on the corresponding Lobster, Crab, and Fish Pot Gear Characteristics Log(s).

**7. HAULED:** Record the **total** number of pots that are hauled back from this set.

**8. LOST:** Record the **total** number of pots that are

lost from this set. If this number differs from NUMBER OF POTS SET (#6) minus NUMBER OF POTS HAULED (#7), then record the reason(s) in COMMENTS.

### Bait

Record, in order by weight (heaviest to lightest), information about the bait used on this haul. If more than 2 types of bait were used, record that information in COMMENTS.

**9. POUNDS:** Record, in whole pounds, the amount of bait used for this haul, for up to two major baits. This information may be obtained from the captain.

**10. KIND:** Indicate the kind of bait used for this haul, for up to two major baits, by recording the most appropriate two digit code listed below, and in Appendix L: Bait Codes:

- 00 = Unknown.
  - 01 = Mackerel.
  - 02 = Herring.
  - 03 = Squid.
  - 05 = Redfish.
  - 08 = Skate.
  - 09 = Clams.
  - 10 = Fish with binders/casings.
  - 12 = Menhaden.
  - 13 = Tuna.
  - 97 = Mixed, record the species mixture in COMMENTS.
  - 99 = Other, record the bait kind in COMMENTS.
- NOTE:* Mixture of groundfish remains from processing facility is "Mixed" (97).

**11. TYPE:** Indicate the type of bait used for this haul, for up to two major baits, by recording the most appropriate one digit code listed below, and in Appendix L: Bait Codes:

- 0 = Unknown.
  - 1 = Whole.
  - 2 = Cut.
  - 3 = Live.
  - 4 = Processed.
  - 9 = Other, record the bait type in COMMENTS.
- NOTE:* Fish racks, frames, or bellies are "Cut" (2), record cut type in COMMENTS.
- NOTE:* Mixture of fish remains pressed into a sausage casing is "Processed" (4).

**12. CONDITION:** Indicate the condition of the bait

used for this haul, for up to two major baits, by recording the most appropriate one digit code listed below, and in [Appendix L: Bait Codes](#):

- 0 = Unknown.
- 1 = Previously Frozen.
- 2 = Fresh.
- 3 = Salted.
- 6 = Frozen.
- 7 = Semi-frozen.
- 8 = Combination, record all bait conditions in COMMENTS.
- 9 = Other, record the bait condition in COMMENTS.

*Example:* Frozen and salted bait is “Combination” (8).

**13. SET METHOD:** Record the method that best describes the manner in which the gear for this haul was set by placing an “X” next to the appropriate code:

- 00 = Unknown.
- 01 = Temperature.
- 02 = Bottom Contours (*i.e.* depth).
- 03 = Compass/ Loran.
- 04 = Tide/ Current.
- 05 = Visual (*i.e.* echosounder, surface feeding).
- 98 = Mixed, (more than one code applies) record all set methods on line 14A.
- 99 = Other, record the set method(s) on line 14A.

### Comments

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, tear-ups, reason to expect the gear was not fishing properly, *etc.* If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

**LOBSTER, CRAB, & FISH POT HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A											
DATE LAND (mm/yy)		B /											
PAGE #		C OF											
GEAR CODE D	GEAR # E	HAUL # F	HAUL OBS? G	ON-EFFORT? H	CATCH? I	INC TAKE? J	WEATHER CODE K	SPEED L	WIND M	DIRECTION N	WAVE HEIGHT O	DEPTH, HAUL BEGIN fm	GEAR COND CODE
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	K	L	M	N	O		1
SET INFO		DATE mm/dd/yy	AND	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXX)		ESTIMATED SOAK DURATION		TARGET SPECIES				
S	BEGIN	2 / /	3	:	Station 1	Station 2	Latitude / Bearing	4	Q				
E	END	/ /			9960 -	9960 -	P	4	R				
T	END	/ /			9960 -	9960 -			NUMBER OF POTS BAIT				
					9960 -	9960 -			9 10 11 12				
					9960 -	9960 -			LBS KIND TYPE COND				
					9960 -	9960 -			SET 6				
					9960 -	9960 -			HAULED 7 #1				
					9960 -	9960 -			LOST 8 #2				
HAUL INFO		DATE		TIME	LATITUDE / LONGITUDE		ESTIMATED SOAK DURATION	TARGET SPECIES					
H	BEGIN	/ /			9960 -	9960 -	4	Q					
A	END	/ /			9960 -	9960 -		NUMBER OF POTS BAIT					
U	END	/ /			9960 -	9960 -		9 10 11 12					
L	END	/ /			9960 -	9960 -		LBS KIND TYPE COND					
COMMENTS		DATE		TIME	LATITUDE / LONGITUDE		ESTIMATED SOAK DURATION	TARGET SPECIES					
							4	Q					
								NUMBER OF POTS BAIT					
								9 10 11 12					
								LBS KIND TYPE COND					
								SET 6					
								HAULED 7 #1					
								LOST 8 #2					
								SET METHOD 13					
								Unknown 00 Visual 05					
								Temperature 01 Mixed 98					
								Bottom Contours 02 Other 99					
								Compass/Loran 03					
								Tide/Current 04 13A					

**LOBSTER, CRAB, & FISH POT HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPTH OBHAU OBSPP 05/01/13**

OBS/TRIP ID **A99025-**  
 DATE LAND (mm/yy) **06 / 13**  
 PAGE # **1** OF **3**

GEAR CODE <b>2 0 0</b>	GEAR # <b>1 3</b>	HAUL # <b>0 1 3</b>	HAUL OBS? NO 0 YES 1 <input checked="" type="checkbox"/>	ON-EFFORT? NO 0 YES 1 <input checked="" type="checkbox"/>	CATCH? NO 0 YES 1 <input checked="" type="checkbox"/>	INC TAKE? NO 0 YES 1 <input checked="" type="checkbox"/>	WEATHER CODE <b>02</b>	SPEED <b>5</b> kn	WIND DIRECTION <b>0</b>	WAVE HEIGHT <b>2</b> ft	DEPTH, HAUL BEGIN <b>122</b> fm	GEAR COND CODE <b>410</b>
SET INFO			LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			ESTIMATED SOAK DURATION			TARGET SPECIES			
DATE mm/dd/yy			Station 1	Latitude / Bearing		Station 2	Longitude / Bearing		American Lobster			
mm/dd/yy			9960 -			9960 -						
TIME			168.0 hrs			WATER TEMP						
H AUL INFO												
H BEGIN												
A			06 / 19 / 09 21 : 52			41 ° 32.3			69 ° 35.8			0
U END			06 / 19 / 09 23 : 21			41 ° 32.7			69 ° 35.5			58.0 F
L												

NUMBER OF POTS BAIT  
 SET **40** LBS KIND TYPE COND  
 HAILED **40** #1 **150** **05** **2** **3**  
 LOST **0** #2 **150** **03** **1** **1**

SET METHOD  
 Unknown 00 \_\_\_\_\_ Visual 05 \_\_\_\_\_  
 Temperature 01 \_\_\_\_\_ Mixed 98 \_\_\_\_\_  
 Bottom Contours 02 \_\_\_\_\_ Other 99 \_\_\_\_\_  
 Compass/Loran 03   
 Tide/Current 04 \_\_\_\_\_

SPECIES NAME	CODE	POUNDS	DISP CODE	WEIGHT ESTIMATION		SPECIES NAME	CODE	POUNDS	DISP CODE	WEIGHT ESTIMATION	
				D/R	METHOD CODE					D/R	METHOD CODE
American Lobster		75	100	R	01						
American Lobster		1	022	R	01						
American Lobster		3	012	R	01						
Jonah Crab		80	100	R	01						
Black Whiting		22	170	R	01						
Jonah Crab		9	001	R	01						

**LOBSTER, CRAB, & FISH POT HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBPTH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID \_\_\_\_\_  
 DATE LAND (mm/yy) \_\_\_\_\_ / \_\_\_\_\_  
 PAGE # \_\_\_\_\_ OF \_\_\_\_\_

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	SPEED	WIND DIRECTION kn	WAVE HEIGHT ft	DEPTH, HAUL BEGIN fm	GEAR COND CODE
SET INFO	DATE	AND TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		ESTIMATED SOAK DURATION		TARGET SPECIES					
S BEGIN	mm/dd/yy	24 hours	Station 1	Station 2	Longitude / Bearing		CODE(S)					
E	/ /	:	9960 -	9960 -								
T END	/ /	:	9960 -	9960 -								
HAUL INFO			WATER TEMP		NUMBER OF POTS		BAIT					
H BEGIN			hrs		SET		LBS KIND TYPE COND					
A					HAULED #1							
U END					LOST #2							
L												

SET METHOD  
 Unknown 00 \_\_\_\_\_ Visual 05 \_\_\_\_\_  
 Temperature 01 \_\_\_\_\_ Mixed 98 \_\_\_\_\_  
 Bottom Contours 02 \_\_\_\_\_ Other 99 \_\_\_\_\_  
 Compass/Loran 03 \_\_\_\_\_  
 Tide/Current 04 \_\_\_\_\_

SPECIES NAME	SPECIES CODE	POUNDS	DISP CODE	WEIGHT ESTIMATION METHOD CODE		SPECIES NAME	SPECIES CODE	POUNDS	DISP CODE	WEIGHT ESTIMATION METHOD CODE	
				D/R	ESTIMATION METHOD 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					

## Purse Seine Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **set** during a trip. These unique configurations may be based on such variables as net length, purse line length, ring type, *etc.* Any changes in these fields require completion of a new Purse Seine Gear Characteristics Log. Number each gear configuration sequentially.

If the gear is set out and hauled more than once during a trip, do not complete a new Purse Seine Gear Characteristics Log for the multiple sets. Rather, record on the Purse Seine Set Log which gear numbers are being set. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If the vessel has two or more identical gears which are set, complete only one Purse Seine Gear Characteristics Log and record the consecutively assigned numbers of all the identical gears described in GEAR NUMBER(S) (#1). See the purse seine definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any questions except a “No/Yes” question, record a dash (-) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you have previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Purse Seine:** A wall of netting equipped with rings (purse rings) along the lower edge, with a cable passing through these rings enabling the fisherman to close off the space surrounded by the net from below. See Figure 1.

**Purse Line:** The cable passing through the purse rings which, when drawn on, cinches the lower portion of the net closed.

**Bunt:** A section of smaller mesh sewn into the net in the middle or at either end which forms a bag-shaped pocket for trapping fish during hauling.

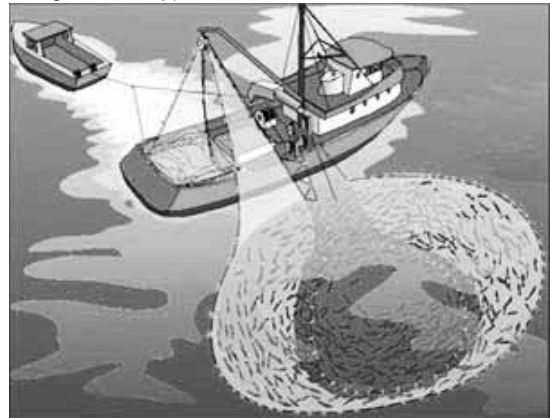
**Tom Weight:** A special sinker used to reduce the gap between the wings of the seine during the pursing stage. See Figure 2.

**Hauling Device:** A mechanized device aboard the vessel for hauling in the seine.

**Gear:** A seine (net and bunt), with an attached float-line and leadline, connected along the bottom with rings to a purse line. See Figure 2.

Figure 1: Purse seine.

(Source: [http://www.gma.org/herring/harvest\\_and\\_processing/seining/default.asp](http://www.gma.org/herring/harvest_and_processing/seining/default.asp))



### Instructions

For instructions on completing the Header Fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

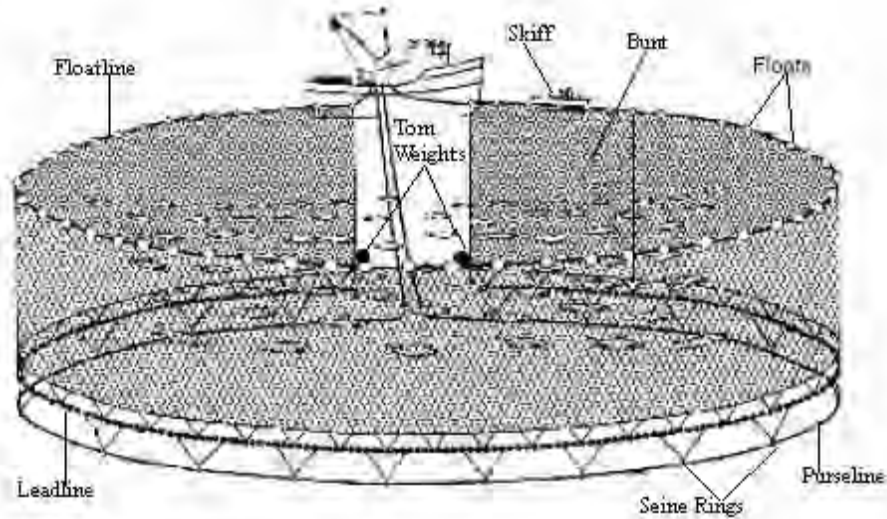
**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear set and for which characteristics are described. See the definition of gear in the introduction.

*NOTE:* If two or more **identical** gears are used, assign consecutive numbers to each gear and record all of these numbers on one Purse Seine Gear Characteristics Log.

*Example:* The first uniquely configured purse seine is “1”, and its characteristics will be recorded on one Purse Seine Gear Characteristics Log. Two other purse seines are used during the trip. These differ from #1 but are identical to each other. They are “2” and “3”, and their characteristics are recorded on a second Purse Seine Gear Characteristics Log.

Figure 2: Purse Seine.

(Source: [http://www.iccat.int/Documents/SCRS/Manual/CH3/CHAP%203\\_1\\_1\\_PS\\_ENG.pdf](http://www.iccat.int/Documents/SCRS/Manual/CH3/CHAP%203_1_1_PS_ENG.pdf), modified by FSB)



### Seine Characteristics

**2. NET LENGTH:** Record, in whole fathoms, the overall length of the net section of the purse seine. This information may be obtained from the captain. **Do not** include the length of the bunt in this measurement.

**3. BUNT LENGTH:** Record, in whole fathoms, the overall length of the bunt section of the purse seine. This information may be obtained from the captain. **Do not** include the length of the net in this measurement.

**4. NET DEPTH:** Record, in whole fathoms, the deepest section of the net. This information may be obtained from the captain.

**5. BUNT DEPTH:** Record, in whole fathoms, the deepest section of the bunt on the purse seine. This information may be obtained from the captain. This section may not be as deep as the NET DEPTH (#4).

**6. MESH SIZE OF NET:** Record, in hundredths of inches, the mesh size used in the net section of the purse seine for this gear. This information may be obtained from the captain.

*Example:* The captain says that the mesh size is "1 $\frac{1}{8}$ ". Record "1.13".

**7. MESH SIZE OF BUNT:** Record, in hundredths of inches, the mesh size used in the bunt section of the purse seine for this gear. This information may be obtained from the captain.

*Example:* The captain says that the mesh size is "1 $\frac{1}{8}$ ". Record "1.13".

**8. TWINE SIZE OF NET:** Record, in whole millimeters, the twine size of the net webbing used in this gear. This information may be obtained from the captain.

**9. TWINE SIZE OF BUNT:** Record, in whole millimeters, the twine size of the bunt webbing used in this gear. This information may be obtained from the captain.

**10. CONSTRUCTION MATERIAL OF NET:** Record the type of construction material used in the body of the net (not including the bunt section) by placing and "X" next to the appropriate code:

00 = Unknown.

01 = Nylon.

02 = Poly.

03 = Kevlar®.

04 = Spectra®.

98 = Combination, record all construction material types on line 10A.

99 = Other, record the construction material type on line 10A.

**11. CONSTRUCTION MATERIAL OF BUNT:** Record the type of construction material used in the body of the bunt (not including the net section) by placing and "X" next to the appropriate code:

00 = Unknown.

01 = Nylon.

02 = Poly.

03 = Kevlar®.

04 = Spectra®.

98 = Combination, record all construction material types on line 11A.

99 = Other, record the construction material type on line 11A.

### Gear Characteristics

**12. FLOATLINE LENGTH:** Record, in whole fathoms, the length of floatline used in this gear. This information may be obtained from the captain.

*NOTE:* This length includes the net and bunt sections.

**13. FLOATLINE DIAMETER:** Record, in hundredths of inches, the diameter of the floatline used in this gear. This information may be obtained from the captain.

**14. LEADLINE LENGTH:** Record, in whole fathoms, the length of leadline used in this gear. This information may be obtained from the captain.

**15. LEADLINE DIAMETER:** Record, in hundredths of inches, the diameter of the leadline used in this gear. This information may be obtained from the captain.

**16. PURSE LINE LENGTH:** Record, in whole fathoms, the length of purse line used in this gear. This information may be obtained from the captain.

**17. PURSE LINE DIAMETER:** Record, in hundredths of inches, the diameter of the purse line used in this gear. This information may be obtained from the captain.

**18. LEADLINE WEIGHT:** Record, in whole pounds, the **total** estimated weight of the leadline used in this entire gear. Do **not** include the weight of any additional weights that are attached to this gear.

### Additional Weights

**19. USED?:** Record whether any additional weights are used on the leadline of this gear by placing and “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* Tom weights are additional weights. These may be used in the Menhaden fishery.

**20. WEIGHT:** Record, in whole pounds, the **total** estimated weight of the additional weights used on the leadline of this gear. Do **not** include the weight of the leadline itself.

**21. HAULING DEVICE:** Record which device was used for hauling the gear aboard the vessel by placing

an “X” next to the appropriate code:

0 = Unknown.

1 = Power Block.

2 = Triplex.

3 = Drum.

9 = Other, record the hauling device on line 21A.

### Purse Rings

**22. TYPE:** Record the type of rings used to secure the purse line to the net by place an “X” next to the appropriate code:

0 = Unknown.

1 = Round.

2 = Snap.

3 = Roller Rings.

8 = Combination, record all ring types on line 22A.

9 = Other, record the ring type on line 22A.

**23. MATERIAL:** Record the type of material used to construct the rings by place an “X” next to the appropriate code:

0 = Unknown.

1 = Steel.

2 = Iron.

3 = Alloy.

9 = Other, record the ring type on line 23A.

### Comments

Record any additional information about this gear, *e.g.* unusual arrangements of the gear such as transducers, lights on gear, or any other type of materials used. If more room is needed, use the back of this log, making sure to write “See Back” on the front of this log. Reference each comment with its corresponding field name.



**PURSE SEINE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPSG 05/01/13**

OBS/TRIP ID	A
DATE LANDED mm/yy	B / /
PAGE #	C OF

GEAR CODE	D	GEAR NUMBER(S)	1
-----------	---	----------------	---

**SEINE CHARACTERISTICS:**

LENGTH \_\_\_\_\_ fm      NET      BUNT      3 \_\_\_\_\_ fm

DEPTH \_\_\_\_\_ fm      4 \_\_\_\_\_ fm      5 \_\_\_\_\_ fm

MESH SIZE \_\_\_\_\_ in      6 \_\_\_\_\_ in      7 \_\_\_\_\_ in

TWINE SIZE \_\_\_\_\_ mm      8 \_\_\_\_\_ mm      9 \_\_\_\_\_ mm

**GEAR CHARACTERISTICS:**

LENGTH \_\_\_\_\_ fm      DIAMETER \_\_\_\_\_ in

FLOATLINE \_\_\_\_\_ fm      12 \_\_\_\_\_ fm      13 \_\_\_\_\_ in

LEADLINE \_\_\_\_\_ fm      14 \_\_\_\_\_ fm      15 \_\_\_\_\_ in

PURSE LINE \_\_\_\_\_ fm      16 \_\_\_\_\_ fm      17 \_\_\_\_\_ in

LEADLINE WEIGHT \_\_\_\_\_ lbs      18 \_\_\_\_\_ lbs

ADDITIONAL WEIGHTS      19 No 0 \_\_\_\_\_ Yes 1 \_\_\_\_\_

20 \_\_\_\_\_ lbs

**HAULING DEVICE**      21

Unknown \_\_\_\_\_

Power Block \_\_\_\_\_

Triplex \_\_\_\_\_

Drum \_\_\_\_\_ 3 \_\_\_\_\_

Other \_\_\_\_\_ 9 \_\_\_\_\_

21A \_\_\_\_\_

**PURSE RINGS:**

TYPE      22

Unknown \_\_\_\_\_

Round \_\_\_\_\_

Snap \_\_\_\_\_

Roller \_\_\_\_\_

Combo \_\_\_\_\_

Other \_\_\_\_\_

22A \_\_\_\_\_

MATERIAL      23

Unknown \_\_\_\_\_

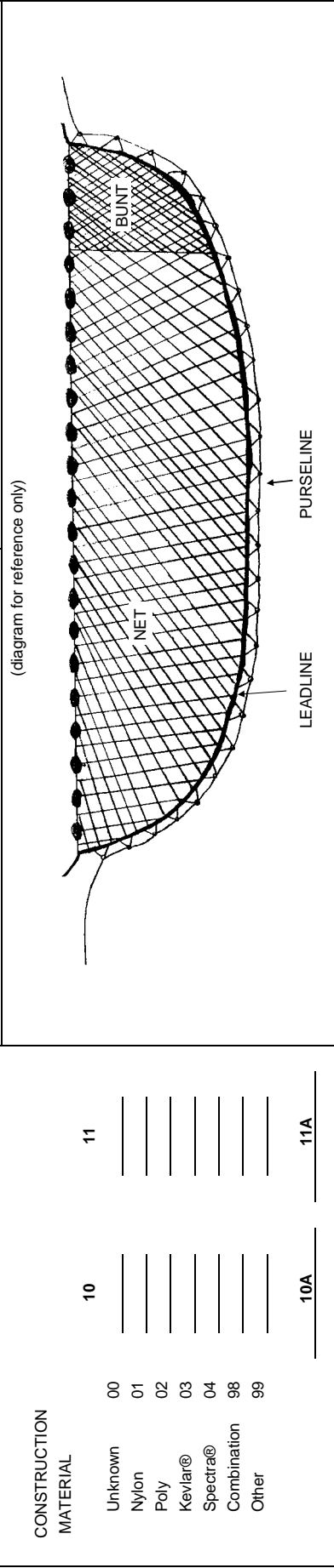
Steel \_\_\_\_\_

Iron \_\_\_\_\_

Alloy \_\_\_\_\_

Other \_\_\_\_\_

23A \_\_\_\_\_



**CONSTRUCTION MATERIAL**

10

Unknown \_\_\_\_\_

Nylon \_\_\_\_\_

Poly \_\_\_\_\_

Kevlar® \_\_\_\_\_

Spectra® \_\_\_\_\_

Combination \_\_\_\_\_

Other \_\_\_\_\_

11

10A \_\_\_\_\_

11A \_\_\_\_\_

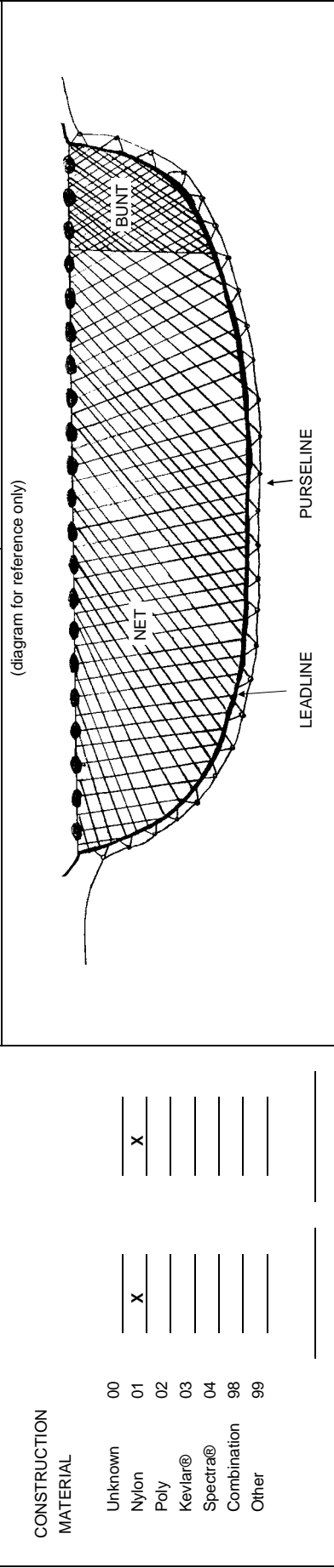
**COMMENTS**

**PURSE SEINE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPSG 05/01/13**

OBS/TRIP ID: A99035-  
 DATE LANDED mm/yy: 09 / 13  
 PAGE #: 1 OF 1

GEAR CODE	GEAR NUMBER(S)	HAULING DEVICE
1 2 1	1	Unknown Power Block Triplex
GEAR CHARACTERISTICS:		
LENGTH	DIAMETER	Drum 3 Other 9
400 fm	1.25 in	
LEADLINE		
450 fm	0.75 in	
PURSE LINE		
500 fm	0.63 in	
LEADLINE WEIGHT		
3000 lbs		
ADDITIONAL WEIGHTS		
No 0 X	Yes 1	

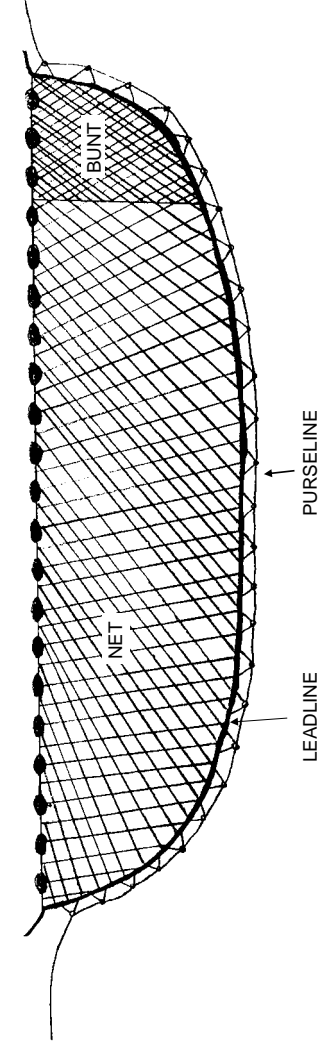
SEINE CHARACTERISTICS:	
NET	BUNT
380 fm	20 fm
50 fm	30 fm
1.13 in	1.13 in
1 mm	2 mm
PURSE RINGS:	
TYPE	MATERIAL
Unknown	Unknown
Round	Steel
Snap	Iron
Roller	Alloy
Combo	Other
Other	



CONSTRUCTION MATERIAL	
Unknown	
Nylon	X
Poly	
Kevlar®	
Spectra®	
Combination	
Other	
COMMENTS	

**PURSE SEINE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPSG 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	OF

GEAR CODE <input type="text"/> <input type="text"/> <input type="text"/> GEAR NUMBER(S) <input type="text"/>		<b>HAULING DEVICE</b> Unknown <input type="checkbox"/> Drum <input type="checkbox"/> 3 Power Block <input type="checkbox"/> Other <input type="checkbox"/> 9 Tripflex <input type="checkbox"/>	
<b>GEAR CHARACTERISTICS:</b> LENGTH _____ ft DIAMETER _____ in FLOATLINE _____ ft LEADLINE _____ ft PURSE LINE _____ ft LEADLINE WEIGHT _____ lbs ADDITIONAL WEIGHTS No <input type="checkbox"/> Yes <input type="checkbox"/>		<b>PURSE RINGS:</b> TYPE Unknown <input type="checkbox"/> 0 Round <input type="checkbox"/> 1 Snap <input type="checkbox"/> 2 Roller <input type="checkbox"/> 3 Combo <input type="checkbox"/> 8 Other <input type="checkbox"/> 9 MATERIAL Unknown <input type="checkbox"/> 0 Steel <input type="checkbox"/> 1 Iron <input type="checkbox"/> 2 Alloy <input type="checkbox"/> 3 Other <input type="checkbox"/> 9	
<b>SEINE CHARACTERISTICS:</b> LENGTH _____ ft NET _____ ft BUNT _____ ft DEPTH _____ ft MESH SIZE _____ in TWINE SIZE _____ mm		(diagram for reference only)  <p>The diagram shows a side view of a purse seine net. It is a large, rectangular net with a curved bottom edge. The top edge is labeled 'PURSELINE'. The bottom edge is labeled 'LEADLINE'. The net is divided into sections by vertical lines, and the bottom section is labeled 'BUNT'. The net is shown in a slightly curved position, as if being hauled.</p>	
<b>CONSTRUCTION MATERIAL</b> Unknown <input type="checkbox"/> 00 Nylon <input type="checkbox"/> 01 Poly <input type="checkbox"/> 02 Kevlar® <input type="checkbox"/> 03 Spectra® <input type="checkbox"/> 04 Combination <input type="checkbox"/> 98 Other <input type="checkbox"/> 99			
<b>COMMENTS</b>			

## Purse Seine Set Log

This log contains detailed questions about the setting and hauling of the gear, and the haul's catch. Complete a new log after each setting of the gear. If you feel that you can not go out on deck for weather related safety reasons, record as much information on this log as possible (*e.g.* Header information, depths, times, positions, kept catch estimates, *etc.*).

The species summary section of this log should be used to record catches of all species (some exceptions listed below), debris, and shells. Species caught that should not be recorded on this particular log include: pelagic species (*e.g.*, swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an Individual Animal Log. All marine mammals, sea turtles, and sea birds caught in the gear must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

Generally purse seine fishing occurs in high volume fisheries. Review the Discard Log protocols (page 360) and Catch Composition Log protocols (page 333) before deploying. All Purse Seine Set Logs with catch (kept or discarded) must have an accompanying Discard Log, unless no catch exists (kept or discarded). High volume fisheries (including Purse Seine) have additional requirements for Species Verification. Review these requirements before deploying.

If there are insufficient lines on one form for all species caught in this set, continue listing species on an additional Purse Seine Set Log, making sure to complete all of the Header Information (A–C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown to any questions except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Set Begin:** The skiff hits the water or the first piece of gear hits the water, whichever occurs first.

**Set End:** The purseline is closed off and all rings are brought up alongside the seiner vessel.

### Observed vs. Unobserved Haul

The definition of an observed haul in the high volume fisheries (including Purse Seine) differs from the traditional definition. A purse seine haul is considered observed if all catch is pumped to your vessel, and you were alert and aware of any potential discarding during the haul.

In the high volume fisheries (including Purse Seine), **discards may be recorded on unobserved hauls**, even if the discards are not complete due to un-pumped catch. Comments describing the situation should be provided in the CATCH COMPOSITION OF THE DISCARDED CATCH COMMENTS section (#10) of the Discard Log.

*Example:* The first half of the catch is pumped to your vessel, and the second half is pumped to a neighboring vessel. This is an unobserved haul, because you could not sample the entire catch. Sample and record all catch that is pumped to your vessel. If there is an observer on the other vessel, they are responsible for recording the catch to their vessel. If there is no observer on the other vessel, obtain a captain's estimate of the catch pumped to that vessel, and record it as “Fish NK” with disposition code ‘110’.

*Example:* A large quantity of catch is discarded before being pumped onboard. This is an unobserved haul. Sample and record all catch that is pumped/brought onboard, and estimate the discarded portion. Describe the discarding event on the Discard Log.

*Example:* The floatline of the purse seine is submerged, allowing fish to escape. The remaining catch is pumped onboard and fully sampled. The haul is considered observed. Check FISH LOST (#14) = Yes, and record comments about the lost fish in COMMENTS.

*Example:* A small portion of fish remains in the net at the completion of pumping (operational discards). This haul is considered observed, if

you are able to estimate the weight of the discards. Describe the operational discards on the Discard Log.

### Instructions

For instructions on completing fields A–Y, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

- 000 = Unknown.
- 510 = No or insignificant gear damage.
- 520 = Minor wrap of wire around gear.
- 530 = Major wrap of wire around gear.
- 540 = Minor tear-ups of net, not exceeding total of 5% of the net.
- 550 = Tear-up exceeding code 540, but not total, net destruction.
- 580 = Total net destruction.
- 990 = Other, specify in COMMENTS.

**2. BEGIN/END DATE:** Record the month, day, and year, based on local, that this set began and ended.

**3. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000–2359), that this set began and ended, *i.e.*, when the skiff or first piece of gear hits the water (Set Begin), and when the purseline is closed off and all rings are brought up alongside the seiner vessel. (Set End).

**4. SET SPEED:** Record, to the nearest tenth of a knot, the speed of the main vessel setting the net during the set. This information may be obtained from the captain.

### Fish Pumping

During fish pumping, obtain subsamples from the chutes that lead to the fish holds. Review the Catch Composition Log protocols for details on sampling. Notify the captain that you need to view all catch, regardless of whether it is brought onboard the vessel or not. **Refer to the Discard Log for details on recording information on discards**, including operational discards (fish left in the net at the completion of pumping) and full/partial release events.

Record pumping dates and times only when the catch is being pumped onto your vessel. Any pump-

ing to another vessel should not be included in this time.

**5. BEGIN/END DATE:** Record the month, day, and year, based on local time, that the fish pumping began and ended.

**6. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000–2359), that the fish pumping began and ended, *i.e.*, when the fish pump is attached to the bunt and is initially turned on (fish pump begin) and when the fish pump is turned off and fish are no longer coming out of the dewatering box (fish pump end).

**7. PLANE USED:** Record whether a spotter plane was used this day by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**8. TIME UP:** Record the local time, using the 24 hour clock (0000–2359), when the spotter plane took off this day. Arrange with the captain to have the pilot provide you with this information over the radio. If a plane was not used for the set, leave this field blank.

**9. TIME DOWN:** Record the local time, using the 24 hour clock (0000 – 2359), when the spotter plane landed this day. Arrange with the captain to have the pilot provide you with this information over the radio. If a plane was not used for the set, leave this field blank.

**10. WATER TEMPERATURE, SET BEGIN:** Record, to the nearest tenth of a degree Fahrenheit, the surface water temperature at set begin.

*NOTE:* If this temperature is obtained in Celsius, use Appendix I: Conversion Tables to convert it to Fahrenheit.

*NOTE:* Use a thermometer provided by FSB or an observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this set, a **WATER TEMPERATURE must** be recorded.

**11. SET BY PLANE?:** Record whether a spotter plane was used to set on this school of fish by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**12. SET ON DEBRIS?:** Record whether this set was made on debris by placing an “X” next to the appropriate code:

- 0 = No.

1 = Yes.

**13. SUCCESSFUL SET?:** Record whether the captain felt the set was successful by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*Example:* The captain realized after the set was made that the net only encircled a small portion of the intended school. The captain said this was an unsuccessful set.

**14. FISH LOST?:** Record whether fish were lost during the setting process by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

Record FISH LOST as ‘Yes’ when fish escape, unintentionally, anytime **before** SET END. Do not record Fish Lost catch in the species section, but describe the situation in COMMENTS.

*Example:* The floatline parted prior to hauling in the gear and the majority of the catch escaped.

## Comments

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, tear-ups, reason to expect the gear was not fishing properly, *etc.* If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

## Required Comments

If any catch is pumped or transferred to another vessel, record the vessel name in COMMENTS, even if that vessel is already listed as VESSEL #2 on the Vessel and Trip Information Log. For any vessel not documented on the Vessel and Trip Information Log, also record the USCG hull number.

**PURSE SEINE SET LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPSH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A	
DATE LAND (mm/yy)		B /	
PAGE #		C OF	

GEAR CODE	D	GEAR #	E	HAUL #	F	HAUL OBS?	NO 0	YES 1	G	ON-EFFORT?	NO 0	YES 1	H	CATCH?	NO 0	YES 1	I	INC TAKE?	NO 0	YES 1	J	WEATHER CODE	K	SPEED	L	WIND	kn	DIRECTION	M	o	N	ft	DEPTH, HAUL BEGIN	O	fm	GEAR COND CODE	1	
SET INFO	DATE	mm/dd/yy	2	/	/	TIME	24 hours	3		LATITUDE / Bearing	Station 1	9960 -	P	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)	Station 2	9960 -	Q	SET SPEED	NO 0	YES 1	R	TARGET SPECIES	CODE(S)	R														
BEGIN																																						
END																																						
FISH PUMPING																																						
BEGIN																																						
END																																						

SPECIES	NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE	SPECIES NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE
1	S	T	V	W	X	Y						
2												
3												
4												
5												
6												
7												
8												
9												
10												

COMMENTS

**PURSE SEINE SET LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPSH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID: **A89024-**  
 DATE LAND (mm/yy): **09 / 13**  
 PAGE # **1** OF **2**

GEAR CODE <b>1 2 1</b>	GEAR # <b>0 1</b>	HAUL # <b>0 0 1</b>	HAUL OBS? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	ON-EFFORT? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	CATCH? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	INC TAKE? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>	WEATHER CODE <b>03</b>	WIND DIRECTION <b>225</b> SPEED <b>10</b> kn	WAVE HEIGHT <b>2</b> ft	DEPTH, HAUL BEGIN <b>69</b> fm	GEAR COND CODE <b>510</b>
SET INFO			LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			TARGET SPECIES			CODE(S)		
BEGIN	DATE mm/dd/yy <b>09 / 14 / 13</b>	TIME 24 hours <b>20 : 42</b>	Station 1 <b>9960 -</b>	Station 2 <b>9960 -</b>	Longitude / Bearing <b>70 ° 28.7</b>	WATER TEMP (Fahrenheit) <b>NO 0</b>			Atlantic Herring		
END			PLANE USED? <b>NO 0 X</b>	TIME UP <b>45 ° 51.3</b>	TIME DOWN <b>0</b>	SET BY PLANE? <b>X</b>			SUCCESSFUL SET? <b>X</b>		
FISH PUMPING	DATE mm/dd/yy <b>09 / 14 / 13</b>	TIME <b>20 : 58</b>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	DEBRIS? <b>57 . 8 F</b>	SET ON DEBRIS? <b>X</b>			FISH LOST? <b>X</b>		

COMMENTS

Vessel filled to capacity - only part of this catch was pumped onboard. Remaining catch released -1000 lbs released

SPECIES	NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE	SPECIES NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE
1	Fish, nk		1,000	048	R	04						
2	Atlantic Herring		59,549	100	R	10						
3	Alewife		451	100	R	10						
4												
5												
6												
7												
8												
9												
10												



**PURSE SEINE SET LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPSH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		DATE LAND (mm/yy)		PAGE #		/		OF					
GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	SPEED	WIND	DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1			kn	o	ft	fm	
SET INFO		DATE	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		SET SPEED		TARGET SPECIES		CODE(S)			
BEGIN		mm/dd/yy	24 hours	Station 1	Station 2	Longitude / Bearing							
END		/ /	:	9960 -	9960 -								
FISH PUMPING		/ /	:	PLANE USED?	TIME UP	WATER TEMP (Fahrenheit)	NO 0	YES 1	NO 0	YES 1	NO 0	YES 1	
BEGIN		/ /	:	NO 0	:		SET BY PLANE?		SUCCESSFUL SET?				
END		/ /	:	YES 1	:		SET ON DEBRIS?		FISH LOST?				

COMMENTS

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

## Beach Seine Gear/Beach Anchored Gillnet Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hauled** during a trip. These unique configurations may be based on such variables as wing length, bunt height, wash net used, *etc.* Any changes in these fields require the completion of a new Beach Seine Gear / Beach Anchored Gillnet Characteristics Log. Number each gear configuration sequentially.

If the gear is set out and hauled more than once during an observation, do not complete a new Beach Seine Gear / Beach Anchored Gillnet Characteristics Log for the multiple hauls. Rather, record on the Beach Seine/Beach Anchored Gillnet Haul Log which gear numbers are being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If the beach-based fishery operator has two or more identical gears which are hauled separately, complete only one Beach Seine Gear / Beach Anchored Gillnet Characteristics Log and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). See the beach seine fishery definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Beach Seine:** A vertical hanging net set from, and anchored to, the beach. This net may at times cover the entire water column. A beach seine net will include a bunt section at the beach end. At times, a beach seine net may also include a wash net at the beach end. The seine is used primarily to encircle fish and corral them into a concentrated area. The net will be pulled up onto the beach during haul back. Several techniques for this haul back can be used, but in general 4-wheel drive vehicles are utilized. Some-

times incorrectly referred to as a haul seine. See Figure 1.

**Beach Anchored Gillnet:** A vertical hanging net set from, and anchored to, the beach. This net may, at times, cover the entire water column. This net will **not** include a bunt or wash net section but rather be comprised solely of monofilament gillnet. The gillnet traps individual fish within its meshes. Set and haul techniques are the same as with a beach seine net. See Figure 2.

**Bunt:** A short section (approx. 30 ft.) of twisted multifilament nylon. This section is located on the beach end of a beach seine net and is intended to trap fish, without gilling, so that they can be hauled up onto the beach.

**Wash Net:** A short section (approx. 10 ft.) of monofilament gillnet attached on the beach end of a beach seine net. This net is generally heavier twine and larger mesh than what is used in the wing. The intent of this net is to allow debris caught in the surf zone to pass through without being caught.

**Active Marine Mammal Deterrent Device:** The most common type emits sound which may be detected by a marine mammal, referred to as “pingers”.

**Passive Marine Mammal Deterrent Device:** The most common types may provide reflection of marine mammal echolocation signals or be detected visually.

**Wing:** The main component of a beach seine net. It is a monofilament nylon gillnet. One, two, or more nets can be used in the wing. If more than one net is used, then the net closest to the beach is net #1. Fish can be gilled in the wing or it can be hauled in such a manner as to “corral” the fish.

### Instructions

For instructions on completing the Header Fields **A**, **B**, and **C** and GEAR CODE (**D**), refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hauled and for which the characteristics are described. See the definition of gear in the introduction.

*Example:* The first uniquely configured beach seine is “1”, and its characteristics will be

recorded on one Beach Seine Gear / Beach Anchored Gillnet Characteristics Log. Two other beach seines are hauled during the observation. These differ from “1” but are identical to each other. They are “2” and “3”, and their characteristics are recorded on a second Beach Seine Gear / Beach Anchored Gillnet Characteristics Log.

**2. NUMBER OF NETS:** Record the total number of individual nets in the wing of this gear. Do not include the bunt or wash net in this count.

### Bunt Characteristics

If no bunt is used in this gear, record a dash (—) in fields #4 – #14.

**3. BUNT USED?:** Record whether a bunt is used in this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**4. LENGTH:** Record, in whole feet, the total length of the bunt in this gear as measured along the floatline. This information may be obtained from the operator. **Do not** include the length of the wing or wash net in this length.

**5. HEIGHT:** Record, to the nearest tenth of a foot, the height of the bunt in this gear. This value is obtained by measuring the height along one endline. This information may also be obtained from the operator. **Do not** record a calculated bunt height.

**6. BUNT MESH SIZE:** Record, to the nearest hundredth of an inch, the mesh size used in the bunt of this gear. This information may be obtained from the operator.

**7. ACTUAL/ESTIMATED:** Indicate whether the bunt mesh size is an actual or estimated measurement by circling the appropriate letter:

A = Actual.

E = Estimated.

*NOTE:* An **actual** mesh size measurement is obtained using calipers. An **estimated** mesh size measurement is provided by the operator.

**8. MESH COUNT, VERTICAL:** Record, to the nearest whole number, the number of vertical meshes of the bunt used in this gear. This information may be obtained by counting the number of individual meshes along one endline. This information may also be obtained from the operator.

**9. HANGING RATIO:** Record the average fractional ratio of the length of the floatline for the bunt to the length that the bunt would be if it was taken off the floatline and stretched out. This value can be calculated by counting 10 or 12 meshes horizontally, measuring the length of the floatline to which they are attached, and comparing that distance to the stretched out length of the meshes. This information may also be obtained from the operator.

*Example:* If the stretched out distance of the meshes is two times the length of the floatline, record “½”.

### Twine Size

**10. NUMBER:** Record the twine size number (industry standard) of the bunt webbing used in this gear. This information may be obtained using a twine size measuring tool provided by FSB or observer provider. This information may also be obtained from the operator. See Appendix I: Conversion Tables for a listing of industry standard twine size numbers and their corresponding diameters.

*NOTE:* This number should reflect the total diameter of the bunt webbing, and not the diameter of an individual strand which may be twisted with other strands to create the bunt webbing.

**11. ACTUAL/ESTIMATED:** Indicate whether the bunt twine size number is an actual or estimated measurement by circling the appropriate letter:

A = Actual.

E = Estimated.

*NOTE:* An **actual** twine size number is obtained using a twine size measuring tool provided by FSB or observer provider. An **estimated** twine size number is provided by the operator.

**12. NUMBER OF STRANDS:** Record the number of strands of twine in the bunt webbing used in this gear. This information may be obtained from the operator.

*NOTE:* This number should reflect the total number of individual strands used to make up the bunt webbing.

*Example:* Monofilament has 1 strand.

**13. COLOR:** Indicate the color of the bunt webbing used in this gear by recording the most appropriate two digit code listed below:

00 = Unknown.

01 = Clear.

- 02 = White.
  - 03 = Pink.
  - 04 = Black.
  - 05 = Green.
  - 06 = Blue.
  - 07 = Multicolor, record all colors in COMMENTS section.
  - 08 = Red.
  - 09 = Orange.
  - 10 = Purple.
  - 98 = Combination, record all colors in COMMENTS section.
  - 99 = Other, record the color in the COMMENTS section.
- NOTE:* "Multicolor" — 07, should be used **only** if more than one color of webbing is used within the bunt.

**14. MATERIAL:** Record the material of the bunt webbing used in this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
  - 1 = Nylon.
  - 9 = Other, record the bunt webbing material online 14A.
- NOTE:* This information may be obtained from the operator.

### Floatline

**15. FLOATLINE MATERIAL:** Record the material of the floatline used in this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Floating (foam core).
- 2 = Twisted Polypropylene.
- 9 = Other, record the bunt webbing material on line 15A.

## Gear Characteristics

### Wash Net

**16. USED?:** Record whether a wash net is used in this gear by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

**17. LENGTH:** Record, in whole feet, the horizontal length of the wash net used in this gear. This information may be obtained from the operator.

### Floats

**18. USED?:** Record whether floats are used on this gear by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

**19. DISTANCE BETWEEN:** Record, in whole feet, the **average** distance along the floatline between floats used on this gear. This information may be obtained from the operator.

### Anchor(s)

**20. USED?:** Record whether anchors were used on this gear by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

**21. NUMBER:** Record the total number of anchors used on this gear.

**22. TYPE(S):** Indicate which type(s) of anchors are used on this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Danforth-style.
- 2 = Dead Weight (*i.e.* railroad tracks, mushroom weights, pile of leadline tied together).
- 8 = Combination, record all anchor types used in the COMMENTS.
- 9 = Other, record the anchor type on line 22A.

*NOTE:* For examples of common anchor types, reference Figure 2 in the Gillnet Gear Characteristics Log section of this manual.

**23. WEIGHT:** Record, in whole pounds, the **total** weight of the anchor(s) used to hold this gear in place. This information may be obtained from the operator.

**24. WEIGHT—ACTUAL OR ESTIMATED:** Record whether the weight recorded in #23 is an actual or estimated weight by placing an "X" next to the appropriate code:

- 1 = Actual.
- 2 = Estimated.

*NOTE:* A manufacturer weight stamped onto the anchor is considered an actual weight.

**25. LEADLINE WEIGHT:** Record, in whole pounds, the average weight per net of the leadline used in this gear. This information may be obtained from the operator.

### Active Marine Mammal Deterrent Devices

**26. USED?:** Record whether “active” marine mammal deterrent devices (*i.e.* pingers) were used on this gear when it was set by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**27. NUMBER:** Record the number of active marine mammal deterrent devices (*i.e.* pingers) on the gear **when it was set**. This information can be obtained from the operator if the set is not observed.

**28. BRAND(S):** Indicate which brand(s) of active marine mammal deterrent devices are used on this gear by placing an “X” next to the appropriate code:

00 = Unknown.

01 = Dukane.

02 = Airmar.

03 = Fumunda.

98 = Combination, record all brands in the COMMENTS.

99 = Other, record the brand on line 28A.

**29. FREQUENCY:** Record the frequency of the active marine mammal deterrent devices used in this gear in kilohertz (kHz). If more than one frequency of active deterrent device is used, record the frequency of the majority of the active deterrent devices on the gear. If an equal number of different frequency active deterrent devices are used, record the highest frequency used.

*Example:* 10 kHz.

### Passive Marine Mammal Deterrent Devices

**30. USED?:** Record whether “passive” marine mammal deterrent devices were used on this gear when it was set by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**31. NUMBER:** Record the number of passive marine mammal deterrent devices on the gear **when it was set**. This information can be obtained from the operator if the set is not observed.

*NOTE:* If some or all of the nets in the gear are made from material that is designed to be more acoustically visible to marine mammals, record the **number of nets** within the gear made from this material.

### Wing Characteristics

If only one net is used in the wing portion of the gear, record a dash (—) in fields #32 – #43. If two nets are used, the net nearest the beach is net #1.

**32. NET NUMBER:** Record the net number, beginning with the net closest to the beach.

**33. NET LENGTH:** Record, in whole feet, the total length of the net in this gear as measured along the floatline. This information may be obtained from the operator. **Do not** include the length of the bunt or wash net in this length.

**34. NET HEIGHT:** Record, to the nearest tenth of a foot, the height of the net in this gear. This value is obtained by measuring the height along one endline. This information may also be obtained from the operator. **Do not** record a calculated net height.

**35. NET MESH SIZE:** Record, to the nearest hundredth of an inch, the mesh size used in the net of this gear. This information may be obtained from the operator.

**36. ACTUAL/ESTIMATED:** Indicate whether the net mesh size is an actual or estimated measurement by circling the appropriate letter:

A = Actual.

E = Estimated.

*NOTE:* An **actual** mesh size measurement is obtained using calipers. An **estimated** mesh size measurement is provided by the operator.

**37. NET MESH COUNT, VERTICAL:** Record, to the nearest whole number, the number of vertical meshes of the net used in this gear. This information may be obtained by counting the number of individual meshes along one endline. This information may also be obtained from the operator.

**38. NET HANGING RATIO:** Record the average fractional ratio of the length of the floatline to the length that the net would be if it was taken off the floatline and stretched out. This value can be calculated by counting 10 or 12 meshes horizontally, measuring the length of the floatline to which they are attached, and comparing that distance to the stretched out length of the meshes. This information may also be obtained from the operator.

*Example:* If the stretched out distance of the meshes is two times the length of the floatline, record “½”.

### Twine Size

**39. NUMBER:** Record the twine size number (industry standard) of the net webbing used in this gear. This information may be obtained using a twine size measuring tool provided by FSB or observer provider. This information may also be obtained from the operator. See Appendix I: Conversion Tables for a listing of industry standard twine size numbers and their corresponding diameters.

*NOTE:* This number should reflect the total diameter of the net webbing, and not the diameter of an individual strand which may be twisted with other strands to create the net webbing.

**40. ACTUAL/ESTIMATED:** Indicate whether the net twine size number is an actual or estimated measurement by circling the appropriate letter:

A = Actual.

E = Estimated.

*NOTE:* An **actual** twine size number is obtained using a measuring tool provided by FSB or observer provider. An **estimated** twine size number is provided by the operator.

**41. NUMBER OF STRANDS:** Record the number of strands of twine in the net webbing used in this gear. This information may be obtained from the operator.

*NOTE:* This number should reflect the total number of individual strands used to make up the net webbing

*Example:* Multi-strand, multi-filament and monowist will consist of multiple strands of nylon.

**42. NET COLOR:** Indicate the color of the net webbing used in this gear by recording the most appropriate two digit code listed below:

00 = Unknown.

01 = Clear.

02 = White.

03 = Pink.

04 = Black.

05 = Green.

06 = Blue.

07 = Multicolor, record all colors in COMMENTS section.

08 = Red.

09 = Orange.

10 = Purple.

98 = Combination, record all colors in COM-

MENTS section.

99 = Other, record the color in the COMMENTS section.

*NOTE:* “Multicolor” — 07, should be used **only** if more than one color of webbing is used within the wing.

**43. NET MATERIAL:** Record the material of the wing webbing used in this gear by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Nylon.

9 = Other, record the wing webbing material on line 43A.

*NOTE:* This information may be obtained from the operator.

### Comments

Record any additional information about this gear, *e.g.* unusual arrangements of the gear, *etc.* If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log.

Reference each comment with its corresponding field name.

Figure 1: Beach seine.

(Courtesy of M. Tork, U.S. National Marine Fisheries Service)

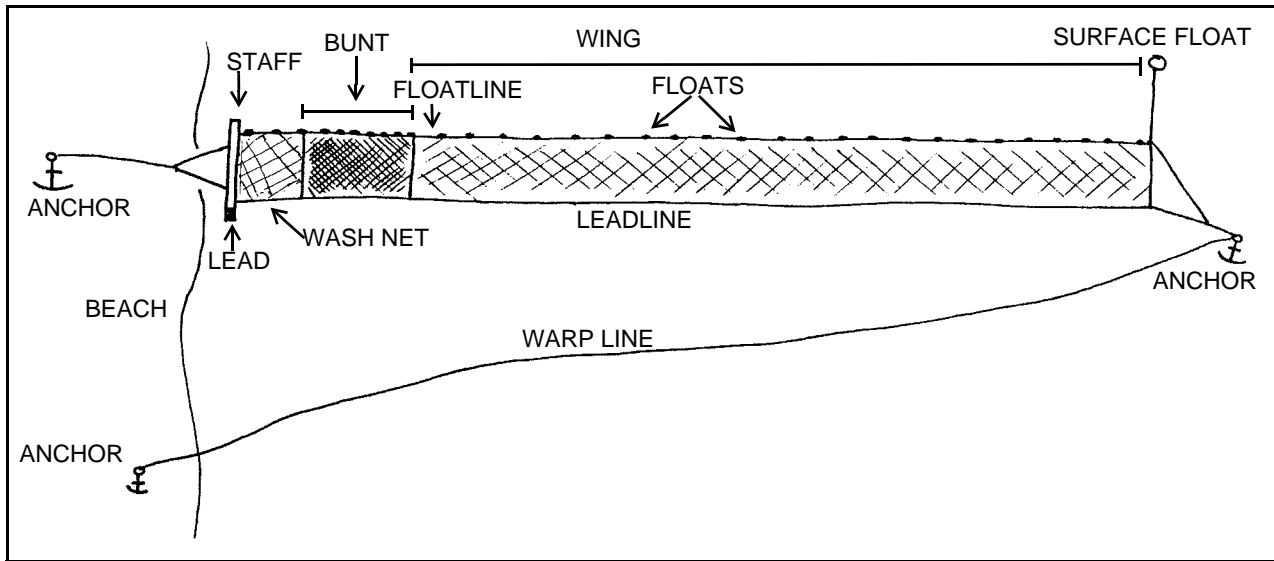
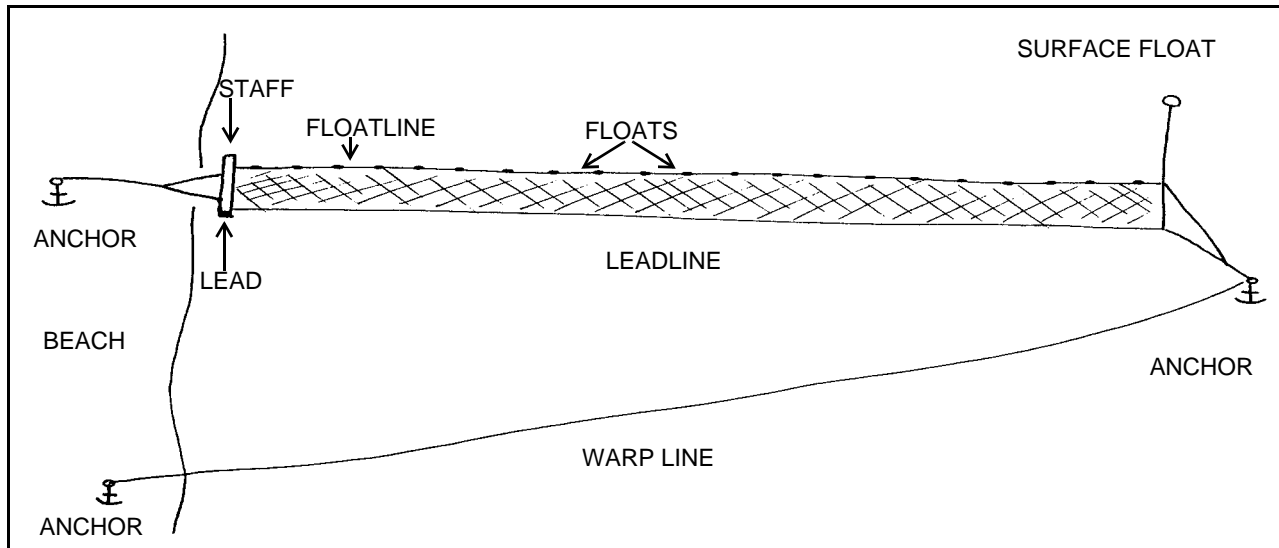


Figure 2: Beach anchored gillnet.

(Courtesy of M. Tork, U.S. National Marine Fisheries Service)



**BEACH SEINE GEAR / BEACH ANCHORED GILLNET GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBBSG OBBSW 05/01/13**

GEAR CODE <input type="text"/> <input type="text"/> <input type="text"/>	GEAR NUMBER(S) <b>1</b>	OBS/ TRIP ID <b>A</b> DATE LAND (mm/yy) <b>B</b> / <input type="text"/> PAGE # <b>C</b> <input type="text"/> OF <input type="text"/>	NUMBER OF NETS <b>2</b>
<b>BUNT CHARACTERISTICS:</b> USED? No (0) <input type="text"/> Yes (1) <input type="text"/>		<b>WING CHARACTERISTICS:</b> Net # <b>32</b> Net # <input type="text"/> Net # <input type="text"/> Net # <input type="text"/> Net # <input type="text"/>	
LENGTH <b>4</b> <input type="text"/> ft HEIGHT <b>5</b> <input type="text"/> ft MESH SIZE <b>6</b> <input type="text"/> in (circle one) A / E <b>7</b> MESH COUNT, VERTICAL <b>8</b> <input type="text"/> HANGING RATIO <b>9</b> / <input type="text"/> TWINE SIZE <b>10</b> <input type="text"/> (circle one) A / E <b>11</b> # STRANDS <b>12</b> <input type="text"/> COLOR CODE <b>13</b> <input type="text"/> NET MATERIAL <b>14</b> Unknown 0 <input type="text"/> Nylon 1 <input type="text"/> Other 9 <input type="text"/> <b>14A</b> <input type="text"/>	MEASUREMENTS WASH NET <b>16</b> 0 <input type="text"/> 1 <input type="text"/> Length <b>17</b> <input type="text"/> ft FLOATS <b>18</b> 0 <input type="text"/> 1 <input type="text"/> Dist Between <b>19</b> <input type="text"/> ft ANCHOR (S) <b>20</b> 0 <input type="text"/> 1 <input type="text"/> Number <b>21</b> <input type="text"/> Type <b>22</b> <input type="text"/> Unknown Danforth-style 1 <input type="text"/> Dead Weight 2 <input type="text"/> Combination 8 <input type="text"/> Other 9 <input type="text"/> Actual 1 <input type="text"/> <b>24</b> <input type="text"/> Estimated 2 <input type="text"/> LEADLINE WEIGHT <b>25</b> <input type="text"/> lbs / net <b>22A</b> <input type="text"/>	LENGTH (ft) <b>33</b> <input type="text"/> HEIGHT (ft) <b>34</b> <input type="text"/> MESH SIZE (in) <b>35</b> <input type="text"/> A / E (circle) A / E <b>36</b> A / E A / E A / E A / E MESH COUNT, VERTICAL <b>37</b> <input type="text"/> HANGING RATIO / <b>38</b> / / / / TWINE SIZE <b>39</b> <input type="text"/> A / E (circle) A / E <b>40</b> A / E A / E A / E A / E # STRANDS <b>41</b> <input type="text"/> COLOR CODE <b>42</b> <input type="text"/> NET MATERIAL <b>43</b> Unknown 0 <input type="text"/> Nylon 1 <input type="text"/> Other 9 <input type="text"/> <b>43A</b> <input type="text"/>	Net # <input type="text"/> Net # <input type="text"/> Net # <input type="text"/> Net # <input type="text"/> Net # <input type="text"/>
<b>FLOATLINE MATERIAL</b> Unknown <b>15</b> 0 <input type="text"/> Floating (foam core) 1 <input type="text"/> Twisted polypropylene 2 <input type="text"/> Other 9 <input type="text"/> <b>15A</b> <input type="text"/>		<b>COMMENTS</b> COLOR CODES Unknown 00 Clear 01 White 02 Pink 03 Black 04 Green 05 Blue 06 Multi-color 07 Red 08 Orange 09 Purple 10 Combination 98 Other 99	



# BEACH SEINE GEAR / BEACH ANCHORED GILLNET GEAR CHARACTERISTICS LOG

## NMFS FISHERIES OBSERVER PROGRAM

### OBBSG OBBSW 05/01/13

OBS/ TRIP ID	A99011-
DATE LAND (mm/yy)	12 / 13
PAGE #	1 OF 1

GEAR CODE	070	GEAR NUMBER(S)	1	NUMBER OF NETS	2																																																																														
<p><b>BUNT CHARACTERISTICS:</b> USED? No (0) Yes(1) <input checked="" type="checkbox"/> <b>WASH NET</b> 0 <input checked="" type="checkbox"/> 1 Length _____ ft</p> <p><b>HEIGHT</b> _____ ft <b>FLOATS</b> 0 _____ 1 <input checked="" type="checkbox"/> Dist Between <b>5</b> ft</p> <p><b>MESH SIZE</b> <b>4.0</b> in A / (E) <b>ANCHOR (S)</b> 0 _____ 1 <input checked="" type="checkbox"/> Type _____</p> <p><b>MESH COUNT, VERTICAL</b> _____ <b>Weight (total)</b> <b>110</b> lb Danforth-style 1 _____ Dead Weight 2 _____ Combination 8 <input checked="" type="checkbox"/> Other 9 _____</p> <p><b>HANGING RATIO</b> _____ 1 / 2 <b>Estimated</b> 2 <input checked="" type="checkbox"/> <b>danforth &amp; sandbags</b> _____ lbs / net</p> <p><b>TWINE SIZE</b> <b>10</b> (circle one) A / (E) <b>LEADLINE WEIGHT</b> <b>37</b> lbs / net</p> <p><b># STRANDS</b> _____ 3 <b>MM DETERRENT DEVICES USED?</b></p> <p><b>ACTIVE</b> 0 <input checked="" type="checkbox"/> 1 _____ Brand(s) _____</p> <p>Number _____ Unknown _____ Dukane 1 _____ Airmar 2 _____ Fumunda 3 _____ Combination 8 _____ Other 9 _____</p> <p><b>FREQUENCY</b> _____ kHz <b>PASSIVE</b> 0 <input checked="" type="checkbox"/> 1 _____ Number _____</p>																																																																																			
<p><b>WING CHARACTERISTICS:</b> Net # <b>1</b> Net # <b>2</b> Net # _____ Net # _____</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>LENGTH (ft)</td> <td style="text-align: center;">200</td> <td>Net #</td> <td style="text-align: center;">250</td> <td>Net #</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>HEIGHT (ft)</td> <td style="text-align: center;">10.0</td> <td>Net #</td> <td style="text-align: center;">12.5</td> <td>Net #</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>MESH SIZE (in)</td> <td style="text-align: center;">4.50</td> <td>Net #</td> <td style="text-align: center;">4.25</td> <td>Net #</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>A / E (circle)</td> <td style="text-align: center;">A / (E)</td> <td>A / E</td> <td style="text-align: center;">A / E</td> <td>A / E</td> <td style="text-align: center;">A / E</td> </tr> <tr> <td>MESH COUNT, VERTICAL</td> <td style="text-align: center;">25</td> <td>Net #</td> <td style="text-align: center;">20</td> <td>Net #</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>HANGING RATIO</td> <td style="text-align: center;">1 / 2</td> <td>Net #</td> <td style="text-align: center;">1 / 2</td> <td>Net #</td> <td style="text-align: center;">/ /</td> </tr> <tr> <td>TWINE SIZE</td> <td style="text-align: center;">10</td> <td>Net #</td> <td style="text-align: center;">10</td> <td>Net #</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>A / E (circle)</td> <td style="text-align: center;">A / (E)</td> <td>A / E</td> <td style="text-align: center;">A / E</td> <td>A / E</td> <td style="text-align: center;">A / E</td> </tr> <tr> <td># STRANDS</td> <td style="text-align: center;">1</td> <td>Net #</td> <td style="text-align: center;">1</td> <td>Net #</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>COLOR CODE</td> <td style="text-align: center;">05</td> <td>Net #</td> <td style="text-align: center;">02</td> <td>Net #</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>NET MATERIAL</td> <td style="text-align: center;">Unknown</td> <td>Net #</td> <td style="text-align: center;">0</td> <td>Net #</td> <td style="text-align: center;">0</td> </tr> <tr> <td></td> <td style="text-align: center;">Nylon</td> <td>Net #</td> <td style="text-align: center;">1 <input checked="" type="checkbox"/></td> <td>Net #</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td style="text-align: center;">Other</td> <td>Net #</td> <td style="text-align: center;">9</td> <td>Net #</td> <td style="text-align: center;">9</td> </tr> </table>						LENGTH (ft)	200	Net #	250	Net #	_____	HEIGHT (ft)	10.0	Net #	12.5	Net #	_____	MESH SIZE (in)	4.50	Net #	4.25	Net #	_____	A / E (circle)	A / (E)	A / E	A / E	A / E	A / E	MESH COUNT, VERTICAL	25	Net #	20	Net #	_____	HANGING RATIO	1 / 2	Net #	1 / 2	Net #	/ /	TWINE SIZE	10	Net #	10	Net #	_____	A / E (circle)	A / (E)	A / E	A / E	A / E	A / E	# STRANDS	1	Net #	1	Net #	_____	COLOR CODE	05	Net #	02	Net #	_____	NET MATERIAL	Unknown	Net #	0	Net #	0		Nylon	Net #	1 <input checked="" type="checkbox"/>	Net #	1		Other	Net #	9	Net #	9
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<p><b>FLOATLINE MATERIAL</b></p> <p>Unknown _____ 0 _____</p> <p>Floating (foam core) _____ 1 _____</p> <p>Twisted polypropylene _____ 2 <input checked="" type="checkbox"/> _____</p> <p>Other _____ 9 _____</p>																																																																																			
<p><b>COLOR CODES</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Unknown</td> <td>00</td> <td>Multi-color</td> <td>07</td> </tr> <tr> <td>Clear</td> <td>01</td> <td>Red</td> <td>08</td> </tr> <tr> <td>White</td> <td>02</td> <td>Orange</td> <td>09</td> </tr> <tr> <td>Pink</td> <td>03</td> <td>Purple</td> <td>10</td> </tr> <tr> <td>Black</td> <td>04</td> <td>Combination</td> <td>98</td> </tr> <tr> <td>Green</td> <td>05</td> <td>Other</td> <td>99</td> </tr> <tr> <td>Blue</td> <td>06</td> <td></td> <td></td> </tr> </table>						Unknown	00	Multi-color	07	Clear	01	Red	08	White	02	Orange	09	Pink	03	Purple	10	Black	04	Combination	98	Green	05	Other	99	Blue	06																																																				
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Blue	06																																																																																		
<p><b>COMMENTS</b></p> <p style="text-align: center;"><b>Anchors: 2 (25 lb) danforths on beach and 2 (30 lb) sand bags on end of net</b></p> <p style="text-align: center;"><b>LL Weight: 50 lbs / 600 ft * 450 ft = 37.5 lbs</b></p>																																																																																			

**BEACH SEINE GEAR / BEACH ANCHORED GILLNET GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBBSG OBBSW 05/01/13**

OBS/ TRIP ID	
DATE LAND (mm/yy)	/ /
PAGE #	OF

GEAR CODE		GEAR NUMBER(S)		NUMBER OF NETS	
<b>BUNT CHARACTERISTICS:</b> USED? No (0) Yes(1)		<b>GEAR CHARACTERISTICS:</b> USED? NO YES		<b>WING CHARACTERISTICS:</b> Net # Net # Net # Net #	
LENGTH _____ ft	WASH NET 0 ___ 1 ___ Length _____ ft	LENGTH (ft)			
HEIGHT _____ ft	FLOATS 0 ___ 1 ___ Dist Between _____ ft	HEIGHT (ft)			
MESH _____ in (circle one) A / E	ANCHOR (S) 0 ___ 1 ___	MESH SIZE (in)			
MESH COUNT, VERTICAL _____	Number _____ Type Unknown 0 ___ Danforth-style 1 ___ Dead Weight 2 ___ Combination 8 ___ Other 9 ___	A / E (circle)	A / E	A / E	A / E
HANGING RATIO _____ / _____	Weight (total) _____ lb	MESH COUNT, VERTICAL			
TWINE _____ (circle one) A / E	Actual 1 ___ Estimated 2 ___	HANGING RATIO	/	/	/
# STRANDS _____	LEADLINE WEIGHT _____ lbs / net	TWINE SIZE			
COLOR CODE _____	MM DETERRENT DEVICES USED?	A / E (circle)	A / E	A / E	A / E
NET MATERIAL _____ Unknown 0 ___ Nylon 1 ___ Other 9 ___	ACTIVE 0 ___ 1 ___ Brand(s) _____ Unknown 0 ___ Dukane 1 ___ Airmar 2 ___ Furunda 3 ___ Combinator 8 ___ Other 9 ___	# STRANDS			
FLOATLINE MATERIAL _____	PASSIVE 0 ___ 1 ___ Number _____	COLOR CODE			
Unknown 0 ___		NET MATERIAL	Unknown 0 ___ Nylon 1 ___ Other 9 ___	0 ___ 1 ___ 9 ___	0 ___ 1 ___ 9 ___
Floating (foam core) 1 ___		COMMENTS			
Twisted polypropylene 2 ___		COLOR CODES	Unknown 00 Multi-color 07 Clear 01 Red 08 White 02 Orange 09 Pink 03 Purple 10 Black 04 Combinator 98 Green 05 Other 99 Blue 06		
Other 9 ___					

## Beach Seine/Beach Anchored Gillnet Haul Log

This log contains detailed questions about the setting and hauling of gear, and the haul's catch. Complete a new log after each hauling of gear.

The species summary section of this log should be used to record catches of all species (some exceptions listed below), debris and shells according to the sampling protocol being followed during that particular observation. For more information, refer to the Fishery Sampling Priority Section of the NEFSC Observer Program Biosampling Manual. If the gear is hauled onto the beach, then the observer will record complete catch data, *i.e.* both kept and discarded species information, and should indicate "Yes (1)" for HAUL OBSERVED? (G). If the gear is "fished-over" (the dory is used to check the gear while it is in the water), then the observer will record only species information on the kept catch and should indicate "No (0)" for HAUL OBSERVED? (G). The observer will conduct marine mammal haul watches during **every haul** for which the observer is present and should indicate "Yes (1)" for MARINE MAMMAL HAUL WATCH?(#1). However, if the gear is "fished-over", the observer should record "No (0)" for MARINE MAMMAL HAUL WATCH?(#1).

If any pelagic species (*i.e.* swordfish, billfish, large tuna species, sharks, *etc.*), sturgeons, rays or tagged fish are caught by the gear, an Individual Animal Log must be completed to provide information on each animal. This Beach Seine/Beach Anchored Gillnet Haul Log will serve as a cover sheet for any Individual Animal Log(s) corresponding to this haul that may follow. All marine mammals, sea turtles and sea birds caught by the gear must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Beach Seine/Beach Anchored Gillnet Haul Log, making sure to complete all of the Header Information (A–C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a "No/Yes" question, record a dash (—) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that a field was not skipped, but

the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** Time that gear hauling (retrieving) begins, whether it is the warp line or the actual net

**Haul End:** Time that the last piece of the gear is pulled up onto the beach.

### Instructions

For instructions on completing fields A–Y, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

#### 1. MARINE MAMMAL HAUL WATCH?:

Record whether a protected species haul watch is conducted during this haul by placing an "X" next to the appropriate code:

0=No.

1=Yes.

*NOTE:* These watches will be conducted for **every** haul unless gear is "fished over" and observer cannot see catch.

**2. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

000 = Unknown

210 = No gear damage, or very few small, scattered holes.

220 = Small number of torn meshes, not exceeding 25% of any one net, each net may be torn slightly.

230 = Less than 50% of the nets have less than 50% of the meshes torn or balled up.

240 = 50% or more of the nets have less than 50% of the meshes torn or balled up.

250 = Less than 50% of the nets are obstructed by a large object.

260 = 50% or more of the nets are obstructed by a large object.

270 = Less than 50% of the nets have 50% or more of the meshes torn or balled up.

280 = 50% or more of the nets have 50% or more of the meshes torn or balled up.

290 = Nets in the string totally balled up.

990 = Other, specify in COMMENTS.

### Haul Information

**3. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this haul began and ended.

**4. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000–2359), that this haul began and ended, *i.e.* when hauling of the shoreward warp line commences (Haul Begin) and when the last portion of the net exit(s) the surf zone (Haul End).

**5. ESTIMATED SOAK DURATION:** Record, to the nearest tenth of an hour, the amount of time that the gear for this haul is in the water fishing. This is the amount of time from when the gear is secured to the beach after complete deployment, until the hauling of the shoreward warp line commences (Haul Begin). This time may be obtained from the operator if the setting of the gear is not witnessed.

**6. END WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface sea water temperature when this haul **ended**.

*NOTE:* If this temperatures is obtained in Celsius, use Appendix I: Conversion Tables to convert it to Fahrenheit.

*NOTE:* Use a thermometer provided by FSB or observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a **HAUL END WATER TEMPERATURE** **must** be recorded.

### Number of Nets

**7. SET:** Record the **total** number of nets that are used for this set. This number should agree with the number recorded in **NUMBER OF NETS** on the corresponding Beach Seine Gear/Beach Anchored Gillnet Characteristics Log(s).

*NOTE:* If a beach seine is used, do not count the wash net or bunt.

**8. HAULED:** Record the **total** number of nets that are hauled back from this set. If a net is partially hauled, round this number to the nearest whole net.

*Example:* If 200 feet of a 300 feet net is hauled record one net hauled.

*NOTE:* Record a zero “0” if less than half of one net of a string is hauled and there is **no** catch. Record a one “1” if less than half of one net of a string is hauled and there is catch.

**9. LOST:** Record the **total** number of nets that are lost from this set. If this number differs from **NUMBER OF NETS SET** minus **NUMBER OF NETS HAULED** record the reason(s) in **COMMENTS**.

### Number of Marine Mammal Deterrent Devices

#### ACTIVE:

**10. HAULED:** Record the number of active marine mammal deterrent devices (*i.e.* pingers) on the gear as it is hauled. This number should agree with the number recorded in **NUMBER OF ACTIVE MARINE MAMMAL DETERRENT DEVICES USED** on the corresponding Beach Seine Gear/Beach Anchored Gillnet Characteristics Log(s).

*NOTE:* If gear is partially hauled, record the number of marine mammal deterrent devices **only** on the portion of gear hauled.

*NOTE:* These numbers should reflect the number of these devices on the gear regardless of whether or not it is believed these devices are actually working. Information of this nature should be recorded in the **COMMENTS**.

**11. LOST:** Record the number of active marine mammal deterrent devices (*i.e.* pingers) lost from this set. If this number differs from **NUMBER OF ACTIVE MARINE MAMMAL DETERRENT DEVICES USED** minus **NUMBER OF ACTIVE MARINE MAMMAL DETERRENT DEVICES HAULED**, then record the reason(s) in **COMMENTS**.

*NOTE:* Do not include devices not seen because gear was partially hauled.

#### PASSIVE:

**12. HAULED:** Record the number of passive marine mammal deterrent devices on the gear as it is hauled. This number should agree with the number recorded in **NUMBER OF PASSIVE MARINE MAMMAL DETERRENT DEVICES USED** on the corresponding Beach Seine Gear/Beach Anchored Gillnet Characteristics Log(s).

*Example:* Net material that is designed to be more acoustically visible to marine mammals.

*NOTE:* If some or all of the nets in the gear are made from material that is designed to be more acoustically visible to marine mammals, record the **number of nets** within the gear made from this material.

*NOTE:* If gear is partially hauled, record the number of marine mammal deterrent devices **only**

**on** the portion of gear hauled.

**13. LOST:** Record the number of passive marine mammal deterrent devices lost from this set. If this number differs from NUMBER OF PASSIVE MARINE MAMMAL DETERRENT DEVICES USED minus NUMBER OF PASSIVE MARINE MAMMAL DETERRENT DEVICES HAULED, then record the reason(s) in COMMENTS.

*NOTE:* Do not include devices not seen because gear was partially hauled.

### **Comments**

Record any additional information regarding this haul, *e.g.*, unusual species caught, area of fishing activity, *etc.* If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with it's corresponding field name.

**BEACH SEINE / BEACH ANCHORED GILLNET HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBBSH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID <b>A</b>		DATE LAND (mm/yy) <b>B</b> / /		PAGE # <b>C</b> OF <b>C</b>	
GEAR CODE <b>D</b>	GEAR # <b>E</b>	HAUL # <b>F</b>	HAUL OBS? NO <b>0</b> YES <b>1</b> <b>G</b>	MM WATCH? NO <b>0</b> YES <b>1</b>	CATCH? NO <b>0</b> YES <b>1</b> <b>I</b>
INC TAKE? NO <b>0</b> YES <b>1</b> <b>J</b>	WEATHER CODE <b>K</b>		WIND DIRECTION <b>M</b> o		WAVE HEIGHT <b>N</b> ft
SPEED <b>L</b> kn		WATER TEMP <b>6</b> o		TARGET SPECIES <b>Q</b>	
EST SOAK DUR <b>5</b> hrs		EST SOAK DUR <b>5</b> hrs		CODE(S) <b>R</b>	
LATTITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)		STATION 1 <b>9960-</b>		STATION 2 <b>9960-</b>	
LATTITUDE/Bearing		LONGITUDE/Bearing		P <b>P</b>	
TIME (24 hrs) <b>4</b>		NUMBER OF NETS		IF MM DETERRENTS USED	
SET <b>7</b>		ACTIVE		PASSIVE	
HAULED <b>8</b>		HAULED <b>10</b>		HAULED <b>12</b>	
LOST <b>9</b>		LOST <b>11</b>		LOST <b>13</b>	

SPECIES	NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD	SPECIES NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE
1	<b>S</b>	<b>T</b>	<b>V</b>	<b>W</b>	<b>X</b>	<b>Y</b>						
2												
3												
4												
5												
6												
7												
8												
9												
10												

**BEACH SEINE / BEACH ANCHORED GILLNET HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBBSH OBHAU OBSPP 05/01/13**

OBS/TRIP ID	A99011-
DATE LAND (mm/yy)	06 / 13
PAGE #	1 OF 2

GEAR CODE	070	GEAR #	01	HAUL #	001	HAUL OBS?	NO 0 YES 1 <input checked="" type="checkbox"/>	MM WATCH?	NO 0 YES 1 <input checked="" type="checkbox"/>	CATCH?	NO 0 YES 1 <input checked="" type="checkbox"/>	INC TAKE?	NO 0 <input checked="" type="checkbox"/> YES 1 _____	WEATHER CODE	02	SPEED	7 kn	WIND DIRECTION	45	WAVE HEIGHT	1 ft	GEAR COND CODE	210
HAUL INFO	DATE (mm/dd/yy)	06 / 26 / 13	TIME (24 hrs)	05 : 16	06 : 03	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)																	
BEGIN	Station 1	9960-	Latitude/Bearing	35 ° 13.8	75 ° 32.8																		
END	Station 2	9960-	Latitude/Bearing																				

COMMENTS	EST SOAK DUR	14.3 hrs	WATER TEMP	61.0 F	TARGET SPECIES	Weakfish	CODE(S)	
Net set approximately at 15:00 yesterday.	NUMBER OF NETS	2	IF MM DETERRENTS USED	ACTIVE	PASSIVE			
Fishing in Hatteras Bight.	SET	2	HAULED					
	HAULED	2	LOST					
	LOST	0						

SPECIES	NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD	SPECIES NAME	CODE	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE
1	Weakfish		172	100	R	01		11				
2	Bluefish		75	100	R	01		12				
3	Northern Kingfish		18	100	R	01		13				
4	Butterfish		8	100	R	01		14				
5	Atlantic Menhaden		10	001	R	01		15				
6	Horseshoe Crab		12	001	R	01		16				
7								17				
8								18				
9								19				
10								20				

**BEACH SEINE / BEACH ANCHORED GILLNET HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBBSH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		DATE LAND (mm/yy)		PAGE #		WAVE HEIGHT		GEAR COND CODE	
		/		OF					
GEAR CODE	GEAR #	HAUL #	HAUL OBS?	MM WATCH?	CATCH?	INC TAKE?	WEATHER CODE	SPEED	WIND DIRECTION
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1			
HAUL INFO DATE (mm/dd/yy)		TIME (24 hrs)	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)		EST SOAK DUR		WATER TEMP		TARGET SPECIES
BEGIN	/ /	:	Station 1	Station 2	Latitude/Bearing	Longitude/Bearing	hrs	o	kn
END	/ /	:	9960-	9960-			.	F	ft
COMMENTS		NUMBER OF NETS		IF MM DETERRENTS USED		ACTIVE		PASSIVE	
		SET		HAULED		LOST			
		HAULED		LOST					

SPECIES NAME	CODE	POUNDS	DISP CODE	WEIGHT ESTIMATION		SPECIES NAME	CODE	POUNDS	DISP CODE	WEIGHT ESTIMATION METHOD	
				D/R	METHOD					D/R	CODE
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											



## Longline Gear Characteristics Log

This log contains detailed questions about the gear fished; use it to document the use and configuration of all hook and line gears. This includes longline gear as well as other line fishing methods not commonly used, but periodically deployed (*e.g.* rod and reel, handline, troll line). There are differences in the protocols for recording the characteristics of longline gear compared with other line fishing gears.

### Demersal Longline (Bottom Longline, Tub Trawl)

Changes in gear configuration (*e.g.*, number of hooks, number of floats, distance between gangions, mainline material, *etc.*) requires the completion of a new Longline Gear Characteristics Log. The following fields should be filled out in the Demersal Longline fishery: A, B, C, D, 1–48, 57–58, 60. Leave all other fields blank.

### Pelagic Longline

Changes in numbers of items used such as hooks and floats are factored into the estimated average and do not require a separate Longline Gear Characteristics Log. A change in gear configuration (*i.e.*, use of light sticks, hooks between floats, or fishing depth) towards another target species does require the completion of a new Longline Gear Characteristics Log. The following fields should be filled out in the Pelagic Longline fishery: A, B, C, D, 1–60 (ALL FIELDS).

*Example:* The first two hauls use gears (“strings”) with light sticks and target swordfish. Number these gears “1” and record their characteristics on a single Longline Gear Characteristics Log. The remaining five hauls do not use lightsticks and target bigeye tuna. Complete a second gear log numbered gear number “2”.

### Other Line Fishing Gears (Rod & Reel, Trolling Gears)

For other line fishing gears, assign each separate physical gear its own gear number. If there are physical gears with the same configuration used, complete only one Longline Gear Characteristics Log and record the consecutively assigned numbers of all gears with the same configuration. For these gears, complete only the following fields on the Longline

Gear Characteristics Log: A, B, C, D, 1, 2, 5–16. Leave all other fields blank.

### ASM Trips - All Gear Types

Complete all fields on the ASM Longline Gear Characteristics Log. If the vessel has two or more identical gears which are hauled separately, complete a separate Longline Gear Characteristics Log for each individual gear.

If a gear is set out and hauled more than once during a trip, do not complete a new Longline Gear Characteristics Log for the multiple hauls. Rather, record on the Longline Haul Log which gear number is being hauled.

In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9”, on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted.

Become familiar with the following definitions.

### Definitions

#### Gear

Demersal Longline: A longline string composed of one or more “tubs” that fishes at or near the ocean bottom, uniquely configured for a specific target species, or a single mainline of steel cable with snap-on hooks.

Pelagic Longline: A longline string composed of several sections and supported in the water column by various sized floats, uniquely configured for a specific target species.

Rod and Reel and Trolled Gears: An individual line with hooks and bait attached.

#### Gear Types

Longline: A mainline (“the string”) with spaced gangion lines attached which have baited

hooks on the free end. The mainline is divided into sections of hook and float arrangements which are distinguished by a high flyer, radio beacon, or beeper buoy. **This may include multiple “tubs” of gear tied together.**

**Handline:** A weight, leader, and at least one hook that may be baited, attached to a line. Handlines are not always held during fishing (*e.g.*, rod and reel). Fishing vessels will sometimes use a rod and reel to supplement the primary gear’s catch.

**Jig:** A type of fishing lure designed to resemble prey species. The typical build up of a jig consists of a heavy head with a ring to attach the line. Connected to the head is a barb.

**Auto Jig:** An electronic mechanism that creates a vertical bobbing motion in the water column (jigging) to one or more artificial lures attached to a line. This gear should be distinguished from other electronic reels that do not impart a regular up and down jigging motion to the line.

**Troll line:** One or more lines with hooks and bait or lures attached, that are towed behind a moving boat.

**Section:** Each portion of the entire longline string beginning with a high flyer, radio beacon, or beeper buoy and ending with the next high flyer, radio beacon, or beeper buoy.

**Gangion:** A line and hook attached to the mainline. Gangions may vary in length and have up to 2 swivels, one below an AK snap (if present) and possibly another one above the hook. Fishermen may sometimes refer to these as leaders.

**Leader:** A relatively short section of mono or steel wire placed between a swivel and the hook. It reduces bite offs, makes hook replacement easier and helps to maintain gangion length. **Leader lengths should not be included in any gangion measurements.**

### Hook Types

**J-Hook:** A “standard” hook, forged with a very strong bend. This hook is relatively thick and not likely to bend out of shape.

**Circle Hook:** A type of hook that promotes healthy catch and release practices. The design of the hook itself, when used properly, prevents fish from being hooked in the gut. These hooks may also prevent the bycatch of sea turtles.

**Partial Circle Hook:** A type of hook that is typically used with live bait. These hooks will bend if caught on an underwater structure, are designed not to straighten once a fish is hooked.

**Buoyline:** A line that connects the surface system to the gear (anchor or line) fishing in the water below.

**Surface System:** The configuration of high flyers and buoys/floats at the surface of the water. See Figure 2.

**Weak Link:** A breakable component of gear that will part when subjected to a certain tension load. Common types of weaklinks are:

- *rope of appropriate breaking strength* - will break at a certain tension;
- *off the shelf* - commercially available and stamped with the breaking weight;
- *overhand knot* - a line that is cut and retied back together with an overhand knot; and
- *hog rings* - steel rings which are clamped down on a line that can be released with a certain amount of tension.

**NOTE:** Please reference the NOAA Northeast Regional Office's outreach supplement titled 'Techniques for Making Weak Links and Marking Buoy Lines' for an explanation of weak link types.

**Dropline:** A line that connects the floats on the water’s surface to the mainline. This may also be called a floatline and is not generally used in the Northeast demersal longline fishery.

**Crucifier:** A mechanical hook removal component made up of 2 vertical steel rods.

### Instructions

For instructions on completing the Header Fields **A, B, and C** and **GEAR CODE (D)** refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**\*1. GEAR NUMBER:** Record the consecutive number assigned to each uniquely configured gear hauled and for which characteristics are described. See the introduction and definitions for more information on defining and numbering gears.

*Example:* There are 5 rod and reels on the vessel, 4 of which are identical. The 5<sup>th</sup> rod and reel has one additional hook. This would require the completion of 2 separate gear characteristic logs, one for gear #'s 1, 2, 3, and 4 and one

for gear # 5.

*Example:* If there are 3 longline strings and 2 rod and reels the proper way of numbering these gears is #'s 1, 2, and 3, on one gear characteristics log, and #'s 4 and 5 on a second (*i.e.*, there should only be **ONE** gear # 1).

**\*2. NUMBER OF HOOKS:** Record the **TOTAL** number of individual hooks set in this gear.

*NOTE:* If a hook is used that has more than one point, it is still considered one hook.

**3. SECTION LENGTH:** Record the average length of a section in this longline gear to the nearest tenth of a nautical mile. This value can be calculated by dividing the average mainline length by the average **NUMBER OF SECTIONS (#4)** fished.

**4. NUMBER OF SECTIONS:** Record the number of sections in this gear.

*NOTE:* In the demersal longline fishery one section may consist of several “tubs” of gear tied together.

### Mainline

**5. NUMBER OF STRANDS:** Record the number of strands used in the mainline material.

*NOTE:* If “multi-strand” and the strands are not counted then record a dash (—) and **COMMENT**.

**6. DIAMETER:** Record, to the nearest tenth of a millimeter, the diameter of the mainline.

**7. TEST:** Record, in whole pounds, the test, or dry breaking strength, of the mainline. This information may be obtained from the captain.

**8. MATERIAL:** Record the material of the mainline by entering the appropriate code:

- 0 = Unknown.
- 1 = Monofilament Nylon.
- 2 = Cotton.
- 3 = Steel Wire.
- 4 = Multi-strand Nylon.
- 9 = Other, record the mainline material in **COMMENTS**

**9. COLOR:** Record the color of the mainline by entering the appropriate code:

- 00 = Unknown.
- 01 = Clear.
- 02 = White.
- 03 = Pink.

04 = Black.

05 = Green.

06 = Blue.

07 = Multi-color, record all mainline colors in **COMMENTS**

08 = Red.

99 = Other, record the mainline color in **COMMENTS**.

### Leaders

**10. USED?:** Record whether leaders are used between the gangions and the hooks by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**11. LENGTH:** Record, in whole feet, the length of the leaders used in this gear.

**12. TEST:** Record, in whole pounds, the test, or dry breaking strength, of the leaders used in this gear. This information may be obtained from the captain.

**13. MATERIAL:** Record the material of the leaders used in this gear by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Monofilament Nylon.

3 = Steel Wire.

9 = Other, record the leader material in **COMMENTS**.

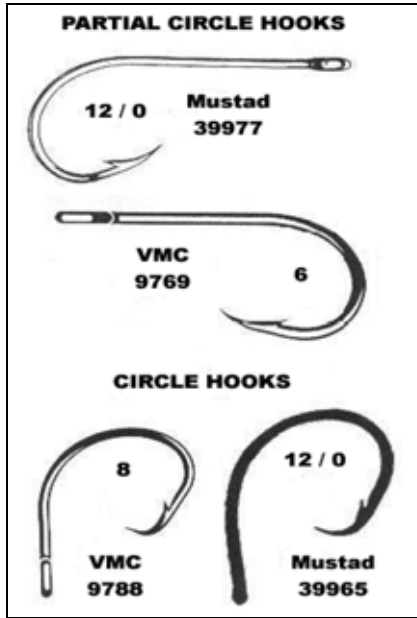
### Hooks

*NOTE:* Primary describes the most used hook type, and secondary describes the second most used hook type.

**\*14. BRAND:** Record the brand names of the primary and secondary hooks used in this gear. This information may usually be found on the box in which the hooks were purchased, or obtained from the captain. If there is no secondary hook type used, record a dash (—). If there is a third hook type used, record its brand in **COMMENTS**.

*Example:* Mustad®; see Figure 1.

Figure 1: Common hook types seen in Northeast demersal longline fishery.



**\*15. MODEL/PATTERN NUMBER:** Record the model or pattern number of the primary and secondary hooks used in this gear. This information may usually be found on the box in which the hooks were purchased, or obtained from the captain. If there is no secondary hook type used, record a dash (—). If there is a third hook type used, record its model/pattern number in COMMENTS.

*Example:* 39963WS.

**NOTE:** If possible record the hook type (circle hook, J-hook, etc.) in COMMENTS.

**\*16. SIZE:** Record the size of the primary and secondary hooks used in this gear. This information may usually be found on the box in which the hooks were purchased, or obtained from the captain. If there is no secondary hook type used, record a dash (—). If there is a third hook type used, record its size in COMMENTS.

*Example:* 13/0 (pronounced “thirteen aught”).

**Anchor**

**17. USED?:** Record whether any anchor(s) is (are) used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

**18. WEIGHT:** Record, in whole pounds, the **total** weight of the anchor(s) used to hold this gear in place. This information may be obtained from the captain.

**19. WEIGHT—ACTUAL OR ESTIMATED:**

Record whether the weight recorded in #18 is an actual or estimated weight by placing an “X” next to the appropriate code:

- 1 = Actual.
- 2 = Estimated.

**NOTE:** A manufacturer weight stamped on the anchor is considered an actual weight.

**Gangions**

**20. DISTANCE BETWEEN:** Record, in whole feet, the **average** distance along the mainline between gangions used in this gear. This information may be obtained from the captain.

**21. DIAMETER:** Record, to the nearest tenth of a millimeter, the diameter of the gangions used in this gear. This information may be obtained from the captain.

**22. TEST:** Record, in whole pounds, the test, or dry breaking strength, of the gangions used in this gear.

**23. LENGTH:** Record, to the nearest foot, the lengths of the gangions, for up to two different lengths. If there are more than two different lengths of gangions used, record the other lengths in COMMENTS. Gangion length does not include the leader length.

**24. COUNT:** Record the number of gangions for each length used.

**25. MATERIAL:** Record the material of the gangions, by entering the appropriate code:

- 0 = Unknown.
- 1 = Monofilament Nylon.
- 2 = Cotton.
- 4 = Multi-strand Nylon.
- 9 = Other, record the gangion material in COMMENTS.

**26. COLOR:** Record the color of the gangions used in this gear by entering the appropriate code:

- 00 = Unknown.
- 01 = Clear.
- 02 = White.
- 03 = Pink.
- 04 = Black.
- 05 = Green.
- 06 = Blue.
- 08 = Red.
- 98 = Combination, record all gangion colors in

## COMMENTS.

99 = Other, record the gangion color in COMMENTS.

**Buoyline**

**27. NUMBER OF BUOYLINES:** Record the number of buoylines used on this gear.

**28. LENGTH:** Record, in whole feet, the average length of the buoyline(s) used on this gear. This measurement should not include groundlines if groundlines are used. This information may be obtained from the captain.

**29. TYPE CODE:** Indicate the type of buoyline(s) used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Sinking / Neutrally Buoyant.

2 = Floating.

8 = Combination, record all buoyline types used in the COMMENTS.

9 = Other, record buoyline type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**30. PERCENT OF TYPE:** Record the average percent of buoyline type (sinking/ neutrally buoyant to floating) used on this gear. This information may be obtained from the captain.

*NOTE:* This field should only be completed if Combination (8) is selected for Buoyline Type Code (#29), otherwise dash '—' the field.

*Example:* The captain states that he has 40 fathoms of sinking line and 20 fathoms of floating line. This should be recorded as “67%/33%”.

**31. DIAMETER:** Record, in inches, the average fractional diameter of the buoyline(s) used on this gear. This information may be obtained from the captain.

*Example:* 5/8 inches.

**32. MARK?:** Indicate if the buoyline has one 4” colored mark mid-way on the buoyline by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**Groundline**

**33. USED?:** Record whether groundline is used on this gear by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

**34. LENGTH:** Record, in whole feet, the total length of the groundline used on this gear (*i.e.*, the sum of groundline from both ends of the string). This information may be obtained from the captain.

**35. TYPE CODE:** Indicate the type of groundline used on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Sinking / Neutrally Buoyant.

2 = Floating.

8 = Combination, record all groundline types used in the COMMENTS.

9 = Other, record groundline type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**36. DIAMETER:** Record, in inches, the average fractional diameter of the groundline used on this gear. This information may be obtained from the captain.

*Example:* 3/8 inches.

**Surface System**

**37. NUMBER OF HIGH FLYERS:** Record the total number of high flyers used on this gear. A high flyer may also be considered a radar reflector.

**38. NUMBER OF BUOYS:** Record the total number of surface buoys used on this gear. These buoys may be referred to as tide buoys and are connected to the buoyline.

**39. SURFACE LINE LENGTH:** Record, in whole feet, the average length between the high flyer(s) and buoy(s) which are attached to the same buoyline. This length may be obtained from the captain.

**40. TYPE CODE:** Indicate the type of line used between the high flyer(s) and buoy(s) on this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Sinking / Neutrally Buoyant.

2 = Floating.

8 = Combination, record all line types used in the COMMENTS.

9 = Other, record line type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**41. DIAMETER:** Record, in inches, the average fractional diameter of the line between the high flyer(s) and buoy(s) used on this gear. This information may be obtained from the captain.

*Example:* 5/8 inches.

**42. MARK?:** Indicate if the surface system buoy(s) is (are) marked to identify the vessel or fishery by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

### Weak Links

**43. USED ON SURFACE?:** Record whether any weak links are used on the surface system of this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**44. NUMBER:** Record the total number of surface system weak links used on this gear. This information may be obtained from the captain.

**45. TYPE CODE:** Indicate the type of weak link(s) used on the surface system of this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Rope of Appropriate Breaking Strength.

2 = Off the Shelf.

3 = Overhand Knot.

4 = Hog Rings.

8 = Combination, record all weak link types used in the COMMENTS.

9 = Other, record the weak link type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

**46. USED ON STRING?:** Record whether any weak links are used on the string of this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**47. NUMBER:** Record the total number of weak

links on the entire string used on this gear. This information may be obtained from the captain.

**48. TYPE CODE:** Indicate the type of weak link(s) used on the string of this gear by recording the most appropriate code from the list below, and in Appendix H: Material / Other Codes:

0 = Unknown.

1 = Rope of Appropriate Breaking Strength.

2 = Off the Shelf.

3 = Overhand Knot.

4 = Hog Rings.

8 = Combination, record all weak link types used in the COMMENTS.

9 = Other, record the weak link type in the COMMENTS.

*NOTE:* This information may be obtained from the captain.

### Floats

**49. USED?:** Record whether floats of each type listed (unknown, polyball, bullet/daub and other), are used on this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* If "other" float types are used, record the float type(s) in COMMENTS.

**50. NUMBER:** Record the number of each float type used.

**51. AVERAGE NUMBER OF HOOKS**

**BETWEEN:** Record the average number of hooks between each float type used.

*NOTE:* If floats are only used at the beginning and the end of the string then this value should equal the total NUMBER OF HOOKS (#2).

### Light Sticks

**52. USED?:** Record whether light sticks are used on this gear by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

**53. COLOR:** Record the color of the light sticks used on this gear by entering the appropriate code:

00 = Unknown.

02 = White.

- 03 = Pink.
- 05 = Green.
- 06 = Blue.
- 08 = Red.
- 09 = Orange.
- 10 = Purple.
- 98 = Combination, record all colors in COMMENTS.
- 99 = Other, record the light stick color in COMMENTS.

**54. NUMBER OF LIGHTSTICKS:** Record the average number of lightsticks used on this gear.

**Droplines**

*NOTE:* In the demersal longline fishery droplines are not typically used.

**55. LENGTH:** Record, in whole feet, the average length of the droplines used in this gear. This information may be obtained from the captain. If droplines are not used record a dash (—).

**56. DISTANCE BETWEEN:** Record, to the nearest foot, the distance between droplines.

**Swivels**

**57. SWIVELS USED?:** Indicate whether swivels are used on the gangions by placing a “X” next to the

appropriate code:

0 = No

1 = Yes

**58. NUMBER OF SWIVELS PER GANGION:** Record the number of swivels used per gangion. One is generally located below the AK-SNAP and if leader is used, another swivel will also be used.

*Example:* 1 swivel per 1 gangion should be written as 1 / 1.

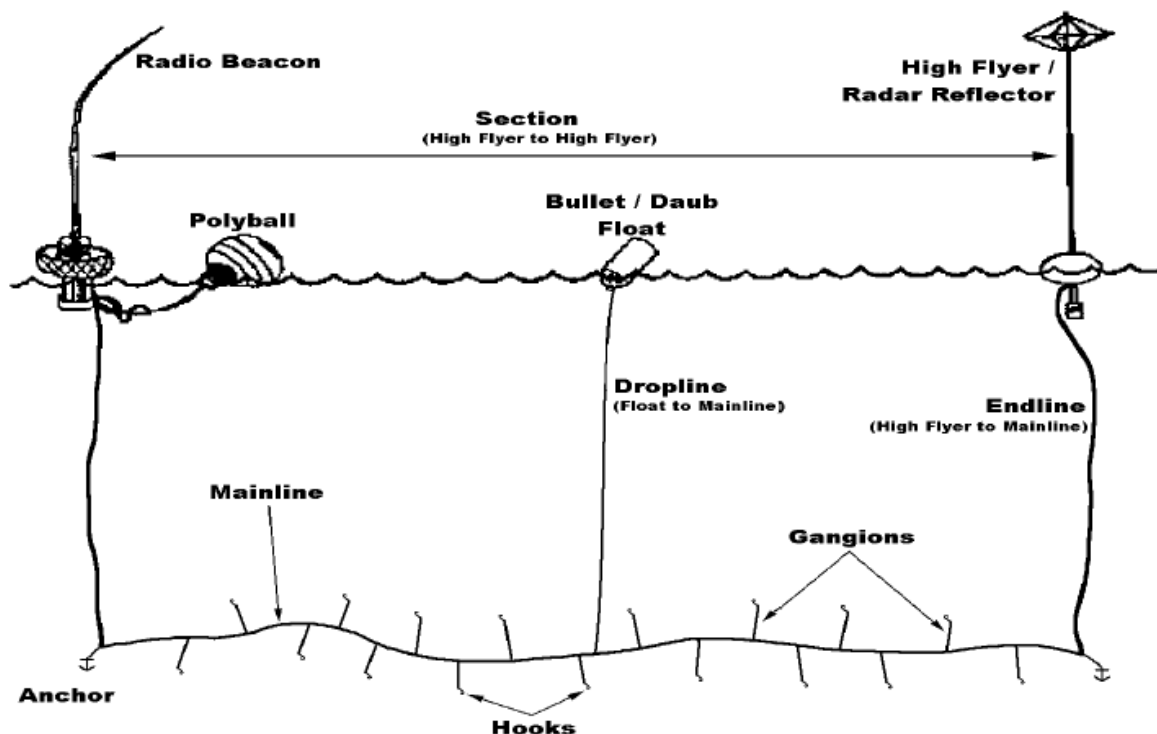
**59. NUMBER OF RADIO BEACONS:** Record the number of radio beacons. These may also be called “radio buoys” or “beepers”.

**60. NUMBER OF RADAR REFLECTORS:** Record the number of radar reflectors. A radar reflector may also be considered a high flyer.

**Comments**

Record any additional information about this gear. Be sure to include a description if a 'combination' or 'other' code is used for one or more fields (e.g. surface weak link type: other = modified swivel). Record any calculations used to answer any questions. If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

Figure 2: Characteristics of demersal and/or pelagic longline fishing gear.



**LONGLINE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBLLG 05/01/13**

OBS/STRIP ID <b>A</b>		DATE LANDED mm/yy <b>B</b> /		PAGE # <b>C</b> OF <b> </b>	
GEAR CODE <b>D</b> GEAR NUMBER(S) <b>1</b>		SECTION LENGTH <b>3</b> nm		NUMBER OF SECTIONS <b>4</b>	
NUMBER OF HOOKS <b>2</b>		SURFACE SYSTEM		FLOATS **	
<b>BUOYLINE</b> # of Buoylines <b>27</b> Length (avg) <b>28</b> ft Type Code <b>29</b> Percent of Type <b>30</b> % / % (sinking/floating) Diameter <b>31</b> / in Mark? <b>32</b> NO 0 YES 1		<b># of High Flyers</b> <b>37</b> <b># of Buoys</b> <b>38</b> Surface Line Length (avg) <b>39</b> ft Type Code <b>40</b> Diameter <b>41</b> / in Mark? <b>42</b> NO 0 YES 1		USED? <b>49</b> YES <b>1</b> NO <b>0</b> TYPE Unknown Polyball Bullet/Daub Other	
<b>LEADERS</b> USED? <b>10</b> NO 0 YES 1 LENGTH <b>11</b> ft TEST <b>12</b> lbs MATERIAL <b>13</b>		<b>WEAK LINKS</b> <b>NO YES</b> USED? <b>43</b> USED ON SURFACE? 0 1 Number (total) <b>44</b> Type Code <b>45</b>		LIGHT STICKS USED? ** NO 0 YES 1 <b>52</b> COLOR <b>53</b> NUMBER <b>54</b>	
<b>ANCHOR USED? 17</b> NO 0 YES <b>18</b> lbs WEIGHT Actual <b>19</b> 1 Estimated <b>20</b> 2		<b>GROUNDLINE</b> <b>NO YES</b> USED? <b>33</b> 0 1 Length (total) <b>34</b> ft Type Code <b>35</b> Diameter <b>36</b> / in		DROPLINE ** LENGTH <b>55</b> ft DISTANCE BETWEEN <b>56</b> ft	
<b>MAINLINE</b> # OF STRANDS <b>5</b> DIAMETER <b>6</b> mm TEST <b>7</b> lbs MATERIAL <b>8</b> COLOR <b>9</b>		<b>SWIVELS USED?</b> NO 0 YES 1 <b>57</b> # OF SWIVELS/GANGION <b>58</b>		RADIO BEACONS ** <b>59</b> RADAR REFLECTORS <b>60</b>	
<b>HOOKS</b> BRAND MODEL/PATTERN SIZE <b>16</b> <b>14</b> <b>15</b>		<b>USED ON STRING?</b> Number (total) <b>47</b> Type Code <b>48</b>		COLOR Unknown 00 Multi-Color 07 Clear 01 Red 08 White 02 Orange 09 Pink 03 Purple 10 Black 04 Combination 98 Green 05 Other 99 Blue 06	
<b>GANGIONS</b> LENGTH COUNT DISTANCE BETWEEN <b>23</b> ft <b>24</b> DIAMETER <b>21</b> mm TEST <b>22</b> lbs		MATERIAL <b>25</b> COLOR <b>26</b>		MATERIAL Unknown 07 Mono-filament Nylon 1 Cotton 2 Steel Wire 3 Multi-strand Nylon 4 Other 9	
<b>COMMENTS</b> Complete for all gears Complete only for Bottom Longline and Pelagic Longline Complete only for Pelagic Longline					

\*\* only record for Pelagic Longline



**LONGLINE GEAR CHARACTERISTICS LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBLLG 05/01/13**

OBS/TRIP ID <b>A99015-</b>		DATE LANDED mm/yy <b>11 / 13</b>		PAGE # <b>1</b> OF <b>1</b>	
GEAR NUMBER(S) <b>0 1 0</b>		SECTION LENGTH <b>0.9</b> nm		NUMBER OF SECTIONS <b>1</b>	
NUMBER OF HOOKS <b>900</b>		SURFACE SYSTEM		FLOATS **	
BUOYLINE		# of High Flyers <b>2</b>		TYPE Unknown	
# of Buoylines <b>2</b>		# of Buoys <b>2</b>		Polyball	
Length (avg) <b>200</b> ft		Surface Line Length (avg) <b>20</b> ft		Bullet/Daub	
Type Code <b>8</b>		Type Code		Other	
Percent of Type (sinking/floating) <b>75% / 25%</b>		WEAK LINKS		USED? YES NO	
Diameter <b>5 / 8</b> in		NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>		NO <input type="checkbox"/> YES <input type="checkbox"/>	
Mark? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>		USED ON SURFACE? <b>0</b> <input checked="" type="checkbox"/> <b>1</b> <input type="checkbox"/>		BEACONS **	
GROUNDLINE		NO <input type="checkbox"/> YES <input type="checkbox"/>		COUNT	
USED? <b>0</b> <input type="checkbox"/> <b>1</b> <input checked="" type="checkbox"/>		Type Code		# OF SWIVELS/GANGION	
Length (total) <b>20</b> ft		Diameter <b>3 / 8</b> in		RADAR REFLECTORS <b>2</b>	
Type Code <b>1</b>		MATERIAL <b>01</b>		MATERIAL	
Diameter <b>3 / 8</b> in		COLOR <b>06</b>		Unknown <b>07</b>	
COUNT		Mainline is braided nylon - number of strands unknown.		Multi-Color <b>08</b>	
LENGTH				Red <b>09</b>	
<b>1</b> ft				Orange <b>10</b>	
COUNT				Purple <b>03</b>	
<b>900</b>				Black <b>04</b>	
LENGTH				Green <b>05</b>	
<b>900</b> ft				Blue <b>06</b>	
MATERIAL				Other <b>99</b>	
<b>2 . 0</b> mm				Steel Wire <b>3</b>	
TEST				Multi-strand Nylon <b>4</b>	
<b>400</b> lbs				Other <b>9</b>	
COLOR				Other <b>99</b>	
<b>06</b>					
COMMENTS					

\*\* only record for Pelagic Longline

**LONGLINE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBLG 05/01/13**

GEAR CODE <input style="width:20px; height:20px;" type="text"/>	GEAR NUMBER(S) <input style="width:20px; height:20px;" type="text"/>	NUMBER OF HOOKS <input style="width:20px; height:20px;" type="text"/>	SECTION LENGTH <input style="width:20px; height:20px;" type="text"/> nm	NUMBER OF SECTIONS <input style="width:20px; height:20px;" type="text"/> OF <input style="width:20px; height:20px;" type="text"/>	OBS/TRIP ID <input style="width:100%; height:20px;" type="text"/>	DATE LANDED mm/yy <input style="width:20px; height:20px;" type="text"/> / <input style="width:20px; height:20px;" type="text"/> / <input style="width:20px; height:20px;" type="text"/>	PAGE # <input style="width:20px; height:20px;" type="text"/> OF <input style="width:20px; height:20px;" type="text"/>
<b>MAINLINE</b> # OF STRANDS <input style="width:20px;" type="text"/> USED? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> DIAMETER <input style="width:20px;" type="text"/> mm LENGTH <input style="width:20px;" type="text"/> ft TEST <input style="width:20px;" type="text"/> lbs TEST <input style="width:20px;" type="text"/> lbs MATERIAL <input style="width:100%;" type="text"/>	<b>LEADERS</b> USED? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> LENGTH <input style="width:20px;" type="text"/> ft TEST <input style="width:20px;" type="text"/> lbs MATERIAL <input style="width:100%;" type="text"/>	<b>BUOYLINE</b> # of Buoylines <input style="width:20px;" type="text"/> Length (avg) <input style="width:20px;" type="text"/> ft Type Code <input style="width:20px;" type="text"/> Percent of Type (sinking/floating) <input style="width:20px;" type="text"/> % / <input style="width:20px;" type="text"/> % Diameter <input style="width:20px;" type="text"/> in Mark? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/>	<b>SURFACE SYSTEM</b> # of High Flyers <input style="width:20px;" type="text"/> # of Buoys <input style="width:20px;" type="text"/> Surface Line Length (avg) <input style="width:20px;" type="text"/> ft Type Code <input style="width:20px;" type="text"/> Diameter <input style="width:20px;" type="text"/> in Mark? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/>	<b>FLOATS **</b> TYPE Unknown <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> NUMBER <input style="width:20px;" type="text"/> Polyball <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> NUMBER <input style="width:20px;" type="text"/> Bullet/Daub <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> NUMBER <input style="width:20px;" type="text"/> Other <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> NUMBER <input style="width:20px;" type="text"/> USED? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/>	<b>AVG HOOKS BETWEEN</b> <input style="width:20px;" type="text"/>		
<b>HOOKS</b> BRAND <input style="width:20px;" type="text"/> MODEL/PATTERN <input style="width:20px;" type="text"/> SIZE <input style="width:20px;" type="text"/> ANCHOR USED? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> WEIGHT <input style="width:20px;" type="text"/> lbs Actual <input style="width:20px;" type="text"/> 1 <input style="width:20px;" type="text"/> Estimated <input style="width:20px;" type="text"/> 2 <input style="width:20px;" type="text"/>	<b>GROUNDLINE</b> USED? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> Length (total) <input style="width:20px;" type="text"/> ft Type Code <input style="width:20px;" type="text"/> Diameter <input style="width:20px;" type="text"/> in	<b>WEAK LINKS</b> NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> USED ON SURFACE? 0 <input style="width:20px;" type="text"/> 1 <input style="width:20px;" type="text"/> Number (total) <input style="width:20px;" type="text"/> Type Code <input style="width:20px;" type="text"/>	<b>SWIVELS</b> USED? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> # OF SWIVELS/GANGION <input style="width:20px;" type="text"/> COLOR Unknown 00 Multi-Color 07 Clear 01 Red 08 White 02 Orange 09 Pink 03 Purple 10 Black 04 Combination 98 Green 05 Other 99 Blue 06	<b>RADIO BEACONS **</b> <input style="width:20px;" type="text"/>	<b>RADAR REFLECTORS</b> <input style="width:20px;" type="text"/>		
<b>GANGIONS</b> LENGTH <input style="width:20px;" type="text"/> COUNT <input style="width:20px;" type="text"/> DISTANCE BETWEEN <input style="width:20px;" type="text"/> ft DIAMETER <input style="width:20px;" type="text"/> mm MATERIAL <input style="width:20px;" type="text"/> TEST <input style="width:20px;" type="text"/> lbs COLOR <input style="width:20px;" type="text"/>	<b>WETLINE</b> USED? NO <input style="width:20px;" type="text"/> YES <input style="width:20px;" type="text"/> Length (total) <input style="width:20px;" type="text"/> ft Type Code <input style="width:20px;" type="text"/> Diameter <input style="width:20px;" type="text"/> in	<b>USED ON STRING?</b> 0 <input style="width:20px;" type="text"/> 1 <input style="width:20px;" type="text"/> Number (total) <input style="width:20px;" type="text"/> Type Code <input style="width:20px;" type="text"/>	<b>USED ON SURFACE?</b> 0 <input style="width:20px;" type="text"/> 1 <input style="width:20px;" type="text"/> Number (total) <input style="width:20px;" type="text"/> Type Code <input style="width:20px;" type="text"/>	<b>LENGTH</b> <input style="width:20px;" type="text"/> <b>COUNT</b> <input style="width:20px;" type="text"/> <b>DISTANCE BETWEEN</b> <input style="width:20px;" type="text"/> ft <b>DIAMETER</b> <input style="width:20px;" type="text"/> mm <b>MATERIAL</b> <input style="width:20px;" type="text"/> <b>TEST</b> <input style="width:20px;" type="text"/> lbs <b>COLOR</b> <input style="width:20px;" type="text"/>	<b>COMMENTS</b> <input style="width:100%; height:100px;" type="text"/>		

\*\* only record for Pelagic Longline

**LONGLINE GEAR CHARACTERISTICS LOG (FRONT)**

**NMFS FISHERIES AT-SEA MONITORING PROGRAM**

**ASMLLG 05/01/2013**

OBS/TRIPID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> ___ of ___

GEAR CODE [ ][ ][ ] <b>D</b>	GEAR # [ ][ ] <b>1</b>	# OF HOOKS <b>2</b>	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1	<b>14</b>	<b>15</b>	<b>16</b>
HOOK #2			

GEAR CODE [ ][ ][ ]	GEAR # [ ][ ]	# OF HOOKS	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

GEAR CODE [ ][ ][ ]	GEAR # [ ][ ]	# OF HOOKS	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

GEAR CODE [ ][ ][ ]	GEAR # [ ][ ]	# OF HOOKS	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

ADDITIONAL COMMENTS

**LONGLINE GEAR CHARACTERISTICS LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMLLG 05/01/2013**

OBS/TRIPID	<b>A99001-</b>
DATE LANDED mm/yy	<b>10 / 13</b>
PAGE #	<u>  1  </u> of <u>  1  </u>

GEAR CODE	GEAR #	# OF HOOKS	COMMENTS
<input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="0"/>	<input type="text" value="0"/> <input type="text" value="1"/>	<b>900</b>	
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1	<b>Eagle Claw</b>	<b>L9014</b>	<b>12/0</b>
HOOK #2			

GEAR CODE	GEAR #	# OF HOOKS	COMMENTS
<input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="0"/>	<input type="text" value="0"/> <input type="text" value="2"/>	<b>1200</b>	
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1	<b>Mustad</b>	<b>39960</b>	<b>11/0</b>
HOOK #2			

GEAR CODE	GEAR #	# OF HOOKS	COMMENTS
<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>		
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

GEAR CODE	GEAR #	# OF HOOKS	COMMENTS
<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>		
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

ADDITIONAL COMMENTS

**LONGLINE GEAR CHARACTERISTICS LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMLLG 05/01/2013**

OBS/TRIPID	
DATE LANDED mm/yy	/
PAGE #	of

GEAR CODE □□□□	GEAR # □□	# OF HOOKS	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

GEAR CODE □□□□	GEAR # □□	# OF HOOKS	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

GEAR CODE □□□□	GEAR # □□	# OF HOOKS	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

GEAR CODE □□□□	GEAR # □□	# OF HOOKS	COMMENTS
<b>HOOKS</b>	BRAND	MODEL/PATTERN	SIZE
HOOK #1			
HOOK #2			

ADDITIONAL COMMENTS

## Longline Haul Log

This log contains detailed questions about the setting and hauling of gear, and the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather related safety reasons, record as much information on this log as possible (*i.e.* Header Information, depths, times, positions, kept catch estimates, *etc.*).

If the gear is set, and only partially hauled, complete a Longline Haul Log with the species summary section completed as fully as possible, and "Haul Aborted" recorded following the last species record. An aborted haul should be recorded as observed, whenever it fits the definition of an observed haul.

Species caught that should not be recorded on this particular log include: pelagic species (*e.g.* swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an Individual Animal Log. In the **pelagic longline fishery**, most animals caught by this gear will be recorded on an Individual Animal Log. Only dressed parts of pelagic species, such as shark fins and fish chunks, belong in the species summary section of this log. Also in the pelagic longline fishery, debris will be recorded on the Individual Animal Log. In the **demersal longline fishery** catches of groundfish species and debris will be recorded in the species section of this log. For all fisheries, incidental catches of marine mammals, sea turtles, and sea birds must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If rod and reel or other line fishing gears are used, the following fields on the Longline Haul Log may be omitted: MAINLINE LENGTH (#6), ITEMS USED: RATTLERS and SURFACE LIGHTS (#9), NUMBER OF ITEMS USED: RATTLERS and SURFACE LIGHTS (#10), NUMBER OF HOOKS TENDED (#15) and NUMBER OF HOOKS REBAITED (#16).

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Longline Haul Log, making sure to complete all of the Header Information (A–C), GEAR CODE (D), GEAR NUMBER (E) and HAUL NUMBER (F).

If information is unavailable or unknown to any question except a "No/Yes" question, record a dash

(—) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

An asterisk (\*) indicates field which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted.

Become familiar with the following definitions.

### Definitions

#### Pelagic or Demersal Longline

**Set Begin:** First component of gear deployed.

**Set End:** Gear secured to high flyer or anchoring device, or gear completely deployed.

**Haul Begin:** Hauling equipment put into gear or retrieval of gear commences.

**Haul End:** Gear completely retrieved and aboard vessel.

#### Rod and Reel or Other Line Gears

Hauls are defined as a section of time that the gear is fished without a break. It could be several reel-ins with rebaiting, as long as it was a continuous session. Complete a new Longline Haul Log for each gear used (*i.e.*, each rod and reel). Complete a new Longline Haul Log if fishing activity is paused, or moves to another area.

*Example:* 3 rod and reels are used. Each rod receives its own gear number (1-3) and haul number (1-3). After fishing for 20 minutes, the vessel steams to another location and hauls a longline gear (gear 4, haul 4), after which the rod and reel fishing is resumed (gears 1-3, and hauls 5-7).

**Set Begin:** First component of gear deployed.

**Set End:** Do not record set end information for handline gears.

**Haul Begin:** Do not record haul begin information for handline gears.

**Haul End:** Gear is removed from the water and fishing activity ceases. The end of the haul occurs when there is a significant break in time and/or a significant change in location.

## Instructions

For instructions on completing fields A–Y, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**\*1. GEAR CONDITION:** Indicate the condition of the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below, and in Appendix K: Gear Condition Codes:

000 = Unknown.

610 = No gear damage, or only a few hooks missing.

620 = Less than 50% of gear fouled due to weather/oceanic conditions. Gear tangled, spun up or otherwise impaired the fishability of the gear.

630 = Greater than 50% of gear fouled due to weather/oceanic conditions. Gear tangled, spun up or otherwise impaired the fishability of the gear.

640 = Less than 50% of hooks missing.

650 = Greater than 50% of hooks missing.

660 = Parted off, no damage.

670 = Parted off, less than 50% gear damaged.

680 = Gear completely damaged, or completely lost.

990 = Other, specify in COMMENTS.

## Set/Haul Information

*NOTE:* Definitions of Set/Haul Begin/End may be found in the introduction.

*NOTE:* On ASM trips, only complete SOAK DURATION (#4), regardless of whether the set is witnessed.

**2. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this set began and ended. Record the month, day, and year, based on local time, that this haul began and ended.

**3. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000–2359), that this set began and ended, *i.e.* when the first component of the longline/line gear is deployed (Set Begin), and when the longline/line gear is secured to the high flyer or anchoring device, or completely deployed (Set End). Record the local time, using the 24 hour clock (0000–2359), that this haul began and ended, *i.e.* when the hauling equipment is put into gear or retrieval of gear commences (Haul Begin), and when the longline/line gear is completely retrieved and aboard the vessel (Haul

End).

*NOTE:* If rod and reel or other line gears are used, the set begin time should reflect when the gear is first deployed and fishing activity starts. The haul end time should reflect when the gear is removed from the water and fishing activity ceases. Set End and Haul Begin should be dashed. Within these times the gear may periodically be removed from the water to remove a fish, rebait the line, check the line for presence of fish, *etc.*

**\*4. SOAK DURATION:** Record, to the nearest tenth of an hour, the amount of time that the gear for this haul is in the water fishing. This is the amount of time from when the string is secured to an anchoring device, or completed deployed (Set End), until the retrieval of gear commences (Haul Begin). If the gear set was not witnessed, obtain this time from the captain. If the set is witnessed, calculate the soak duration.

*NOTE:* This field is only collected for ASM trips using demersal longline gear. For rod and reel or other line gears, leave this field blank.

**5. WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface water temperature when this set began and ended. Record, to the nearest tenth of a degree Fahrenheit, the surface water temperature when this haul began and ended.

*NOTE:* Use a thermometer provided by FSB or an observer provider to obtain these temperatures.

*NOTE:* If these temperatures are obtained in Celsius, use Appendix I: Conversion Tables to convert them to Fahrenheit.

**6. MAINLINE LENGTH:** Record, to the nearest tenth of a nautical mile, the length of the mainline for this gear. This should account for all of the tubs that are tied together on that particular “string” of gear.

*NOTE:* One nautical mile = 6,080 feet.

*NOTE:* For rod and reel and other line gears, record a dash (—) in this field.

**7. SET SPEED:** Record, to the nearest tenth of a knot, the average vessel setting speed, over the bottom, for this haul. This information may be obtained from the captain.

*NOTE:* For gears that are trolled, record the trolling speed of the vessel. If rod and reel or handline gear is used but not trolled, record a dash.

**8. SET METHOD:** Record the method that best describes the manner in which the gear for this haul was set by placing an “X” next to the appropriate code:

- 00 = Unknown.
- 01 = Temperature.
- 02 = Bottom Contours (*i.e.* depth).
- 03 = Compass/ Loran.
- 04 = Tide/ Current.
- 05 = Visual (*i.e.* echosounder, surface feeding).
- 06 = Eddy.
- 98 = Mixed, (more than one code applies) record all set methods on line 21A.
- 99 = Other, record the set method(s) on line 21A.

### Additional Gear Items

**9. ITEMS USED?:** Record whether each piece of equipment listed below is used on the gear in this haul by placing and “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

### Equipment:

- Rattlers.
- Surface Lights.
- Additional Line Weights.

*NOTE:* For rod and reel and other line gears, record a dash (—) in the fields relating to Rattlers and Surface Lights.

**10. NUMBER:** Record the number of each piece of equipment used on the gear in this haul.

*NOTE:* For rod and reel and other line gears, record a dash (—) in the fields relating to Rattlers and Surface Lights.

**11. WEIGHT OF ADDITIONAL LINE WEIGHTS:** Record, in whole pounds, the **total** weight of any additional line weights attached to the mainline of this gear for this haul.

### Number of Hooks

**12. SET:** Record the **total** number of hooks that are used for this set.

**13. HAULED:** Record the **total** number of hooks that are hauled from this set.

**14. LOST:** Record the **total** number of hooks that are lost from this set. If this number differs from NUMBER OF HOOKS SET (#12) minus NUMBER OF HOOKS HAULED (#13), then record the reason(s) in

COMMENTS.

*NOTE:* Do not include the number of hooks cut off by the crew here, but in COMMENTS.

**15. TENDED:** Record the number of hooks pulled during “hotlining” (vessel runs the line and only pulls hooks where floats are submerged). If none are tended record a zero.

*NOTE:* For rod and reel and other line gears, record a dash (—) in this field.

**16. REBAITED:** Record the number of hooks pulled, rebaited and reset. If none are rebaited record a zero.

*NOTE:* For rod and reel and other line gears, record a dash (—) in this field.

### Bait

**17. POUNDS:** Record, in whole pounds, the amount of bait used for this haul, for up to three major baits. This information may be obtained from the captain.

*NOTE:* If artificial bait is used, record a dash (—) in this field.

**18. KIND:** Indicate the kind of bait used for this haul, for up to three major baits, by recording the most appropriate two digit code listed below, and in Appendix L: Bait Codes:

- 00 = Unknown.
- 01 = Mackerel.
- 02 = Herring.
- 03 = Squid.
- 04 = Artificial, record a dash (—) for POUNDS (#17), BAIT TYPE (#19), and BAIT CONDITION (#20).
- 05 = Redfish.
- 06 = Sardine.
- 07 = Scad.
- 08 = Skate.
- 09 = Clams.
- 10 = Fish with binders/casings.
- 11 = Eel.
- 97 = Mixed, record the species mixture in COMMENTS.

99 = Other, record the bait kind in COMMENTS.  
*NOTE:* Artificial bait includes lures and jigs, with or without teasers.

*NOTE:* Mixture of groundfish remains from processing facility is “Mixed” (97).

**19. TYPE:** Indicate the type of bait used for this haul,



for up to three major baits, by recording the most appropriate one digit code listed below, and in Appendix L: Bait Codes:

- 0 = Unknown.
  - 1 = Whole.
  - 2 = Cut.
  - 3 = Live.
  - 4 = Processed.
  - 9 = Other, record the bait type in COMMENTS.
- NOTE:* Fish racks, frames or bellies are “Cut” (2), record cut type in COMMENTS.

*NOTE:* Mixture of fish remains pressed into a sausage casing is “Processed” (4).

**20. CONDITION:** Indicate the condition of the bait when the gear is set that is used for this haul, for up to three major baits, by recording the most appropriate one digit code listed below, and in Appendix L: Bait Codes:

- 0 = Unknown.
- 1 = Previously Frozen.
- 2 = Fresh.
- 3 = Salted.
- 6 = Frozen.
- 7 = Semi-frozen.
- 8 = Combination, record all bait conditions in COMMENTS.
- 9 = Other, record the bait condition in COMMENTS.

*Example:* Frozen and salted bait is “Combination” (8).

### Additional Haul Information

**21. DEPTH RANGE, HOOKS:** Record, in whole fathoms, the range of depths (shallowest to deepest) from the surface, which the hooks fish for this haul. This depth is calculated by obtaining the sum of the dropline length, the gangion length, the leader length, and the shank length, *i.e.* the distance from the surface of the water to the bottom of the hook.

*NOTE:* In the demersal longline fishery these values should reflect the bottom depth and may only consist of one depth value (*e.g.*, recorded as 20 – 20 fm).

### Comments

Record any additional information regarding this haul, *e.g.* unusual species caught, uncommon catches, reason to expect the gear was not fishing properly, *etc.* If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

**LONGLINE HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBLLH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID <b>A</b>		DATE LAND (mm/yy) <b>B</b>		PAGE # <b>C</b>		OF <b>D</b>				
GEAR CODE <b>D</b>	GEAR # <b>E</b>	HAUL # <b>F</b>	HAUL OBS? <b>G</b>	ON-EFFORT? <b>H</b>	CATCH? <b>I</b>	INC TAKE? <b>J</b>	WEATHER CODE <b>K</b>			
SET/HAUL INFO	DATE mm/dd/yy	AND TIME 24 hours	STATION 1	LATITUDE / BEARING	LONGITUDE / BEARING	WATER TEMP	TARGET SPECIES			
S BEGIN	2 / /	3	9960 -	P	9960 -	5	Q			
T END **	/ /	:	9960 -		9960 -		R			
H BEGIN **	/ /	:	9960 -		9960 -					
A	/ /	:	9960 -		9960 -					
U END	/ /	:	9960 -		9960 -					
L										
ITEMS USED?	NO	YES	NUMBER	NUMBER OF HOOKS				BAIT		
TYPE	0	1		SET	12	LBS	KIND	TYPE	COND	
Rattlers **				HAULED	13	#1	18	19	20	
Surface Lights **	0	1		LOST	14	#2				
Additional Line Wts	0	1		TENDED **	15	#3				
WEIGHT OF ADDITIONAL LINE WEIGHTS	11		lbs	REBAITED **	16	COMMENTS				
SPECIES		CODE	NUMBER	SAMP. WEIGHT	POUNDS	DISP CODE	ESTIMATION METHOD CODE			
1	S	T			V	W	X	Y		
2										
3										
4										
5										
6										
7										
8										
9										
10										

**LONGLINE HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBLLH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A99015-	
DATE LAND (mm/yy)		07 / 13	
PAGE #		1 OF 1	

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	WIND	WAVE HEIGHT	DEPTH,	GEAR COND
010	01	001	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	NO 0 YES 1 <input checked="" type="checkbox"/>	01	SPEED 20 kn	0	3 ft	610
SET/HAUL INFO	DATE	AND TIME	LATITUDE / LONGITUDE	LORAN (XXXXX)	TARGET SPECIES	CODE(S)					
S BEGIN	07 / 15 / 13	05 : 30	42° 00.2	9960 -	Haddock						
T END **	07 / 15 / 13	05 : 42	41° 59.4	9960 -	MAINLINE						
H BEGIN **	07 / 15 / 13	07 : 38	41° 59.6	9960 -	LENGTH **						
A U END	07 / 15 / 13	08 : 16	42° 00.4	9960 -	SET METHOD						

ITEMS USED?	NO	YES	NUMBER
Rattlers **	0	<input checked="" type="checkbox"/>	1
Surface Lights **	0	<input checked="" type="checkbox"/>	1
Additional Line Wts	0	<input checked="" type="checkbox"/>	2

WEIGHT OF ADDITIONAL LINE WEIGHTS	10	lbs
-----------------------------------	----	-----

SET SPEED	5.2	kn
HOOK DEPTH RANGE	10	36
SET SPEED	6.9	nm
SET SPEED	10	36

WATER TEMP	54.3	F
WATER TEMP	54.3	F
WATER TEMP	54.8	F
WATER TEMP	55.0	F

SET METHOD	Unknown	00
SET METHOD	Temperature	01
SET METHOD	Bottom Contours	02
SET METHOD	Compass/Loran	<input checked="" type="checkbox"/> 03
SET METHOD	Tide/Current	04
SET METHOD	Visual	05
SET METHOD	Eddy	06
SET METHOD	Mixed	98
SET METHOD	Other	99

COMMENTS	Was not able to obtain actual weights or length frequencies due to time constraints
COMMENTS	Spiny dogfish estimated weight was based on 5 lbs per dogfish (60 dogfish)
COMMENTS	Only one haddock fell off the hook before coming onboard

SPECIES	NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION	
						CODE	METHOD CODE
Haddock			50	100	D	05	
Winter Skate			250	001	R	05	
Spiny Dogfish			300	001	R	05	
Monkfish			10	100	R	05	
Haddock			3	012	R	05	
Atlantic Cod			12	100	R	05	

**LONGLINE HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBLH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID _____				DATE LAND (mm/yy) _____		PAGE # _____		OF _____						
GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	SPEED	WIND	DIRECTION	WAVE HEIGHT	DEPTH,	GEAR COND	
			NO 0 YES 1	NO 0 YES 1	NO 0 YES 1	NO 0 YES 1			kn	o	ft	fm	CODE	
SET/HAUL INFO	DATE	AND TIME	LATITUDE / LONGITUDE (DD.MMM) - LORAN (XXXXX)	LATTITUDE / LONGITUDE (DD.MMM) - LORAN (XXXXX)				WATER TEMP		TARGET SPECIES	CODE(S)			
S BEGIN	/ /	24 hours	Station 1	Station 2	Longitude / Bearing									
E	/ /	:	9960 -	9960 -										
T END **	/ /	:	9960 -	9960 -										
H BEGIN **	/ /	:	9960 -	9960 -										
A	/ /	:	9960 -	9960 -										
U END	/ /	:	9960 -	9960 -										
L	/ /	:	9960 -	9960 -										
ITEMS USED?			NUMBER OF HOOKS			BAIT			SET SPEED		SET METHOD			
TYPE	NO	YES	NUMBER	SET	LBS	KIND	TYPE	COND	nm	Unknown Temperature Bottom Contours Compass/Loran Tide/Current Visual Eddy Mixed Other				
Rattlers **	0	1							kn					
Surface Lights **	0	1		HAILED						HOOK DEPTH RANGE				
Additional Line Wts	0	1		LOST										
WEIGHT OF ADDITIONAL LINE WEIGHTS _____ lbs		TENDED **			COMMENTS			** only record for Demersal and Pelagic Longline.						
REBAITED **														
SPECIES				SAMP. WEIGHT		POUNDS		DISP CODE		WEIGHT ESTIMATION METHOD				
NAME				CODE		D/R		CODE		CODE				

**LONGLINE HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMLLH ASMHAU ASMSPP 05/01/2013**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> ___ of ___

GEAR CODE <b>D</b>	GEAR NUMBER <b>E</b>	HAUL NUMBER <b>F</b>	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>G</b>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/> <b>J</b>
WEATHER CODE <b>K</b>	WAVE HEIGHT <b>N</b> ft	GEAR COND CODE <b>1</b>	TARGET SPECIES 1 <b>Q</b>	TARGET SPECIES 2 <b>Q2</b>
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
<b>BEGIN HAUL</b>	<b>3</b> / /	<b>4</b> :	LATITUDE <b>P</b>	LONGITUDE or (STAT AREA)* <b>P2</b>
<b>END HAUL</b>	/ /	:		

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SOAK DURATION <b>4</b> _____. ____ hrs
MAINLINE LENGTH <b>6</b> _____. ____ nm
SAMPLE WEIGHT MULTIPLIER <b>Z</b> _____. ____

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
<b>S</b>	<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b>	<b>Y</b>						
1	_____					11	_____				
2	_____					12	_____				
3	_____					13	_____				
4	_____					14	_____				
5	_____					15	_____				
6	_____					16	_____				
7	_____					17	_____				
8	_____					18	_____				
9	_____					19	_____				
10	_____					20	_____				

**LONGLINE HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMLLH ASMHAU ASMSPP 05/01/2013**

OBS/TRIP ID	<b>A99002C</b>
DATE LANDED mm/yy	<b>10 /13</b>
PAGE #	<b>1 of 2</b>

GEAR CODE <b>0 1 0</b>	GEAR NUMBER <b>0 4</b>	HAUL NUMBER <b>0 0 4</b>	HAUL OBSERVED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	INC TAKE? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
WEATHER CODE <b>01</b>	WAVE HEIGHT <b>2</b> ft	GEAR COND CODE <b>610</b>	TARGET SPECIES 1 <b>Haddock</b>	TARGET SPECIES 2 <b>Atlantic Cod</b>
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
<b>BEGIN HAUL</b>	<b>10 / 04 / 13</b>	<b>13 : 52</b>	LATITUDE <b>41° 25.5</b>	LONGITUDE <b>71° 26.4</b>
<b>END HAUL</b>	<b>10 / 04 / 13</b>	<b>15 : 34</b>	<b>41° 27.3</b>	<b>71° 26.9</b>

COMMENTS \* Enter only if latitude/longitude coordinates are not available

SOAK DURATION  <p style="text-align: center;"><b>24 . 0</b> hrs</p> MAINLINE LENGTH  <p style="text-align: center;"><b>1 . 6</b> nm</p> SAMPLE WEIGHT MULTIPLIER  <p style="text-align: center;">_____</p>
--

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
<b>Haddock</b>	_____	<b>46</b>	<b>100</b>	<b>D</b>	<b>01</b>		_____				
<b>Winter Skate</b>	_____	<b>250</b>	<b>001</b>	<b>R</b>	<b>05</b>		_____				
<b>Spiny Dogfish</b>	_____	<b>300</b>	<b>001</b>	<b>R</b>	<b>05</b>		_____				
<b>Monkfish</b>	_____	<b>10.2</b>	<b>100</b>	<b>R</b>	<b>01</b>		_____				
<b>Haddock</b>	_____	<b>3.4</b>	<b>012</b>	<b>R</b>	<b>01</b>		_____				
<b>Atlantic Cod</b>	_____	<b>12.7</b>	<b>100</b>	<b>R</b>	<b>01</b>		_____				
<b>Sponge, NK</b>	_____	<b>3</b>	<b>001</b>	<b>R</b>	<b>06</b>		_____				
	_____						_____				
	_____						_____				
	_____						_____				
	_____						_____				

**LONGLINE HAUL LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMLLH ASMHAU ASMSP 05/01/2013**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	___ of ___

GEAR CODE [ ][ ][ ]	GEAR NUMBER [ ][ ]	HAUL NUMBER [ ][ ][ ]	HAUL OBSERVED? YES <input type="checkbox"/> NO <input type="checkbox"/>	INC TAKE? YES <input type="checkbox"/> NO <input type="checkbox"/>
WEATHER CODE	WAVE HEIGHT ft	GEAR COND CODE	TARGET SPECIES 1	TARGET SPECIES 2
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE/LONGITUDE (DD MM.M)	
			LATITUDE	LONGITUDE or (STAT AREA)*
<b>BEGIN HAUL</b>	/ /	:		
<b>END HAUL</b>	/ /	:		

COMMENTS \_\_\_\_\_ \* Enter only if latitude/longitude coordinates are not available

SOAK DURATION ____ . ____ hrs
MAINLINE LENGTH ____ . ____ nm
SAMPLE WEIGHT MULTIPLIER ____ . ____

SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.	SPECIES NAME	SAMP. WEIGHT	POUNDS	DISP CODE	D/R	EST. METH.
1	_____					11	_____				
2	_____					12	_____				
3	_____					13	_____				
4	_____					14	_____				
5	_____					15	_____				
6	_____					16	_____				
7	_____					17	_____				
8	_____					18	_____				
9	_____					19	_____				
10	_____					20	_____				

## Clam/Quahog Dredge Gear Characteristics Log

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hailed** during a trip. These unique configurations may be based on variables such as cage, chain bag, *etc.* Any changes in these fields require completion of a new Clam/Quahog Dredge Gear Characteristics Log. Number each gear configuration sequentially.

If a gear is set out and hauled more than once during a trip, do not complete a new Clam/Quahog Dredge Gear Characteristics Log for each haul, rather record on the Clam/Quahog Dredge Haul Log which gear number was being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hauled in COMMENTS.

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definition(s).

### Definitions

**Dredge:** A towed steel frame with a blade/knife on the bottom. It may have a steel ring-bag for holding the clams/quahogs.

### Instructions

For instructions on completing the Header fields **A**, **B**, and **C** and GEAR CODE (**D**) refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR NUMBER(S):** Record the consecutive number(s) assigned to each uniquely configured gear hauled.

*Example:* The first uniquely configured gear is gear number “1”. This gear number (“1”) will be used on the Clam/Quahog Dredge Haul Log for each haul. If at any time, the gear configuration changes a new consecutive gear number (“2”) will be assigned. The “Gear Number” field on all haul logs after the gear change must reflect the new gear number that was assigned.

**2. CAGE HEIGHT:** Record, in whole inches, the overall height of the cage frame. Measure this distance from the bottom of the dredge cage to the top of the dredge cage. See Figure 1. This information may be obtained from the captain.

**3. CAGE WIDTH:** Record, in whole inches, the dredge cage width. Measure this distance from one side of the dredge cage to the other side of the dredge cage. See Figure 1. This information may be obtained from the captain.

**4. CAGE LENGTH:** Record, in whole inches, the dredge cage length. Measure this distance from one side of the dredge cage to the other side of the dredge cage. See Figure 1. This information may be obtained from the captain.

**5. CAGE BOTTOM BAR DIAMETER:** Record, to the nearest tenth of an inch, the size of the bars in the bottom of the cage. This information may be obtained from the captain.

**6. CAGE BOTTOM BAR SPACING:** Record, to the nearest tenth of an inch, the distance between the bars in the bottom of the cage. This information may be obtained from the captain.

**7. SORTER USED?:** Record whether a mechanical sorter was used to remove undersized shellfish, debris, *etc.* from the catch.

**8. NUMBER OF NOZZLES:** Record the total number of nozzles used on the dredge.

### Chain Bag

**9. USED?:** Record whether a chain bag is used at the back of the dredge by placing an “X” next to the appropriate code.

0 = No.

1 = Yes.

**10. AVERAGE NUMBER OF LINKS BETWEEN TWO RINGS:** Record the average number of links used between two rings in the bottom of the chain bag.

**11. LINK STOCK SIZE:** Record the fractional diameter of the steel used in the links between the rings in the bottom of the chain bag. This information may be found on the container in which the links were purchased, obtained from the captain, or measured with calipers. See Appendix E: Vernier Caliper Instructions for further info.

*Example:* 3/8.

**12. INSIDE RING SIZE (TOP OF BAG):** Record,



in whole millimeters, the inside diameters of five randomly selected rings from the top of the chain bag. Use calipers for these measurements. See [Appendix E: Vernier Caliper Instructions](#) for further information.

**13. INSIDE RING SIZE (BOTTOM OF BAG):**

Record, in whole millimeters, the inside diameters of five randomly selected rings from the bottom of the chain bag. Use calipers for these measurements. See [Appendix E: Vernier Caliper Instructions](#) for further information.

**14. OUTSIDE RING SIZE:** Record, in whole millimeters, the outside diameter of one randomly selected ring from the bottom of the chain bag. Use calipers for this measurement. See [Appendix E: Vernier Caliper Instructions](#) for further information.

### Towline

**15. TOWLINE TYPE:** Record the type of line configuration used to tow the dredge by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Single.

2 = Bridle.

3 = Other, record the towline type on line 15A.

**16. POSITION:** Record where the towline is attached to the dredge by placing an “X” next to the appropriate code:

0 = Unknown.

1 = Forward Section.

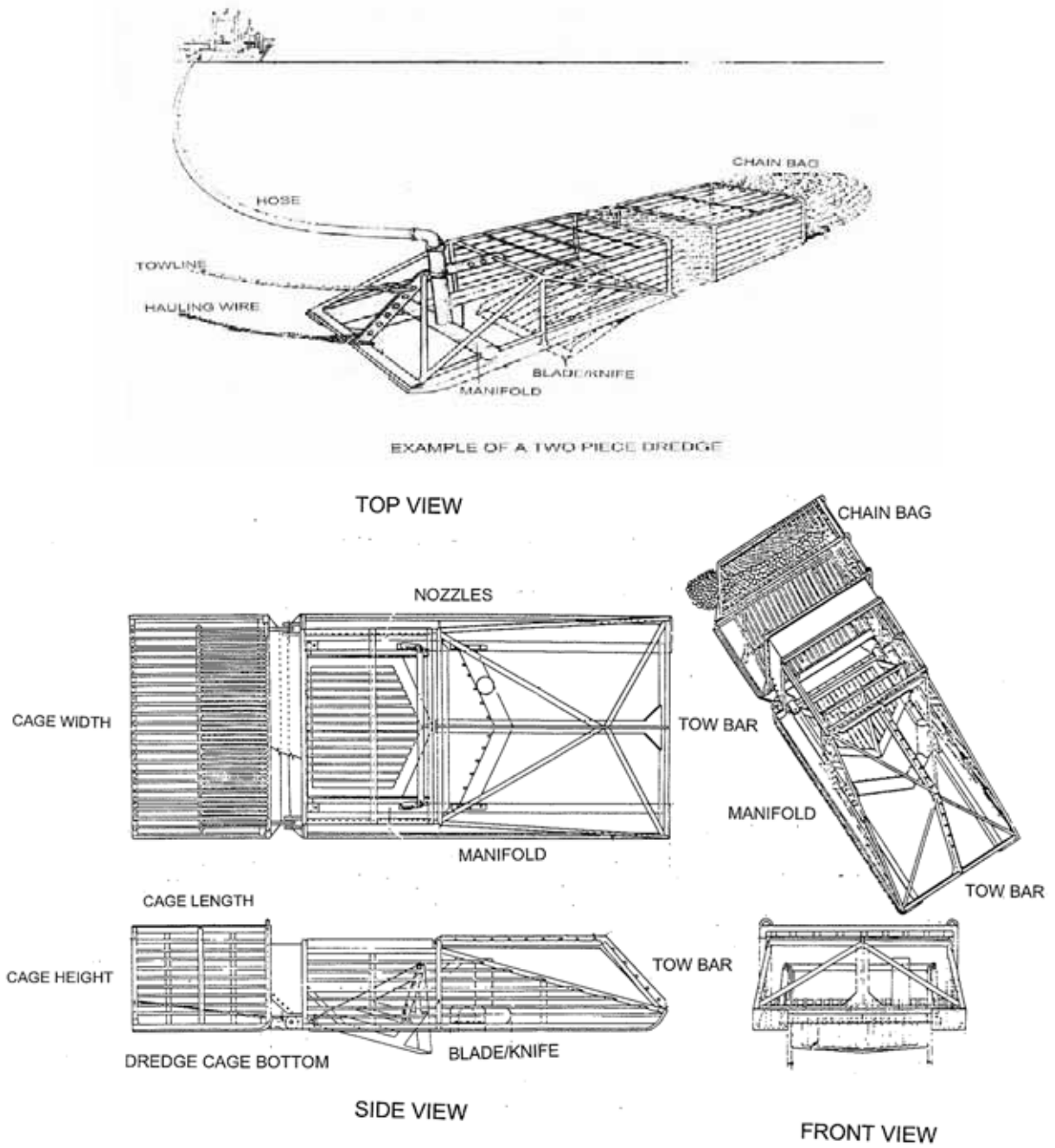
2 = Over top of the knife.

9 = Other, record the towline position on line 16A.

### Comments

Record any additional information about the dredge in the appropriate comment block. If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

Figure 1: Example of a two piece dredge.



**CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCDG 05/01/13**

OBS/TRIP ID	A
DATE LANDED mm/yy	B / /
PAGE #	C OF

COMMENTS

GEAR CODE    D GEAR NUMBER(S)  1

<b>DREDGE CAGE</b>	HEIGHT	WIDTH	LENGTH	SORTER USED?
2	in	3	in	NO 0 YES 1
CAGE BOTTOM BAR DIAMETER	5	BAR SPACING	6	NUMBER OF NOZZLES
	in		in	8

**CHAIN BAG**

USED? NO 0 YES 1 9

AVG # OF LINKS BTW 2 RINGS 10

LINK STOCK SIZE 11 /

INSIDE RING SIZE (mm) (5 random measurements)

TOP OF BAG 12

BOTTOM OF BAG 13

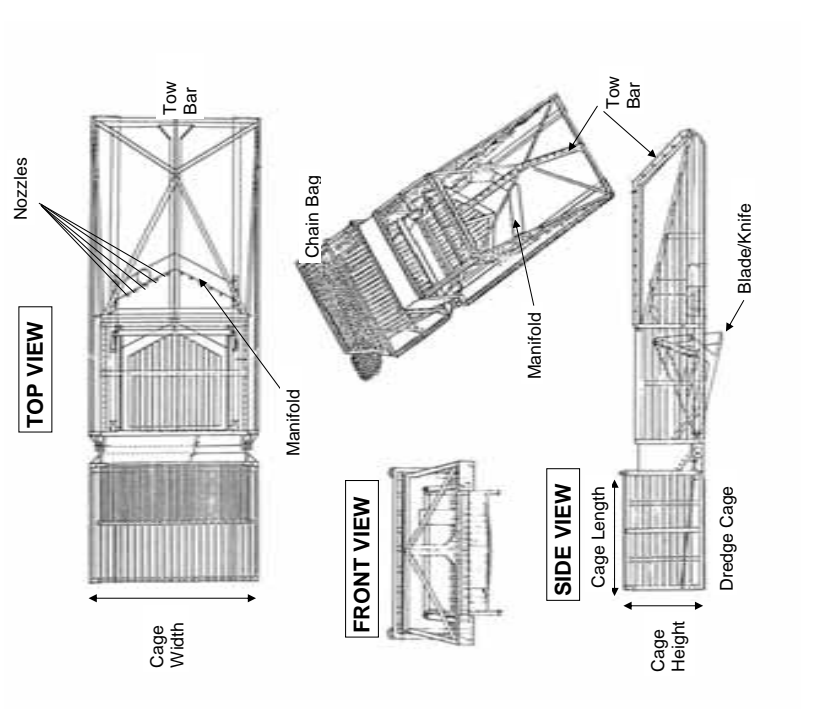
OUTSIDE RING SIZE 14 mm

**TOWLINE**

TOWLINE TYPE: 15 TOWLINE POSITION: 16

Unknown	0	Unknown	0
Single	1	Forward	1
Bridle	2	Over Top of the Knife	2
Other	9	Other	9

15A \_\_\_\_\_ 16A \_\_\_\_\_



**CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCDG 05/01/13**

OBS/TRIP ID: A99011- / / 13  
 DATE LANDED: mm/yy  
 PAGE #: 1 OF 2

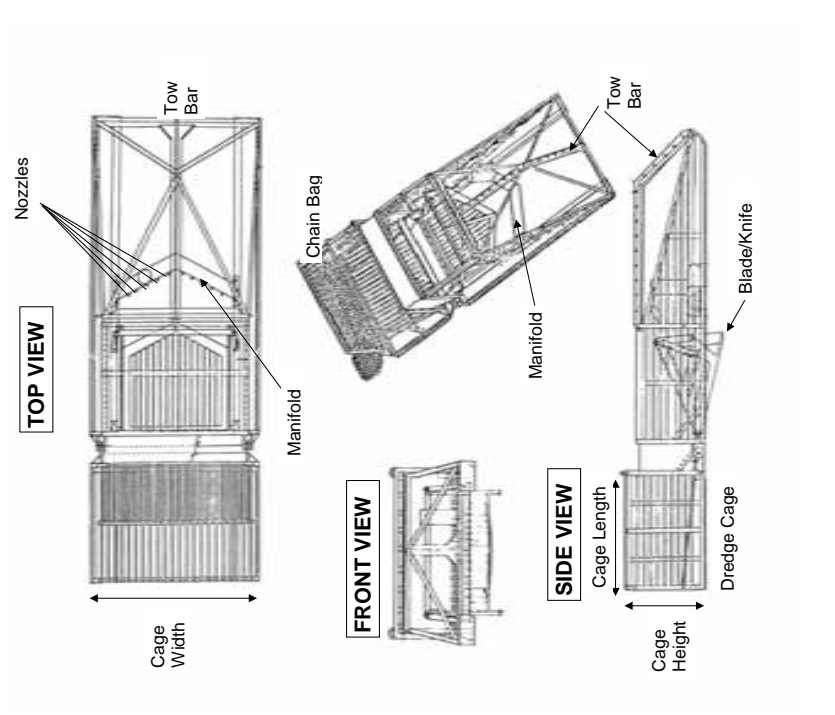
GEAR CODE <div style="border: 1px solid black; padding: 2px; display: inline-block;">3 8 1</div>	GEAR NUMBER(S) 1	SORTER USED? NO 0 YES 1 <input checked="" type="checkbox"/>	NUMBER OF NOZZLES 30	<div style="text-align: center;"> </div>	COMMENTS
DREDGE CAGE HEIGHT 20 in WIDTH 90 in LENGTH 120 in		NUMBER OF NOZZLES 30			
CAGE BOTTOM BAR DIAMETER 1 . 0 in		CAGE BOTTOM BAR SPACING 1 . 2 in			
CHAIN BAG USED? NO 0 <input checked="" type="checkbox"/> YES 1 _____		AVG # OF LINKS BTW 2 RINGS _____ LINK STOCK SIZE _____ / _____ INSIDE RING SIZE (mm) (5 random measurements) _____ TOP OF BAG _____ BOTTOM OF BAG _____ OUTSIDE RING SIZE _____ mm			
TOWLINE TYPE: Unknown _____ Single 1 <input checked="" type="checkbox"/> Bridle 2 _____ Other 9 _____		TOWLINE POSITION: Unknown _____ Forward 1 <input checked="" type="checkbox"/> Over Top of the Knife 2 _____ Other 9 _____		Vessel is stern rigged.	

**CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCDG 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	OF

**COMMENTS**

GEAR CODE <table border="1"><tr><td> </td><td> </td><td> </td></tr></table>					GEAR NUMBER(S) _____	
<b>DREDGE CAGE</b> HEIGHT _____ in      WIDTH _____ in      LENGTH _____ in		SORTER USED? NO <input type="checkbox"/> 0 YES <input type="checkbox"/> 1				
CAGE BOTTOM BAR SPACING _____ in		NUMBER OF NOZZLES _____				
<b>CHAIN BAG</b> USED? NO <input type="checkbox"/> 0      YES <input type="checkbox"/> 1						
AVG # OF LINKS BTW 2 RINGS _____						
LINK STOCK SIZE _____ / _____						
INSIDE RING SIZE (mm) (5 random measurements) _____						
TOP OF BAG _____						
BOTTOM OF BAG _____						
OUTSIDE RING SIZE _____ mm						
<b>TOWLINE</b> TOWLINE TYPE:		TOWLINE POSITION:				
Unknown <input type="checkbox"/>	0 _____	Unknown <input type="checkbox"/>	0 _____			
Single <input type="checkbox"/>	1 _____	Forward <input type="checkbox"/>	1 _____			
Bridle <input type="checkbox"/>	2 _____	Over Top of the Knife <input type="checkbox"/>	2 _____			
Other <input type="checkbox"/>	9 _____	Other <input type="checkbox"/>	9 _____			
_____		_____				



## Clam/Quahog Dredge Haul Log

This log contains detailed questions about the setting, hauling and fishing time of the gear, as well as the haul's catch. Complete a new log after each hauling of gear. If you feel that you cannot go on deck for weather-related safety reasons, record as much information on this log as possible (*e.g.*, Header Information, depths, times, positions, kept catch estimates, *etc.*).

The species summary section of this log should be used to record catches of shellfish species, non-pelagic finfish species, debris and shells only. Species caught that should not be recorded on this particular log include: pelagic species (*e.g.*, swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an Individual Animal Log. Marine mammals, sea turtles, and sea birds must be recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

If there are insufficient lines on one form for all species caught in this haul, continue listing species on an additional Clam/Quahog Dredge Haul Log, making sure to complete all of the Header Information (A–C), GEAR CODE (D), GEAR NUMBER (1) and HAUL NUMBER (E).

If information is unavailable or unknown to any question except a “No/Yes” question, record a dash (—) in the field. If the answer to a “No/Yes” question is unknown, record a “9” on the line next to the code for “No” to indicate that a field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered “No”, leave the field blank.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of dredge deployed, *i.e.*, dredge hits the water.

**Haul End:** Hauling equipment put into gear.

### Instructions

For instructions on completing fields A–Z, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR CONDITION:** Indicate the condition of

the gear at haulback, even if this was the condition of the gear when set, by recording the most appropriate three digit code listed below and in Appendix K: Gear Condition Codes:

000 = Unknown.

810 = No gear damage or insignificant gear damage.

820 = Dredge turned over.

830 = Towline fouled around hose.

840 = Bag split.

850 = Bottom of dredge fractured.

860 = Bent knife frame.

870 = Broken knife frame.

880 = Broken knife/blade.

890 = Dredge lost.

990 = Other, specify in COMMENTS.

**2. BEGIN/END DATE:** Record the month, day, and year, based on local time, that this haul began and ended.

**3. BEGIN/END TIME:** Record the local time, using the 24 hour clock (0000–2359), that this haul began and ended, *i.e.*, when the first component of the dredge is deployed, or the dredge hits the water (Haul Begin), and when the hauling equipment is put into gear (Haul End).

**4. WATER TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the surface sea water temperature after the gear has been set and the winches are locked.

*NOTE:* The temperature must be recorded for every observed haul during the trip.

*NOTE:* Use a thermometer provided by FSB or your observer provider to obtain this temperature.

*NOTE:* If an incidental take occurs in this haul, a **WATER TEMPERATURE must** be recorded.

**5. TOW SPEED:** Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

**6. WIRE OUT:** Record, in whole fathoms, the amount of wire paid out for this haul. This measurement is taken from the towing blocks to the dredge. This information may be obtained from the captain.

**7. DATE/TIME FISHING BEGINS:** Record the local date (month, day, and year) and time, using the

24 hour clock (0000–2359), that the gear is fully deployed and actively fishing (this may be when the brakes are put on).

**8. DATE/TIME GEAR ONBOARD:** Record the local date (month, day, and year) and time, using the 24 hour clock (0000–2359), that the gear from this haul is completely out of the water.

**9. CLAM/QUAHOG CLAPPERS OBSERVED?:** Record whether **clam or quahog** clappers are found in the gear from this haul by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* Include pounds of clappers in the species of the Haul Log.

*NOTE:* If haul is unobserved, record ‘9’.

### Comments

Record any additional information regarding this haul, *e.g.*, unusual species caught, unique gear arrangements or fishing operations, etc. If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name.

**CLAM/QUAHOG DREDGE HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCDH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A	
DATE LAND (mm/yy)		B / /	
PAGE #		C OF	
GEAR CODE	D	GEAR #	E
HAUL OBS?	F	HAUL #	
NO 0			
YES 1	G		
ON-EFFORT?		CATCH?	
NO 0		NO 0	
YES 1	H	YES 1	I
INC TAKE?		WEATHER CODE	
NO 0			K
YES 1	J		
LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			
Station 1	Latitude / Bearing		Station 2
9960 -	P		9960 -
HAUL/FISHING DATE AND TIME			
mm/dd/yy	2	/	/
24 hours	3	:	
BEGIN FISHING			
mm/dd/yy	7	/	/
END HAUL			
mm/dd/yy	8	/	/
GEAR ONBOARD			
mm/dd/yy		/	/
COMMENTS			

WIND	WAVE HEIGHT		DEPTH, HAUL BEGIN	GEAR COND CODE
L	M	N	O	1
kn	ft	ft	fm	
SPEED	DIRECTION	TOW SPEED	WIRE OUT	
4	5	6	fm	
kn	kn	kn		
WATER TEMP	TOW SPEED		WIRE OUT	
0	5	6	fm	
F	Q			
CLAM/QUAHOG	TOW SPEED		WIRE OUT	
CLAPPERS OBS?	Q			
NO 0	R			
YES 1				

SPECIES	NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE	Y	X	W	V	U	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	D/R	WEIGHT ESTIMATION METHOD CODE	Z
1	S	T																
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		



**CLAM/QUAHOG DREDGE HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBCDH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID		A99011-	
DATE LAND (mm/yy)		06 / 13	
PAGE #	1	OF	4

GEAR CODE	3 8 1	GEAR #	0 1	HAUL #	0 0 1	HAUL OBS?	NO 0 YES 1 <input checked="" type="checkbox"/>	ON-EFFORT?	NO 0 YES 1 <input checked="" type="checkbox"/>	CATCH?	NO 0 YES 1 <input checked="" type="checkbox"/>	INC TAKE?	NO 0 <input checked="" type="checkbox"/> YES 1	WEATHER CODE	01
HAUL/FISHING INFO	DATE mm/dd/yy	AND	TIME	LATTITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		Station 1 Latitude / Bearing		Station 2 Latitude / Bearing		WAVE HEIGHT		DEPTH, Haul BEGIN		GEAR COND CODE	
BEGIN HAUL	06 / 15 / 13		10 : 10	39 ° 10.5		9960 -		9960 -		1 kn		20 ft		810	
BEGIN FISHING	06 / 15 / 13		10 : 13	74 ° 11.3											
END HAUL	06 / 15 / 13		10 : 35	74 ° 10.3											
GEAR ONBOARD	06 / 15 / 13		10 : 42												

WIND	DIRECTION	0	90	kn	10	SPEED	0	3	7	kn	110	WIRE OUT	fm
TOW SPEED	WATER TEMP	0	60	F	0	CLAM/QUAHOG CLAPPERS OBS?	NO 0 <input checked="" type="checkbox"/> YES 1	TARGET SPECIES		Ocean Quahog		CODE	

Sorter motor broke. 30 minutes lost for repair  
 Blade was bent during tow.

SPECIES NAME	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT		ESTIMATION METHOD CODE	D/R	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	ESTIMATION METHOD CODE	D/R	WEIGHT
				ESTIMATION METHOD CODE	D/R								
1 Ocean Quahog		320	100	D	04								
2 Sea Cucumber, nk		2	001	R	01								
3 Sea Squirt, nk		1.1	001	R	01								
4													
5													
6													
7													
8													
9													
10													

**CLAM/QUAHOG DREDGE HAUL LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBCDH OBHAU OBSPP 05/01/13**

OBS/ TRIP ID \_\_\_\_\_ / \_\_\_\_\_  
 DATE LAND (mm/yy) \_\_\_\_\_ / \_\_\_\_\_  
 PAGE # \_\_\_\_\_ OF \_\_\_\_\_

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 DIRECTION 0	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
HAUL/FISHING INFO	DATE mm/dd/yy	AND TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)		Station 2 Longitude / Bearing		TOW SPEED		WIRE OUT		fm
BEGIN	/ /	: :	Station 1 Latitude / Bearing	Station 2 Longitude / Bearing			WATER TEMP				fm
HAUL	/ /	:	9960 -	9960 -			0 F				CODE
BEGIN	/ /	:	CLAM/QUAHOG								
FISHING	/ /	:	CLAPPERS OBS?								
END	/ /	:	NO 0								
HAUL	/ /	:	YES 1								
GEAR	/ /	:									
ONBOARD	/ /	:									
COMMENTS											

SPECIES NAME	SUB- SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT ESTIMATION METHOD CODE	D/R	SUB- SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT ESTIMATION METHOD CODE	D/R	SAMPLE WEIGHT MULTIPLIER
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

## Clam/Quahog Dredge Off-Watch Haul Log

This log is to be used for recording dates, times, locations, and the amount of kept clams/quahogs for **off-watch** hauls on clam/quahog dredge gear trips. Complete a single section for each off-watch period.

If the observer is aware of an incidental take of a marine mammal, sea turtle, or sea bird during an off-watch period, complete as many fields as possible on a Clam/Quahog Dredge Haul Log in addition to completing a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

Become familiar with the following definitions.

### Definitions

**Haul Begin:** First component of dredge(s) deployed, *i.e.*, dredge(s) hit the water.

**Haul End:** Hauling equipment put into gear with the intention of hauling back.

### Instructions

For instructions on completing fields **A**, **B**, and **C**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

Fields 1, 2, 4, 6, and 8 should be completed **before** going off-watch. Fields 3, 5, 7, 9, and 10 should be completed **after** your off-watch ends (*i.e.*, before coming back on-watch).

**1. WATCH NUMBER:** Consecutive numbers are assigned to each off-watch recorded on this log. If there are insufficient lines on one form, continue listing off-watches on an additional Clam/Quahog Dredge Off-Watch Haul Log, making sure to fill in the preceding number.

**2. FIRST HAUL:** Record the first haul number for this off-watch period. This number should be one more than the last haul in your previous on-watch.

*Example:* After haul 7, you decide to go off-watch. Record '008' as your FIRST HAUL number.

**3. LAST HAUL:** Record the last haul number for this off-watch period. This number may be obtained by asking the captain or mate how many hauls were completed during your off-watch. Your on-watch will begin with the following haul number.

*Example:* Your off-watch began on haul 8. When you come back, the captain tells you they have completed 8 hauls during your off-watch period. Record '015' as your LAST

HAUL number. Your next on-watch haul will be haul number 16.

**4. FIRST HAUL BEGIN DATE:** Record the month, day, and year, based on local time, that the first haul in this off-watch began.

**5. LAST HAUL END DATE:** Record the month, day, and year, based on local time, that the last haul in this off-watch ended.

**6. FIRST HAUL BEGIN TIME:** Record the local time, using the 24 hour clock (0000-2359), that the first haul in this off-watch began, *i.e.*, when the first component of the dredge(s) is (are) deployed or the dredge(s) hit the water.

**7. LAST HAUL END TIME:** Record the local time, using the 24 hour clock (0000-2359), that the last haul in this off-watch ended, *i.e.*, when the hauling equipment is put into gear.

**8. FIRST HAUL BEGIN POSITION:** Record the coordinate position where the first haul in this off-watch began. Refer to the Common Haul Log Data section for more information on collecting positional data.

**9. LAST HAUL END POSITION:** Record the coordinate position where the last haul in this off-watch ended. Refer to the Common Haul Log Data section for more information on collecting positional data.

**10. AVERAGE NUMBER OF BASKETS KEPT:** Record, to the nearest whole basket, the captain's or mate's estimated average number of baskets **per haul** of clams/quahogs, in the shell, kept from **both dredges** for the hauls in this off-watch period.

*NOTE:* Kept is defined as brought on board the vessel and retained for market or consumptive purposes.

**CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBCDO OBHAU 05/01/13**

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> of <input type="checkbox"/>

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)	
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing		
1									
FIRST HAUL	2	BEGIN	4	:	6	9960-	8	9960-	10
LAST HAUL	3	END	5	:	7	9960-	9	9960-	
2									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
3									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
4									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
5									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
6									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
7									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
8									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
9									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	
10									
FIRST HAUL		BEGIN	/ /	:		9960-		9960-	
LAST HAUL		END	/ /	:		9960-		9960-	

**CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBCDO OBHAU 05/01/13**

OBS/TRIP ID	<b>A99012-</b>
DATE LANDED mm/yy	<b>05 / 13</b>
PAGE #	<b>1</b> of <b>2</b>

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	
<b>01</b>								
FIRST HAUL	<b>9</b>	BEGIN		9960-	<b>41° 07.2</b>	9960-	<b>69° 22.8</b>	<b>30</b>
LAST HAUL	<b>15</b>	END	<b>06:00</b>	9960-	<b>41° 08.3</b>	9960-	<b>69° 25.6</b>	
		<b>05 / 06 / 13</b>	<b>00:00</b>					
		<b>05 / 07 / 13</b>	<b>06:00</b>					
<b>02</b>								
FIRST HAUL	<b>21</b>	BEGIN		9960-	<b>41° 08.3</b>	9960-	<b>69° 25.6</b>	<b>40</b>
LAST HAUL	<b>27</b>	END	<b>18:00</b>	9960-	<b>41° 07.4</b>	9960-	<b>69° 22.3</b>	
		<b>05 / 07 / 13</b>	<b>12:00</b>					
		<b>05 / 07 / 13</b>	<b>18:00</b>					
<b>03</b>								
FIRST HAUL	<b>33</b>	BEGIN		9960-	<b>41° 07.4</b>	9960-	<b>69° 22.3</b>	<b>35</b>
LAST HAUL	<b>39</b>	END	<b>06:00</b>	9960-	<b>41° 07.9</b>	9960-	<b>69° 24.9</b>	
		<b>05 / 08 / 13</b>	<b>00:00</b>					
		<b>05 / 08 / 13</b>	<b>06:00</b>					
<b>04</b>								
FIRST HAUL	<b>45</b>	BEGIN		9960-	<b>41° 07.9</b>	9960-	<b>69° 24.9</b>	<b>35</b>
LAST HAUL	<b>51</b>	END	<b>18:00</b>	9960-	<b>41° 06.9</b>	9960-	<b>69° 21.5</b>	
		<b>05 / 08 / 13</b>	<b>12:00</b>					
		<b>05 / 08 / 13</b>	<b>18:00</b>					
<b>05</b>								
FIRST HAUL	<b>57</b>	BEGIN		9960-	<b>41° 06.9</b>	9960-	<b>69° 21.5</b>	<b>50</b>
LAST HAUL	<b>63</b>	END	<b>06:00</b>	9960-	<b>41° 07.6</b>	9960-	<b>69° 23.4</b>	
		<b>05 / 09 / 13</b>	<b>00:00</b>					
		<b>05 / 09 / 13</b>	<b>06:00</b>					
<b>06</b>								
FIRST HAUL	<b>69</b>	BEGIN		9960-	<b>41° 07.6</b>	9960-	<b>69° 23.4</b>	<b>45</b>
LAST HAUL	<b>75</b>	END	<b>18:00</b>	9960-	<b>41° 07.2</b>	9960-	<b>69° 22.8</b>	
		<b>05 / 09 / 13</b>	<b>12:00</b>					
		<b>05 / 09 / 13</b>	<b>18:00</b>					
<b>07</b>								
FIRST HAUL	<b>81</b>	BEGIN		9960-	<b>41° 06.9</b>	9960-	<b>69° 21.5</b>	<b>55</b>
LAST HAUL	<b>87</b>	END	<b>06:00</b>	9960-	<b>41° 07.2</b>	9960-	<b>69° 22.8</b>	
		<b>05 / 10 / 13</b>	<b>00:00</b>					
		<b>05 / 10 / 13</b>	<b>06:00</b>					
<b>08</b>								
FIRST HAUL	<b>93</b>	BEGIN		9960-	<b>41° 07.9</b>	9960-	<b>69° 24.9</b>	<b>55</b>
LAST HAUL	<b>99</b>	END	<b>18:00</b>	9960-	<b>41° 07.2</b>	9960-	<b>69° 22.8</b>	
		<b>05 / 10 / 13</b>	<b>12:00</b>					
		<b>05 / 10 / 13</b>	<b>18:00</b>					
<b>09</b>								
FIRST HAUL	<b>105</b>	BEGIN		9960-	<b>41° 06.9</b>	9960-	<b>69° 21.5</b>	<b>50</b>
LAST HAUL	<b>111</b>	END	<b>12:00</b>	9960-	<b>41° 07.9</b>	9960-	<b>69° 24.9</b>	
		<b>05 / 11 / 13</b>	<b>06:00</b>					
		<b>05 / 11 / 13</b>	<b>12:00</b>					
<b>10</b>								
FIRST HAUL	<b>117</b>	BEGIN		9960-	<b>41° 08.3</b>	9960-	<b>69° 25.6</b>	<b>45</b>
LAST HAUL	<b>123</b>	END	<b>00:00</b>	9960-	<b>41° 06.9</b>	9960-	<b>69° 21.5</b>	
		<b>05 / 11 / 13</b>	<b>18:00</b>					
		<b>05 / 11 / 13</b>	<b>00:00</b>					

**CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCDO OBHAU 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	of

WATCH #	WATCH INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS # OF BASKETS KEPT (AVERAGE)
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	
1	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
2	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
3	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
4	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
5	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
6	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
7	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
8	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
9	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								
10	BEGIN	/ /	:	9960-		9960-		
FIRST HAUL								
	END	/ /	:	9960-		9960-		
LAST HAUL								

## Marine Mammal, Sea Turtle, and Seabird Incidental Take Log

The purpose of this log is to document incidentally taken marine mammals, sea turtles, and sea birds. For each incidental take, complete a record on this log (NEFOP and IFS) or a new log (ASM).

**NOTE:** For NEFOP and IFS trips, if more than one animal is taken at a time, record each animal on a separate line. The same log may be used for all incidental takes occurring on a trip, regardless of haul number, if they are all caught by the same vessel.

**NOTE:** For pair trawl trips, incidental takes should never be duplicated.

If one observer: record all incidental takes regardless of which vessel the net was hauled onboard.

If two observers: only record the incidental takes that occur on the vessel to which you are deployed.

Do not record information on terrapins on this log. These animals should be recorded on an Individual Animal Log.

An animal must not be recorded on both the Protected Species Sighting Log and the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. If a dead or injured marine mammal, sea turtle, or sea bird is seen in the water during or immediately after a haulback, the observer must decide if the animal was once entangled in the gear of the vessel, *i.e.* whether the animal(s) is (are) determined to be an incidental take.

Gear or gear marks on the animal and/or damage to the fishing gear may help to distinguish incidental takes from sightings. If at any time during an observed trip a marine mammal, sea turtle, or sea bird directly contacts the vessel, or the vessel's fishing gear AND any part of the animal is entangled, snagged, ensnared, caught, hooked, collided with, hit, injured, or killed by the vessel or its gear, regardless of the final condition and release of the animal, it should be documented on the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

Record articulated marine mammal, sea turtle, or sea bird skeletons (>=75% of skeleton) on the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log and mark the INC TAKE? field on the corresponding Haul Log as 'Yes'. Record single bones or disarticulated marine mammal, sea turtle, or sea bird skeletons in the species section of the Haul Log as

“Bone, NK”. Comments and photos MUST be provided in both instances.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted.

### Instructions

For instructions on completing the Header fields **A**, **B**, and **C**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**\*1. PSID#:** A consecutive identification number (Protected Species ID) is assigned to each animal that is incidentally taken on this trip. For NEFOP and IFS trips, if there are insufficient lines on one form to record all animals caught on this trip, continue listing animals on an additional Marine Mammal, Sea Turtle, and Seabird Incidental Take Log, making sure to fill in the preceding number.

**NOTE:** The sequences of numbers assigned to each animal should correspond to the sequence of the take event. They are numbered in order of time taken, starting with ‘01’.

**\*2. HAUL NUMBER:** Record the haul number assigned to the haul in which the take(s) occurred. This number must agree with the number recorded for this haul on the corresponding Haul Log.

**3. GEAR NUMBER:** Record the **gear number** assigned to the uniquely identified gear in which the animal was taken, as specified on the corresponding Gear Characteristics Log.

**4. NET NUMBER/DREDGE/NET POSITION: (Gillnet, Scallop Dredge, Scallop Trawl and Twin Trawl Gear fisheries only):**

**Gillnet:** Record the **net number** within the string in which the animal was taken. Start with “1”, for the first net to be hauled back, and continue numbering the nets sequentially.

**Scallop Dredge, Scallop Trawl and Twin Trawl**

**Gear:** Indicate which dredge/net the incidental take was associated with:

P = Port

S = Starboard

U = Unknown

A = Aft

**NOTE:** All other gear types should leave this field

blank.

**5. TIME BROUGHT UP:** Record the local time using the 24 hour clock (0000–2359) that each animal is brought onboard.

*NOTE:* If the animal is not brought onboard, record the time it was brought alongside the vessel.

*Example:* 20:32.

**6. ACTIVE DETERRENT DEVICE CONDITION:** Record the condition of the active deterrent device that **immediately follows** an incidental take by recording the most appropriate code:

- 0 = Unknown.
- 1 = No Pingers Used On Gear.
- 2 = Audible, Not Tested
- 3 = Inaudible, Tested and Working
- 4 = Inaudible, Tested and Not Working
- 5 = Inaudible, Not Tested
- 6 = Absent (Lost)
- 7 = Audible, Tested and Working
- 8 = Audible, Tested and Not Working

*NOTE:* “Tested” means the pinger signal was measured using a testing tool provided by FSB or an observer provider.

*NOTE:* If possible, record the condition of the active deterrent device that **immediately precedes** an incidental take in COMMENTS.

**\*7. SPECIES NAME:** Record the complete common name of each animal incidentally taken on this trip, as listed in Appendix O: Species List and Corresponding Logs. Record any characteristics used to identify the species in COMMENTS.

*NOTE:* If it is not possible to make a positive species identification, identify the animal to the most specific generic group of which you are positive (*i.e.*, baleen whale, unidentified dolphin, seal, hard-shelled sea turtle, *etc.*). **DO NOT GUESS AT SPECIES IDENTIFICATION.**

**8. SPECIES CODE:** Leave this field blank.

**\*9. TAG NUMBER(S):** Record the complete alphanumeric number(s), with no spaces or hyphens, from the tag(s) that you attach, or that were already attached, to the animal. This number may be from:

- A yellow marine mammal carcass tag supplied to an observer by FSB.

- An Iconel turtle tag supplied to an observer by FSB.
- A metal band attached to the leg or wing of a sea bird.
- Other types of tags already present on the animal.

*Example:* D09999.

*NOTE:* On NEFOP and IFS trips, up to 4 unique tag numbers can be recorded in this field. On ASM trips, record any additional tag numbers in COMMENTS.

*NOTE: If the animal is dead* and a tag or band is present, remove the tag (if possible) and send it in with the trip data. If the tag cannot be removed, photograph the tag or band, and record details (*e.g.*, color, tagging program) in COMMENTS. Tag all dead marine mammals with a yellow marine mammal carcass tag supplied by FSB.

*NOTE: If the animal is alive*, do not attempt to remove any tags or bands. Photograph the tag or band (if possible) and record details in COMMENTS.

**\*10. TAG CODES:** Indicate the origin of the tag number recorded above (#9), for each tag attached to the animal, by recording the appropriate one-digit code (NEFOP and IFS) or checking the appropriate box (ASM):

- 0 = Unknown.
- 1 = Tag Applied by Observer.
- 2 = No Tag(s).
- 3 = Tags Already Present, Left On.
- 4 = Tags Already Present, Removed.

*Example:* A turtle is brought onboard the vessel with one tag, XXC123. The observer applies another tag, XXH782.

TAG	
NUMBER(S)	CODE
XXC123	3
XXH782	1

**\*11. ENTANGLEMENT SITUATION:** Indicate the initial entanglement situation of the animal by recording the most appropriate two-digit code (NEFOP and IFS) or description (ASM):

- 00 = Unknown.
- 01 = Fell from gear at a point unknown, *i.e.*, the animal fell from the gear, but the time during haulback when this occurred is unknown.
- 02 = Fell from gear before exiting water, *i.e.*, the animal was still under water when it fell from



- the gear.
- 03 = Fell from gear once hauled out of the water, *i.e.*, the animal was mostly/completely out of the water when it fell from the gear because the weight and pulling action of the net caused the animal to fall from the gear.
- 04 = Fell from gear due to force of roller, *i.e.*, the animal reached the haulback roller and the roller's force caused it to fall from the gear.
- 05 = Removal requires cutting of gear/animal, *i.e.*, the gear and/or the animal is cut in order to remove the animal from the gear.
- 06 = Removal does NOT require cutting of gear/animal, *i.e.*, pulling, unwrapping, unrolling, and/or detangling the gear allows the animal to be removed from the gear, without cutting the gear and/or the animal.
- 08 = Caught in wings of trawl net.
- 10 = **Sea Bird** caught, gangion attached to mainline.
- 11 = **Sea Bird** caught, gangion unattached to mainline.
- 12 = Hooked, ingested.
- 13 = Hooked, beak.
- 14 = Hooked, head.
- 15 = Hooked, flipper.
- 16 = Hooked, carapace.
- 17 = Hooked, other/unknown, describe the hooked entanglement situation in COMMENTS.
- 18 = Caught inside dredge chain bag.
- 19 = On top of dredge or dredge frame.
- 20 = Caught in dredge frame or in between bales.
- 21 = Caught inside dredge in twine top.
- 22 = Caught on sweep/tickler/rock chains.
- 23 = Caught in bridles/cables/warp.
- 24 = Inside mouth of trawl net.
- 25 = Inside belly of trawl net.
- 26 = Inside codend of trawl net.
- 27 = Caught in sweep or footrope of trawl net.
- 28 = Contact with vessel or vessel equipment other than fishing gear.
- 29 = Entangled in gear other than vessel's fishing gear (*e.g.*, ghost gear caught by vessel)
- 30 = Caught in the catch pump
- 31 = Entrapped/caught in bunt of purse seine
- 32 = Entrapped/caught in net/wing of purse seine
- 99 = Other, describe the entanglement situation in COMMENTS.

*NOTE:* If more than one code applies to a situation choose the code that describes the primary entanglement/interaction.

*Example:* A turtle is observed inside the twine top of a dredge and falls from the gear as it is hauled up—choose code '21' (caught inside dredge in twine top) as it best describes the primary interaction.

*NOTE:* If the entanglement cannot be seen, record code '00' (Unknown) and record the first observation of the animal in COMMENTS.

**\*12. ANIMAL CONDITION:** Indicate the condition of the animal **when released** by recording the most appropriate two digit code (NEFOP and IFS) or description (ASM):

00 = Unknown, explain why you can not identify the animal condition in COMMENTS.

01 = Alive, see COMMENTS.

04= Alive, hook/gear in/around mouth, attempt to determine where in the mouth the hook is, *etc.* and describe in COMMENTS.

05 = Alive, hook/gear in/around flipper, *e.g.*, hook in the flipper or gear around the flipper., describe more fully in COMMENTS.

06 = Alive, hook/gear in/around another single body part, *e.g.*, hook in the neck or plastron; specify which in COMMENTS.

07 = Alive, hook/gear in/around several body parts, describe more fully in COMMENTS.

08 = Alive, seen by captain and/or crew ONLY.

09 = Alive, resuscitated (turtle).

10 = Dead, condition unknown.

11 = Dead, fresh. See Figure 1.

12 = Dead, moderately decomposed. See Figure 2.

13 = Dead, severely decomposed. See Figure 3.

14 = Dead, seen by captain and/or crew ONLY.

*NOTE:* For more descriptive details on dead animal condition codes, specifically, dead fresh, dead moderately decomposed, and dead severely decomposed, see Animal Condition Codes (When Released) starting on page 264.

*NOTE:* If more than one code applies, choose the code that describes the most specific condition of the animal.

*Example:* A turtle is alive and released with gear around the left front flipper—choose code '05' (alive, hook/gear in/around flipper) as it

is the most specific.

**NOTE:** Per ESA Permit requirements and the Fisheries Sampling Branch protocols, observers are required to make every effort to revive all sea turtles incidentally taken during commercial fishing operations that come on board, and are comatose (unconscious) or inactive. A resuscitated turtle is any turtle that was comatose (*i.e.*, no signs of life; unconscious; non-responsive) and later became active, possibly as a result of placing the turtle into a recovery position. See the [NEFSC Fisheries Sampling Branch Biological Sampling Manual](#) for more details on turtle resuscitation.

**NOTE:** Additional comments about the condition of the animal **must be** recorded in COMMENTS as these data are needed for obtaining better information on the condition at the time of capture.

- Document how much of the animal was examined (*e.g.*, only dorsal and lateral sides seen).
- Thoroughly describe new and/or healed wounds, including size, shape, texture, depth, and location. Comment if fresh blood is seen, or if unusual tissue marks are present.
- Describe the amount and location of scavenger damage and/or decomposition, the firmness and coloration of tissues, condition of the skin (*e.g.*, cracked, sloughing, dull, glossy), the presence or absence of blood (record if bleeding), and any missing parts.
- Include descriptive comments about the animal's behavior on deck and upon release (*e.g.*, lethargic, active, calm, vocalizing, struggling, swam away, sank, floated at surface, righted itself, dove, breathing patterns, etc.).
- Also record the amount and location of gear remaining on the animal, and for sea turtles, the time required for resuscitation (NEFOP and IFS observers may record resuscitation information on the [Sea Turtle Biological Sample Log](#)).

**13. ONBOARD?:** Indicate whether the animal was brought onboard the vessel by recording the appropriate one digit code.

0 = No. Note the reason the animal was not brought onboard in COMMENTS.

1 = Yes.

**NOTE:** An animal that is removed from the gear and handled by a crewmember would be con-

sidered onboard, regardless of whether it touched the deck.

**Example:** Sea birds removed by hand from trawl gear while being brought onboard, then returned to the water.

**NOTE:** An animal that is cut from the gear but is never handled by a crewmember would not be considered onboard.

**Example:** A marine mammal cut from a gillnet before coming in contact with the hauler.

**\*14. PHOTO(S) TAKEN?:** Indicate whether any photograph(s) is (are) taken of the animal by recording the appropriate one digit code (NEFOP and IFS) or checking the appropriate box (ASM):

0 = No. If no photographs are taken, record the reason in COMMENTS.

1 = Yes.

**NOTE:** All marine mammals, sea turtles, and sea birds incidentally taken **must be photographed** as photos are necessary to assist in corroborating species identification. Only under extreme conditions should this field reflect that no photos were taken, and the reason must be recorded in COMMENTS.

**15. SAMPLED?:** Indicate whether this animal has been measured or sampled by recording the appropriate one digit code:

0 = No. If no measurements and/or samples are taken from a marine mammal, sea turtle, or sea bird, record the reason in COMMENTS.

1 = Yes.

2 = Yes, feathers only.

**16. ESTIMATED LENGTH:** Record, in whole centimeters, the **estimated** length of the animal.

**NOTE:** If **actual measurements** are taken on this animal, record a dash (—) in this field. Actual measurements are recorded on the [Marine Mammal Biological Sample Log](#) and the [Sea Turtle Biological Sample Log](#).

**NOTE:** No lengths are taken for sea birds; leave this field blank.

**NOTE:** For sea turtles, the estimated length should be the Notch to Tip Length (curvilinear).

**NOTE:** For marine mammals, the estimated length should be a straight line estimate of total length.

## Comments

Record any additional information regarding the incidental take(s), especially when data are unable to be collected. The COMMENTS section should include a list of identifying characteristics, details on the entanglement situation, and a description of the overall condition of the animal. If more room is needed, use the back of this log, making sure to indicate “See Back” on the front. For NEFOP and IFS trips, reference each comment with its corresponding field name and PSID. Also, include any other relevant information regarding the incidental take, such as for dredge/trawl gear if the animal was seen in the dredge/net prior to dumping on deck.

*NOTE:* If an animal fall from the gear (alive or dead), complete this log and record additional comments regarding the “fallout,” (*e.g.*, the specifics of how the animal was entangled, whether the animal sank or floated away, etc.)

*NOTE:* For turtle takes, comment on whether the animal slid out or escaped from the gear. Comment on if and how the turtle was hooked and/or entangled. If any gear was left on the animal when released, thoroughly describe the amount of gear, including linear feet.

*NOTE:* For marine mammals, comment on whether the animal was released with gear. Include a description of the gear (type, material, any buoys/floats, etc.), how the animal was entangled and how much gear remained upon release.

*NOTE:* For sea birds, comment when animals are seen diving near setting/hauling of gear, if chasing bait, offal (entrails and internal organs of processed species), or fallouts near gear, or any details relative to how the animal(s) became entangled.

## Tag Supply, Distribution, and Tracking

Prior to each deployment, ensure that you have an adequate supply of sea turtle<sup>1</sup> and marine mammal carcass tags. **Always** carry a minimum of 5 tags of each type, and associated gear for fastening (*e.g.*, zip ties, pliers).

All tags should be signed out from FSB staff. You are responsible for all tags issued to you. **Transfer of tags to the vessel operator or anyone else, including other observers, is not allowed.** Observers should be supportive of other organizations’ tag release programs and tagging efforts of crew members. Upon separation from the program, all tag types must be returned to FSB.

Each group of Iconel tags will normally be packaged with the tag numbers listed on the outside. Documentation of lost tags is very important to help improve tracking of tag resources. Notify FSB of all lost or malfunctioning tags.

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1. Sea turtle Iconel tags are only applied on NEFOP and IFS trips. Observers that only complete ASM trips will not be issued sea turtle tags.

## Animal Condition Codes (When Released)

Figure 1: Animal Condition: Dead, Fresh (Code '11')  
(NOTE: Illustration is of a pregnant female)



Figure 2: Animal Condition: Dead, Moderately Decomposed (Code '12')



Figure 3: Animal Condition: Dead, Severely Decomposed (Code 13) Figure 4: Close-up of head of animal illustrated in Figure 3.



## Animal Condition Codes (When Released) - Marine Mammals

### Dead, Fresh

---

- Normal appearance (as if the animal was still alive).
- Carcass not bloated with gas and/or when body punctured—no sound of gas escaping.
- Tongue and penis not bloated and/or protruding.
- Body, muscles, and blubber firm to the touch.
- Muscle tissue appearance close to that of meat for human consumption.
- Blubber creamy white or pinkish coloration, no evidence of liquefying fat.
- Easily recognizable or identifiable to species.
- Skin/fur can not be easily pulled or separated from underlying tissue.
- Eyes, when present, may be clear, cloudy blue/white, or red.
- Lacking proximal odor
- May have white foam seeping from mouth/blowhole.
- May have fresh scavenger damage with tissue missing, but remaining muscle—firm, pink/red; blubber—firm, creamy white to pink; skin—firm with normal coloration; and organs still easily distinguishable.

### Dead, Moderately Decomposed

---

- Does not appear as if it was “just alive” or “swimming”.
- Carcass may be bloated with decomposition gases and/or likely to have gas escape or body cavity collapse if body cavity can be punctured.
- Carcass may be intact but collapsed due to internal tissue/organ deterioration.
- Skin cracked and sloughing, may be easily separated from underlying body tissue.
- Hair may easily be separated from underlying tissue without tugging or stroking.
- Edges of wounds/tissue damage likely to be soft, mushy with grayish/whitish coloration.
- Muscle tissues likely to be soft and poorly defined and pinkish white/gray in coloration.
- Organs/musculature mostly intact but different types may not be easily distinguishable.
- Tongue and/or penis may be bloated and protruding from orifices.
- Tissues usually smell strongly of rotting flesh; distal odor evident.
- May be fragile but can usually be moved mostly intact.
- Recognizable by species (even though body parts may be missing).

### Dead, Severely Decomposed

---

- Any remaining skin/hair is easily separated from underlying tissue.
- Where skin/hair is gone, exposed blubber and other soft tissue is mushy and ill-defined.
- Muscle/blubber may be liquefied and/or falling off bones.
- Muscle tissue usually uniform in coloration and texture with no distinct fibers visible.
- Tissues/organs exuding from body are dull in coloration with little visible distinction between tissue/organ type.
- Carcass may be collapsed and deteriorating or partially intact.
- Connective tissue holding bones together is soft and deteriorating.
- Unrecognizable to species or species group by typical coloration, patterns, or markings. Teeth may be used to identify species, if still intact.

## Animal Condition Codes (When Released) - Sea Turtles

### Dead, Fresh

---

- Normal appearance (as if the animal was still alive) **but has not responded to stimulus tests for more than 24 hours and/or rigor mortis has set in.**
- Carcass not bloated with gas and/or when body punctured—no sound of gas escaping.
- If hardshelled, scutes are not flaking or disintegrating.
- Muscles and blubber firm.
- Muscle tissue pink or red in coloration.
- Blubber creamy with no evidence of liquefying fat.
- Skin can not easily be pulled or separated from underlying tissue.
- Eyes—when present may be clear, cloudy blue/white, or red.
- May have fresh scavenger damage with tissue missing, but remaining muscle—firm, pink/red; blubber—firm; skin—firm with normal coloration; and organs still easily distinguishable.
- Easily recognizable or identifiable to species.

### Dead, Moderately Decomposed

---

- Does not appear as if it was “just alive” or “swimming”.
- Carcass possibly bloated with decomposition gases.
- If body cavity punctured—likely to have gas escaping or body cavity collapses.
- Tissue may be bloated and protruding from cracks/openings in the shell.
- Scutes may be sloughing, may be easily separated from underlying body tissue.
- Edges of wounds/tissue damage likely to be soft, or mushy with greyish/whitish coloration.
- Muscle tissues likely to be soft and poorly defined and pinkish white/grey in coloration.
- Organs/musculature mostly intact but different types may not be easily distinguishable.
- Carcass may be intact but collapsed due to internal tissue/organ deterioration.
- Tissues usually smell strongly of rotting flesh.
- May be fragile but can usually be moved mostly intact.
- Recognizable by species (even though body parts may be missing).

### Dead, Severely Decomposed

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- Any remaining scutes and/or skin are easily separated from underlying tissue.
- Where scutes and/or skin is gone, exposed blubber and other soft tissue is mushy and ill-defined.
- Muscle/blubber may be liquefied and/or falling off bones.
- Muscle tissue usually uniform in coloration and texture with no distinct fibers visible.
- Tissues/organs exuding from body are dull in coloration with little visible distinction between tissue/organ types.
- Carcass may be collapsed and deteriorating or partially intact.
- Connective tissue holding bones together is soft and deteriorating.
- Unrecognizable to species or species group by typical coloration, patterns, or markings. Scute counts may be used to identify species, if still intact.

## Animal Condition Codes (When Released) - Sea Birds

### Dead, Fresh

---

- Feather, skin of legs, feet & bill coloration close to or same as that of live bird.
- Feathers resist being separated from skin.
- Exposed muscle tissue firm and pink/red coloration.
- Skin on feet/legs firm and not separated easily from bone.
- May have fresh scavenger damage with tissue missing, but remaining muscle—firm, pink/red; fat—firm; skin—firm with normal coloration; and organs still easily distinguishable.
- Eyes may be plump or desiccated/sunken.
- Easily recognizable or identifiable to species.

### Dead, Moderately Decomposed

---

- Feathers easily separated from body tissue.
- Usually faded/discolored facial tissue, feet, legs, and beak.
- Muscle tissue usually soft to mushy and poorly defined, with light pink to grey coloration.
- Body organs/tissue smells like rotting flesh.
- Recognizable by species (even though body parts may be missing).

### Dead, Severely Decomposed

---

- Beak may be separating from the head/body.
- Feathers easily falling/or pulled out of skin.
- Skin on feet/legs falling off bones.
- Skin separated from other body tissues and mushy; tears easily.
- Remaining tissue is usually sparse and is very mushy or liquefied.
- Tissue falling off bones and skeleton disarticulating due to disintegration of connective tissue.
- Unrecognizable to species.

**MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBINC 05/01/13**

OBS/TRIP ID										A					
DATE LANDED mm/yy										B					
PAGE #										C		OF			
PSID #	HAUL NUM	GEAR NUM	NET NUM/ DREDGE/NET POSITION (p/s/u/a)	TIME (24 hours)	ADD COND CODE	SPECIES NAME	CODE	TAG NUMBER(S) (record most recent first)	CODE(S)	ENTANG SITU CODE	ANIMAL COND CODE	ANIMAL ONBRD? 0=No 1=Yes	PHOTO TAKEN? 0=No 1=Yes	SAMPLED? 0=No 1=Yes 2 = Yes, feathers only	EST LEN (cm) (if no actual) (no birds)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1				:											
2				:											
3				:											
4				:											
5				:											
6				:											
7				:											
8				:											
9				:											
0				:											

COMMENTS: List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.



OBS/TRIP ID		A
DATE LANDED mm/yy		B
PAGE #		C
<b>ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:</b> 0 = Unknown 1 = No Pingers Used On Gear 2 = Audible, Not Tested 3 = Inaudible, Tested and Working 4 = Inaudible, Tested and Not Working 5 = Inaudible, Not Tested 6 = Absent (Lost) 7 = Audible, Tested and Working 8 = Audible, Tested and Not Working		<b>ENTANGLEMENT / INTERACTION SITUATION CODES:</b> 00 = Unknown 01 = Fell From Gear at a Point Unknown 02 = Fell From Gear Before Exiting Water 03 = Fell From Gear Once Hauled Out of Water 04 = Fell From Gear Due to Force of Roller 05 = Removal Requires Cutting of Gear/Animal 06 = Removal Does NOT Require Cutting of Gear/Animal 08 = Caught in Wings of Trawl Net 10 = Sea Bird Caught, Gangion Attached to Mainline 11 = Sea Bird Caught, Gangion Unattached to Mainline 12 = Hooked, Ingested 13 = Hooked, Beak 14 = Hooked, Head 15 = Hooked, Flipper 16 = Hooked, Carapace 17 = Hooked, Other/Unknown 18 = Caught Inside Dredge Chain Bag  <b>TAG CODES:</b> 0 = Unknown 1 = Tag Applied by Observer 2 = No Tag(s) 3 = Tag Already Present, Left On 4 = Tag Already Present, Removed  <b>NOTE:</b> Record Turtle Pit Tags on the Sample Log
<b>ENTANGLEMENT / INTERACTION SITUATION CODES:</b> 18 = Caught Inside Dredge Chain Bag 19 = On Top of Dredge or Dredge Frame 20 = Caught in Dredge Frame or Between Bails 21 = Caught Inside Dredge in Twine Top 22 = Caught on Sweep/Tickler/Rock Chains 23 = Caught in Bridles/Cables/Warp 24 = Inside Mouth of Trawl Net 26 = Inside Codend of Trawl Net 27 = Caught in Sweep or Footrope of Trawl Net 28 = Contact with Vessel or Vessel Equipment other than Fishing Gear 29 = Entangled in Gear other than Vessel's Fishing Gear (e.g. Ghost Gear Caught by Vessel) 30 = Caught in Catch Pump 31 = Entrapped/caught in Bunt of Purse Seine 32 = Entrapped/caught in Net/Wing of Purse Seine 99 = Other  <b>NOTE:</b> If more than one code applies to a situation, choose the code that describes the primary entanglement/interaction (e.g. a turtle is observed inside the twine top of a dredge and falls from the gear as it is hauled up - choose code 21 as it best describes the primary interaction).		<b>ANIMAL CONDITION CODES (when released):</b> 00 = Unknown 01 = Alive, see comments 04 = Alive, Hook/Gear In/Around Mouth 05 = Alive, Hook/Gear In/Around Flipper 06 = Alive, Hook/Gear In/Around Another Single Body Part 07 = Alive, Hook/Gear In/Around Several Body Parts 08 = Alive, Seen by Captain/Crew ONLY 09 = Alive, resuscitated (turtle) 10 = Dead, Condition Unknown 11 = Dead, Fresh 12 = Dead, Moderately Decomposed 13 = Dead, Severely Decomposed 14 = Dead, Seen by Capt/Crew ONLY  <b>NOTE:</b> If more than one code applies, choose the code that describes the most specific condition (e.g. a turtle is alive and released with gear around the left front flipper - choose code 05 as it is most specific at release).
<b>ADDITIONAL COMMENTS</b>		

**MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBINC 05/01/13**

OBS/TRIP ID	A99010+(trip ext)	
DATE LANDED mm/yy	01	/ 13
PAGE #	1	OF 2

PSID #	HAUL NUM	GEAR NUM	NET NUM/ DREDGE/NET POSITION (p/s/u/a)	TIME (24 hours)	ADD COND CODE	SPECIES		TAG NUMBER(S) (record most recent first)	CODE(S)	ENTANG SITU CODE	ANIMAL COND CODE	ANIMAL ONBRD? 0=No 1=Yes	PHOTO TAKEN? 0=No 1=Yes	SAMPLED? 0=No 1=Yes 2 = Yes, feathers only	EST LEN (cm) (if no actual) (no birds)
						NAME	CODE								

**FOR GILLNET GEARS:**

0_1	3	3	8	10:04	2	Harbor Porpoise		D07982	1	04	11	0	1	1	105
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**FOR DREDGE, SCALLOP TRAWL, & TWIN TRAWL GEARS:**

0_2	4	1	p	12:13	1	Loggerhead Turtle		QQS555 PPD117	1 1	18	09	1	1	1	---
-----	---	---	---	-------	---	-------------------	--	------------------	--------	----	----	---	---	---	-----

**FOR OTHER GEARS:**

0_3	15	2	---	12:20	1	Greater Shearwater			2	26	13	1	1	0	---
4				:											
5				:											
6				:											
7				:											

COMMENTS: List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.

**PSID #01 -** Fell from net when animal came to roller head first and meshes tore dropping animal into water, but was recovered using gaff into head of animal. Small sample of dorsal fin taken for DNA, tagged around peduncle & photographed while in water, but was not brought onboard as too heavy to lift over side rail. No beak; spade-like flat-topped small teeth; dark gray/black coloration to dorsal surface of body, dorsal fin, flippers and fluke gradually changing to light gray on lateral body and white belly. Could not see entire R side of body but L side had no visible damage or blood except thin, linear cut in skin down to blubber around head behind blowhole where head was through mesh. R flipper also through a mesh to axilla which tore when raised to hauler. Indentation to skin around flipper at axilla but did not penetrate skin. Body sunk immediately when released.

See back for more comments.

OBS/TRIP ID		A99010+(trip ext)	
DATE LANDED mm/yy		01	/ 13
PAGE #		2	OF 2

<p><b>ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:</b></p> <p>0 = Unknown</p> <p>1 = No Pingers Used On Gear</p> <p>2 = Audible, Not Tested</p> <p>3 = Inaudible, Tested and Working</p> <p>4 = Inaudible, Tested and Not Working</p> <p>5 = Inaudible, Not Tested</p> <p>6 = Absent (Lost)</p> <p>7 = Audible, Tested and Working</p> <p>8 = Audible, Tested and Not Working</p>	<p><b>ENTANGLEMENT / INTERACTION SITUATION CODES:</b></p> <p>00 = Unknown</p> <p>01 = Fell From Gear at a Point Unknown</p> <p>02 = Fell From Gear Before Exiting Water</p> <p>03 = Fell From Gear Once Hauled Out of Water</p> <p>04 = Fell From Gear Due to Force of Roller</p> <p>05 = Removal Requires Cutting of Gear/Animal</p> <p>06 = Removal Does NOT Require Cutting of Gear/Animal</p> <p>08 = Caught in Wings of Trawl Net</p> <p>10 = Sea Bird Caught, Gangion Attached to Mainline</p> <p>11 = Sea Bird Caught, Gangion Unattached to Mainline</p> <p>12 = Hooked, Ingested</p> <p>13 = Hooked, Beak</p> <p>14 = Hooked, Head</p> <p>15 = Hooked, Flipper</p> <p>16 = Hooked, Carapace</p> <p>17 = Hooked, Other/Unknown</p> <p>18 = Caught Inside Dredge Chain Bag</p> <p>NOTE: If more than one code applies to a situation, choose the code that describes the primary entanglement/interaction (e.g. a turtle is observed inside the twine top of a dredge and falls from the gear as it is hauled up - choose code 21 as it best describes the primary interaction).</p>	<p><b>TAG CODES:</b></p> <p>0 = Unknown</p> <p>1 = Tag Applied by Observer</p> <p>2 = No Tag(s)</p> <p>3 = Tag Already Present, Left On</p> <p>4 = Tag Already Present, Removed</p> <p>NOTE: Record Turtle Pit Tags on the Sample Log</p>	<p><b>ANIMAL CONDITION CODES (when released):</b></p> <p>00 = Unknown</p> <p>01 = Alive, see comments</p> <p>04 = Alive, Hook/Gear In/Around Mouth</p> <p>05 = Alive, Hook/Gear In/Around Flipper</p> <p>06 = Alive, Hook/Gear In/Around Another Single Body Part</p> <p>07 = Alive, Hook/Gear In/Around Several Body Parts</p> <p>08 = Alive, Seen by Captain/Crew ONLY</p> <p>09 = Alive, resuscitated (turtle)</p> <p>10 = Dead, Condition Unknown</p> <p>11 = Dead, Fresh</p> <p>12 = Dead, Moderately Decomposed</p> <p>13 = Dead, Severely Decomposed</p> <p>14 = Dead, Seen by Capt/Crew ONLY</p> <p>NOTE: If more than one code applies, choose the code that describes the most specific condition (e.g. a turtle is alive and released with gear around the left front flipper - choose code 05 as it is most specific at release).</p>
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<p><b>ADDITIONAL COMMENTS</b></p> <p>PSID #02- Turtle foreflipper seen protruding through dredge ring prior to dumping. Found in pile of catch right side up during sorting @ depth of approx. 6in below scallops. No movement seen and not reacting to eye reflex or flipper tug stimuli test. Moved from pile by crew holding edges of plastron to area of deck in shade. Resuscitation begun at 12:30 with body flat on board and hind quarters elevated about 6in high. Turtle was rocked gently from side to side occasionally while on board. No visible drainage from nose or mouth noted. No movement for 4 hours, then began moving flippers back &amp; forth while opening &amp; closing mouth; kept onboard for 1 more hour until haul completed. Was then able to crawl around deck so was released. Total resuscitation time = 5 hrs. Carried to stern ramp by lifting sides of carapace &amp; released off stern ramp tail first gently into water. Gear was out of water and engine in neutral. Swam few strokes &amp; dove immediately. At surface &lt;10 sec &amp; not sighted again. Tag present on right flipper when found, left on with another tag added to L flipper. 2 pairs of prefrontal scutes, 5 costal scutes w/ first costal touching nuchal scute, 3 inframarginals w/ no pores, overall brown/orange coloration.</p> <p>PSID #03- Shearwater not seen in net but found in pile of fish after dumping. Birds feather were water logged w/ head and body feathers 45% intact. Tissue on legs torn exposing some bone. Opening in body cavity exposing internal tissue with most organs missing and skeletal remains intact. Remaining skin mushy and tore easily. Odor like rotting flesh and coloration on feet faded to grayish pink and hanging from bones. Feathers taken and retained from breast area (easily pulled from skin with no resistance). I'd'd by tubes on top of black beak that is strongly hooked, dark black cap on white head and neck, belly feathers white with dirty brown areas in feathers on center ventral mid to rear body, 4 toes present with 3 webbed, black dorsal wings and body.</p>
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**MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBINC 05/01/13**

PSID #	HAUL NUM	GEAR NUM	NET NUM/ DREDGE/NET POSITION (p/s/u/a)	TIME (24 hours)	ADD COND CODE	SPECIES		TAG NUMBER(S) (record most recent first)	CODE(S)	ENTANG SITU CODE	ANIMAL ONBRD? 0=No 1=Yes	PHOTO TAKEN? 0=No 1=Yes	SAMPLED? 0=No 1=Yes 2 = Yes, feathers only	EST LEN (cm) (if no actual) (no birds)
						NAME	CODE							
___ 1				:										
___ 2				:										
___ 3				:										
___ 4				:										
___ 5				:										
___ 6				:										
___ 7				:										
___ 8				:										
___ 9				:										
___ 0				:										

COMMENTS: List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.

OBS/TRIP ID \_\_\_\_\_  
 DATE LANDED mm/yy / \_\_\_\_\_  
 PAGE # \_\_\_\_\_ OF \_\_\_\_\_

OBS/TRIP ID	
DATE LANDED	mm/yy / /
PAGE #	OF

ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:	ENTANGLEMENT / INTERACTION SITUATION CODES:	ANIMAL CONDITION CODES (when released):
0 = Unknown 1 = No Pingers Used On Gear 2 = Audible, Not Tested 3 = Inaudible, Tested and Working 4 = Inaudible, Tested and Not Working 5 = Inaudible, Not Tested 6 = Absent (Lost) 7 = Audible, Tested and Working 8 = Audible, Tested and Not Working  <b>TAG CODES:</b> 0 = Unknown 1 = Tag Applied by Observer 2 = No Tag(s) 3 = Tag Already Present, Left On 4 = Tag Already Present, Removed  NOTE: Record Turtle Pit Tags on the Sample Log	<b>ENTANGLEMENT / INTERACTION SITUATION CODES:</b> 00 = Unknown 01 = Fell From Gear at a Point Unknown 02 = Fell From Gear Before Exiting Water 03 = Fell From Gear Once Hauled Out of Water 04 = Fell From Gear Due to Force of Roller 05 = Removal Requires Cutting of Gear/Animal 06 = Removal Does NOT Require Cutting of Gear/Animal 08 = Caught in Wings of Trawl Net 10 = Sea Bird Caught, Gangion Attached to Mainline 11 = Sea Bird Caught, Gangion Unattached to Mainline 12 = Hooked, Ingested 13 = Hooked, Beak 14 = Hooked, Head 15 = Hooked, Flipper 16 = Hooked, Carapace 17 = Hooked, Other/Unknown 18 = Caught Inside Dredge Chain Bag  NOTE: If more than one code applies to a situation, choose the code that describes the primary entanglement/interaction (e.g. a turtle is observed inside the twine top of a dredge and falls from the gear as it is hauled up - choose code 21 as it best describes the primary interaction).	<b>ANIMAL CONDITION CODES (when released):</b> 00 = Unknown 01 = Alive, see comments 04 = Alive, Hook/Gear In/Around Mouth 05 = Alive, Hook/Gear In/Around Flipper 06 = Alive, Hook/Gear In/Around Another Single Body Part 07 = Alive, Hook/Gear In/Around Several Body Parts 08 = Alive, Seen by Captain/Crew ONLY 09 = Alive, resuscitated (turtle) 10 = Dead, Condition Unknown 11 = Dead, Fresh 12 = Dead, Moderately Decomposed 13 = Dead, Severely Decomposed 14 = Dead, Seen by Capt/Crew ONLY  NOTE: If more than one code applies, choose the code that describes the most specific condition (e.g. a turtle is alive and released with gear around the left front flipper - choose code 05 as it is most specific at release).

**ADDITIONAL COMMENTS**



**INCIDENTAL TAKE LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMINC 05/01/13**

OBS/TRIP ID	<b>A99002C</b>
DATE LANDED mm/yy	<b>10 / 13</b>
PAGE #	<b>1</b> of <b>1</b>

PSID # <b>01</b>	HAUL # <b>0 1 1</b>	TAG # <b>D 0 7 9 8 2</b>	TAG CODE APPLIED BY OBSERVER <input checked="" type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>
SPECIES NAME <b>Harbor Seal</b>			
ENTANGLEMENT (see back) <b>Removal, no cutting</b>			<p><b>PSID 01 brought onboard near begin haul, entangled in gillnet meshes. Several meshes encompassed the head and neck; entanglement did not extend down past the fore flippers (meshes around only front of body). Seal was motionless &amp; its eyes were open and clear. On first viewing, seal was completely intact with no blood, abrasions, cuts, or anything of that nature. Crew disentangled seal from net - they did <u>not</u> have to cut either the net or the seal, just pulled the meshes down the body. Seal was motionless throughout this process. Overall condition of the seal was intact and fresh. There were no cuts or bleeding, no evidence of rotting flesh or scavenger damage. There was an indent in the flesh around the head which did not break the skin - resembled an impression. It was about 1mm wide &amp; 1mm deep. Opened mouth to examine gums/teeth for ID. Gums were pink &amp; firm. The seal's skin &amp; fur were intact; fur was smooth &amp; stayed attached to body during handling. Did not smell any foul odors from seal. Seal was cold to the touch. Eyes were black and glossy with no fluids leaking from them.</b></p> <p><b>ID characteristics:</b></p> <ul style="list-style-type: none"> <li>- multi-cusped teeth, overlapping each other</li> <li>- v-shaped nostrils</li> <li>- rounded head w/ dog-like snout</li> <li>- dorsal: dark grey coat w/ circular patterns "halos"</li> <li>- ventral: light grey</li> </ul> <p><b>Tag # D07982 Applied to rear right flipper</b></p> <p><b>12 photos taken</b></p>
ANIMAL CONDITION (see back) <b>Dead - Fresh</b>			
PHOTO TAKEN? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> (COMMENT)			
COMMENTS			

List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.

**INCIDENTAL TAKE LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMINC 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	___ of ___

PSID #	HAUL # [ ][ ][ ][ ]	TAG # [ ][ ][ ][ ][ ][ ][ ]	TAG CODE	
			APPLIED BY OBSERVER	<input type="checkbox"/>
			NO TAG(S)	<input type="checkbox"/>
SPECIES NAME			TAG PRESENT, LEFT ON	<input type="checkbox"/>
			TAG PRESENT, REMOVED	<input type="checkbox"/>
			UNKNOWN (COMMENT)	<input type="checkbox"/>
ENTANGLEMENT (see back)				
ANIMAL CONDITION (see back)				
PHOTO TAKEN? Y <input type="checkbox"/> N <input type="checkbox"/> (COMMENT)				
COMMENTS				
<p>List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.</p>				



**INCIDENTAL TAKE LOG (BACK)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMINC 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	___ of ___

**ANIMAL CONDITION**

Alive- Captain/crew saw  
 Alive- Hook/Gear + 1 part (in or around a single body part)  
 Alive/Hook + Flipper  
 Alive- Hook/Gear > 1 part (in or around several body parts)  
 Alive- Hook/Gear in or around mouth  
 Alive- Resuscitated sea turtle  
 Alive  
 Dead- Captain/crew saw  
 Dead- Condition unknown  
 Dead- Fresh  
 Dead- Moderately decomposed  
 Dead- Severely decomposed  
 Other  
 Unknown

**ADDITIONAL COMMENTS**

**ENTANGLEMENT**

Bird- Gangion attached to mainline  
 Caught- Trawl wings  
 Contact with vessel/equipment  
 Entangled in bridle/cable/warp  
 Entangled in gear from another vessel (i.e. ghost gear)  
 Entangled in sweep/footrope  
 Entangled in sweep/tickler/chain  
 Fell out due to force of rollers  
 Fell out while in the water  
 Fell out when out of the water  
 Fell out, point unknown  
 Hooked in the beak  
 Hooked in the carapace  
 Hooked in the flipper  
 Hooked in the head  
 Hooked, ingested  
 Hooked, other, unknown  
 In trawl net belly  
 In trawl net codend  
 In trawl net mouth  
 Other  
 Removal requires cutting of the gear/animal  
 Removal does not require cutting gear/animal  
 Unknown

**FOR OFFICE USE ONLY**

## Marine Mammal Biological Sample Log

The purpose of this log is to record sex, body measurements, and biological samples taken from all incidentally taken marine mammals.

### Instructions

For instructions on completing the Header fields **A**, **B**, and **C**, refer to the [Common Haul Log Data](#) section of the [NEFSC Observer Program Manual](#).

If any of the measurements cannot be collected, record a dash (—) in the field and record the reason why it wasn't obtained in COMMENTS.

**1. PSID #:** Record the consecutive identification number (Protected Species ID) for each animal that is sampled during this trip. This should correspond with the number recorded on the [Marine Mammal, Sea Turtle, and Seabird Incidental Take Log](#).

**2. SPECIES NAME:** Record the complete common name of each incidentally taken marine mammal biologically sampled on this trip, as listed in [Appendix O: Species List and Corresponding Logs](#). This should be the same species name as recorded on the [Marine Mammal, Sea Turtle, and Seabird Incidental Take Log](#).

**NOTE:** If it is not possible to make a positive species identification, identify the animal to the most specific generic group of which you are positive, *e.g.*, baleen whale, unidentified dolphin, seal *etc.* **DO NOT GUESS AT SPECIES IDENTIFICATION.**

**3. SEX:** Indicate the sex of the marine mammal by recording the appropriate one-digit code:

- 0 = Unknown.
- 1 = Male.
- 2 = Female.

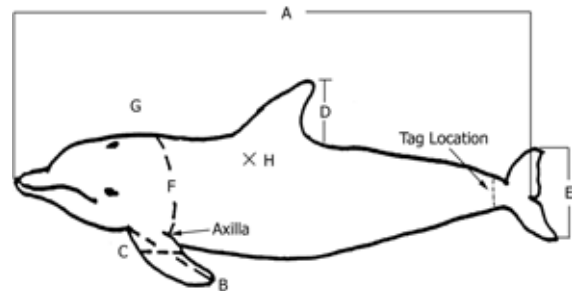
**4. BODY TEMPERATURE:** Record, to the nearest tenth of a degree Fahrenheit, the **lateral dorsal musculature** temperature. This measurements should be taken for all incidental takes of cetaceans and pinnipeds. It must be taken as close as possible to the time the animal is brought onboard, and before cutting into the animal occurs. To take a temperature, always insert the probe gently, and keep probe entry sites consistent. See Figure 1, letter H for cetaceans and Figure 2, letter E for pinnipeds.

**5. BLUBBER THICKNESS:** Record, to the nearest tenth of a centimeter, the thickness of the blubber of the cetacean or pinniped. Measure from where the

blubber meets the muscle, up to and including the skin.

**Cetacean:** To obtain this measurement, make an incision two to three inches behind the blow hole of the marine mammal. See Figure 1, letter G.

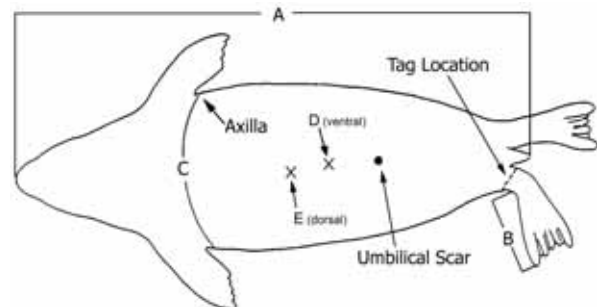
Figure 1: Cetacean body measurements (straight line).



- A. Total Length - snout tip to fluke notch
- B. Flipper Length
- C. Flipper Width, maximum
- D. Height of Dorsal Fin
- E. Fluke Width, from tips of flukes
- F. Girth at Axilla (circumference)
- G. Blubber Thickness
- H. Body Temperature

**Pinniped:** To obtain this measurement, make an incision in the ventral surface of the marine mammal, about five or six inches anterior to the navel, in the middle of the body. See Figure 2, letter D.

Figure 2: Pinniped body measurements (straight line).



- A. Total Length - snout to tip of tail
- B. Rear Flipper Length
- C. Girth at Axilla (circumference)
- D. Blubber Thickness (ventral)
- E. Body Temperature (dorsal)

### Body Measurements

Six body measurements will be taken and recorded for each cetacean. Three body measurements will be taken and recorded for each pinniped.

When measurements are taken which require a mammal to be placed on one side, the preferred method is for the animal to be lying on its right side, *i.e.*, **measurements taken on the left side**. The body measurements are diagrammed and specified in Figure 1, Figure 2, and Figure 3. All length measurements are recorded in **whole centimeters**.

Do not piece together animal parts that have been removed from the body to obtain these measurements. Rather, record a dash (—) in the field, and explain why the measurement is not taken in COMMENTS.

**6. TOTAL LENGTH:** Record the **straight line length** of the animal. Lay the tape measure on the ground parallel to the animal, not draped over it. Using a straight edge, create a perpendicular point from the tape on each end of the animal to obtain the measurement.

**Cetacean:** Record the **straight line** length from the tip of the jaw (top or bottom jaw, whichever is longer) to the fluke notch. See Figure 1, letter A.

**Pinniped:** Record the **straight line** measurement from the snout to the tip of the tail. See Figure 2, letter A.

**7. AXILLARY GIRTH:** (circumference of animal)

**Cetacean:** Record the girth of the animal just under the pectoral flippers at the axilla. See Figure 1, letter F.

**Pinniped:** Record the girth of the animal just under the fore-flippers at the axilla. See Figure 2, letter C.

**NOTE:** If the animal is too difficult to move (*e.g.*, very large size), measure half the girth and record it in COMMENTS. The preferred measurement is from the middle of the dorsal surface to the middle of the ventral surface.

**8. HIND FLIPPER OR PECTORAL FLIPPER LENGTH:**

**Cetacean:** Record the **straight line** length of one flipper of the cetacean. This length is taken from the outside or anterior edge of the flipper to the tip of the flipper. This is the longest length along the pectoral flipper. See Figure 1, letter B.

**Pinniped:** Record the **straight line** length of one **rear** flipper of the pinniped. This length is taken from the outside anterior edge of the flipper at the joint where the flipper connects to the body (this is best located by flexing the flipper forward and measuring from the point

where the flipper flexes) to the tip of the flipper. See Figure 2, letter B.

**9. PECTORAL FLIPPER WIDTH:**

**Cetacean:** Using the same flipper on which the length was measured, record the **straight line** width, at its widest part. See Figure 1, letter C.

**Pinniped:** No measurement taken; record a dash (—) in this field.

**10. DORSAL FIN HEIGHT:**

**Cetacean:** Record the **straight line** height of the dorsal fin of the cetacean from the posterior tip of the fin to the insertion at the body. See Figure 1, letter D.

**Pinniped:** No measurement taken; record a dash (—) in this field.

**11. FLUKE WIDTH:**

**Cetacean:** Record the width of the flukes of the cetacean, from one tip to the other. See Figure 1, letter E. If only half of the fluke is present, measure and record it in COMMENTS.

**Pinniped:** No measurements taken; record a dash (—) in this field.

**12. WHOLE ANIMAL RETAINED?:** Record “1” if the animal is retained by the observer to be brought to shore. Record “0” if the whole animal is not retained.

### Jaw/Tissue/Organ/Head Samples

Listed below are the samples that may be considered priorities for certain species. It is very important to determine, before you begin cutting a cetacean for jaw/tissue/organ/head samples, if you will be able to take a BODY TEMPERATURE MEASUREMENT (#4). This measurement must be taken as close as possible to the time the animal is brought onboard, and before cutting into the marine mammal occurs.

For the following fields, record the **total number** of samples taken. If a sample is not taken, record a “0” (zero).

**13. FINCLIP/FLIPPER/SKIN:** If unable to collect sample prior to animal going overboard, always check the net/gear for skin that might be opportunistically collected.

**14. JAW**

**15. STOMACH**

**16. BLUBBER**

**17. MUSCLE**

**18. REPRODUCTIVE TRACT****19. HEAD/SKULL**

**20. OTHER:** Record the number of additional samples collected, and record which ones in COMMENTS.

**Additional Measurements for  
Bottlenose Dolphins**

In addition to the body measurements required for all incidentally taken cetaceans, the following four measurements are to be taken for all bottlenose dolphins greater than 2 meters (approximately 7 feet) in total length: **snout to center of eye, snout to ear, snout to center of blowhole, and snout to flipper anterior insertion.** All measurements are **straight**, made parallel to longitudinal body axis. See Figure 3.

Figure 3: Additional measurements (straight line) for bottlenose dolphins.



- A. Snout to Center of Eye
- B. Snout to Ear
- C. Snout to Center of Blowhole
- D. Snout to Flipper Anterior Insertion

Keep in mind that these additional measurements need to be taken before the head is removed. If time constraints necessitate choosing between taking the head or taking these additional measurements, take the head.

**Comments**

**Animal specific:**

For **each animal**, document how much of the animal was examined (*e.g.*, only dorsal and lateral sides seen). Thoroughly sketch and describe identifying characteristics, new and/or healed wounds, the amount and location of scavenger damage and/or decomposition, the firmness and coloration of tissues, condition of the skin (*e.g.*, cracked, sloughing, dull, glossy), the presence or absence of blood (record if bleeding), any missing parts, and smell. Include comments about the animal's behavior on

deck and upon release (lethargic, active, calm, vocalizing, struggling, swam away, sank, floated at surface, righted itself, dove, etc). Also record the amount and location of gear remaining on the animal. Reference each description with the animal's unique PSID # (#1) and be sure to circle which side of the animal is illustrated.

**General:**

Record any additional information regarding the marine mammal incidental take(s), especially when data are unable to be collected. Reference each comment with its corresponding field name.

**Necropsy Guidelines for Sampling Animals  
not Retained Whole**

The tissue/organ samples listed below are to be taken only if the whole animal is not retained. **The required length and body temperature measurements must be taken before any tissue/organ sampling of the animal is done.**

All samples should be double-bagged and double-tagged. Fill out two Tyvek tags, using a permanent marker. Fill in all fields except for the disposition code. Each tag should be placed in an individual 4"x4" small bag. Place one of these bagged tags inside the bag with the sample, and place this bag that holds the sample and tag in another bag. Exclude as much air as possible from all sample bags. Samples from each animal should be kept together in one larger bag, and be frozen or iced.

When sampling marine mammals at sea, the animal should be placed on its right side, if possible, with its head to the left of the observer. This is the standard method for marine mammal dissection, and will result in the stomach being in a more accessible position, because it is located on the animal's left side. This will also make other organs easier to locate.

To examine the internal organs (see Figure 4), an incision is made from between the front flippers to just forward of the anus. Posterior of the ribcage, the intestines will be the main feature. Just before the end of the ribcage and on the underside, the **liver**, a large dark red organ, will be the main feature. The **stomach** will be located under and to the right of the liver. Stomach removal is possible without removing the ribcage. However, in order to fully expose the upper part of the stomach and esophagus, and for

more working room, removal of the ribcage can be helpful. Either push back the ribs or cut them out, taking care not to break them; broken ribs can leave sharp pieces attached to the backbone which can puncture gloves and hands, resulting in abrasions and infection. The **heart** is located under the ribcage just to the right of the sternum between the lungs and anterior to the stomach.

In order to examine the other internal organs, the intestines should be removed. The **kidneys** will then become visible near the top of the abdominal wall. The kidneys have the appearance of compartmentalized globules, almost like a squeezed bunch of grapes.

The **testes** will appear as paired, sausage-like organs pointing forward and attached to the lower back wall of the body cavity. They will vary in size depending on species, season, and the maturity of the animal: from a few inches long (the size of your little finger) to a width of two to three inches and a length of six to seven inches. For male phocids, the testes are located in the inguinal area (groin), outside the abdomen, but deep under the skin and blubber. The female reproductive tract is held in place by a broad ligament, a sheet of (peritoneal) tissue above the tissue sheet holding the more ventral urinary bladder. The tract includes the uterus, which is oriented along the center of the body cavity, and the right and left uterine horns, which branch laterally from the front portion of the rear flipper on a seal.

### Fetus

Collect the whole fetus. If the fetus cannot be brought in whole, a total length measurement and a sex determination is required, and recorded on the Marine Mammal Biological Sample Log. A fetus should not be considered a separate incidental take, however, and should not be recorded on the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

### Liver

Remove approximately a 5cm x 5cm sample of liver. If the animal is badly decomposed, do not collect this sample.

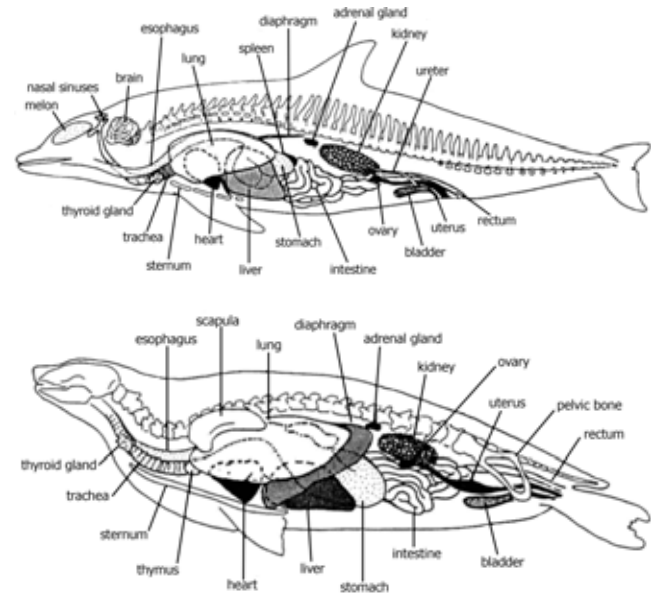
### Heart

Remove approximately a 5cm x 5cm piece of the heart muscle. If the animal is badly decomposed, do not collect this sample.



### Kidneys

Remove approximately a 5cm x 5cm sample of kidney. If the animal is badly decomposed, do not collect this sample.

Figure 4: Internal anatomy of cetaceans (top) and pinnipeds (bottom).



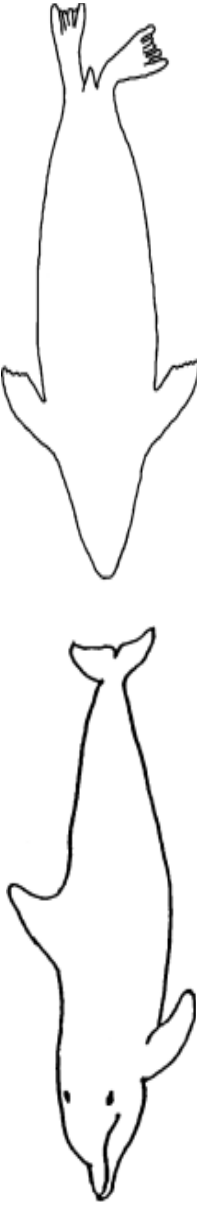
**MARINE MAMMAL BIOLOGICAL SAMPLE LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBBMM 05/01/13**

		OBS/TRIP ID <b>A</b>																	
		DATE LANDED mm/yy <b>B</b> / /																	
		PAGE # <b>C</b> OF <b>D</b>																	
PSID#	SPECIES NAME	SEX 0=U 1=M 2=F	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY					NUMBER OF SAMPLES TAKEN					Other list in comments	
			Body Temp °F	Blubber Thickness cm	Total Length cm	Axillary Girth cm	Hind/Pec Flip Len cm	Pec Flip Width cm	Dorsal Fin Height cm	Fluke Width cm	Whole	Fincip/ Flipper/ Skin	Jaw	Stom	Blub	Musc	Repro Tract		Head/ Skull
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
General Comments:																			
BOTTLENOSE DOLPHIN PSID # _____ A. Snout-eye (cm) _____ B. Snout-ear (cm) _____ C. Snout-blow (cm) _____ D. Snout-flip (cm) _____																			
BOTTLENOSE DOLPHIN PSID # _____ A. Snout-eye (cm) _____ B. Snout-ear (cm) _____ C. Snout-blow (cm) _____ D. Snout-flip (cm) _____																			
Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc. PSID# _____																			
										 <p>Circle one: Dorsal / Ventral</p>									
										 <p>Circle one: Left / Right</p>									

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> / /
PAGE #	<b>C</b> OF

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

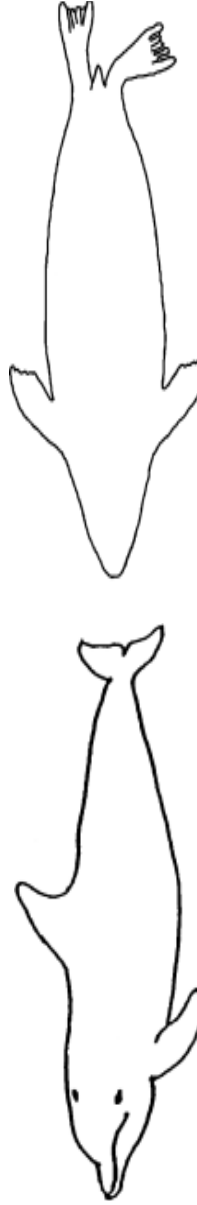
PSID # \_\_\_\_\_



Circle one:  Left / Right       Dorsal / Ventral

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:


PSID # \_\_\_\_\_



Circle one:  Left / Right       Dorsal / Ventral

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:


PSID # \_\_\_\_\_



Circle one:  Left / Right       Dorsal / Ventral

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # \_\_\_\_\_



Circle one:  Left / Right       Dorsal / Ventral

**MARINE MAMMAL BIOLOGICAL SAMPLE LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBBMM 05/01/13**

OBS/TRIP ID **A99025C**  
 DATE LANDED mm/yy **05 / 13**  
 PAGE # **1** OF **2**

PSID#	SPECIES NAME	SEX 0=U 1=M 2=F	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY					NUMBER OF SAMPLES TAKEN								Other list in comments
			Body Temp °F	Blubber Thickness cm	Total Length cm	Axillary Girth cm	Hind/Pec Flip Len cm	Pec Flip Width cm	Dorsal Fin Height cm	Fluke Width cm	Whole	Flipper/Skin	Jaw	Stom	Blub	Musc	Repro Tract	Head/Skull			
01	Harbor Porpoise	2	87.6	3.5	123	84	19	8	10	30	1	1	0	0	0	0	0	0			
04	Harbor Seal	1	46.7	2.1	111	77	27	---	---	---	0	0	1	1	0	0	0	0			
05	Bottlenose Dolphin	2	75.8	2.6	202	116	32	16	19	50	0	1	1	1	1	1	0	3			

General Comments:

**BOTTLENOSE DOLPHIN**  
 PSID # 05  
 A. Snout-eye (cm) 30  
 B. Snout-ear (cm) 34  
 C. Snout-blow (cm) 32  
 D. Snout-flip (cm) 48

**BOTTLENOSE DOLPHIN**  
 PSID # \_\_\_\_\_  
 A. Snout-eye (cm) \_\_\_\_\_  
 B. Snout-ear (cm) \_\_\_\_\_  
 C. Snout-blow (cm) \_\_\_\_\_  
 D. Snout-flip (cm) \_\_\_\_\_

PSID# 01  
 Indents around tip of snout & flukes not thru skin- linear, < .2mm in width. White foam coming from blowhole. Skin firm like unripe banana, blubber creamy white, muscle deep maroon color & like meat @ grocery; skin behind L eye missing w/blubber visible= 1in wide x 1/4in deep -blood trickle approx. = 1tsp. volume

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc.

Circle one: (Left) / Right

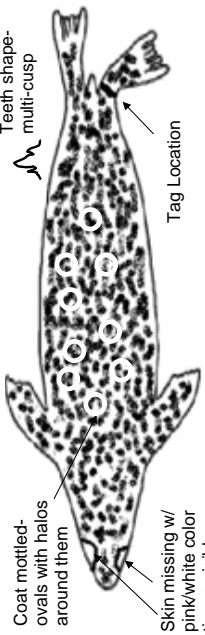
Circle one: Dorsal / Ventral



Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # 04

**L eye cloudy/milky white; Damaged tissue around eyes (4cm in diam) eyeballs still present; not actively bleeding anywhere on body.**  
**Linear marks around head/ neck area and underneath chest around L pectoral flipper**



Coat mottled-ovals with halos around them

Teeth shape-multi-cusp

Tag Location

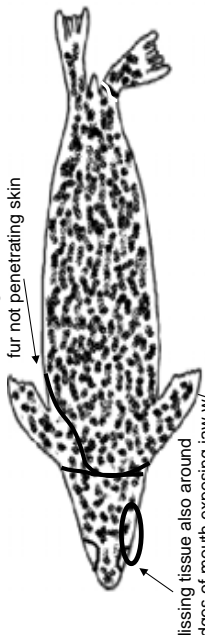
Skin missing w/ pink/white color tissue visible, ragged edges

Circle one: (Dorsal) / Ventral

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # 04

**Skin tissue around R jaw missing and exposing pink/white undertissue with ragged edges= 8cm x 4cm x 1 cm depth; bone not visible**



Linear 3mm wide indentations in fur not penetrating skin


Missing tissue also around edges of mouth exposing jaw w/ pink/white color & ragged edges

Circle one: Dorsal / (Ventral)

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # 05

**Cut around entire head behind blowhole; 3 linear marks on L peduncle; no other visible damage or wounds on L side of body; green pasty substance oozing from anal slit**



Uniform linear 1/2 mm wide smooth edge cut thru skin and blubber to muscle around head behind blowhole

2mm wide x 6mm long linear-parallel marks, not bleeding, smooth tissue, white coloration

green, pasty ooze = approx 3 tsp.


Tag location:

Circle one: (Left) / Right

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # 05

**Skin taut, firm and smooth like fresh eggplant; no discharge from blowhole; eyes intact but cloudy/milky white; gums light pink coloration; when cut for blubber sample blood was bright red & muscle warm; no missing or worn teeth-all conical w/ sharp points; cut over L pec flipper**



4cm x 5mm x 1mm depth, smooth edge cut, not bleeding

Tag location:

Circle one: Dorsal / Ventral

**MARINE MAMMAL BIOLOGICAL SAMPLE LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBBMM 05/01/13**

OBS/TRIP ID \_\_\_\_\_  
 DATE LANDED mm/yy \_\_\_\_\_ / \_\_\_\_\_  
 PAGE # \_\_\_\_\_ OF \_\_\_\_\_


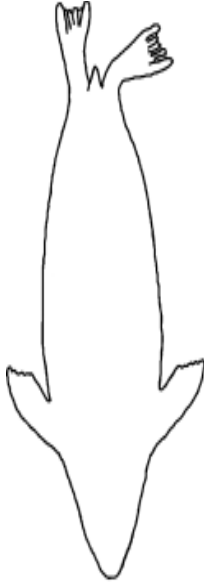
PSID#	SPECIES NAME	SEX 0=U 1=M 2=F	MARINE MAMMAL MEASUREMENTS				CETACEANS ONLY				NUMBER OF SAMPLES TAKEN								Other list in comments		
			Body Temp °F	Blubber Thickness cm	Total Length cm	Axillary Girth cm	Hind/Pec Flip Len cm	Pec Flip Width cm	Dorsal Fin Height cm	Fluke Width cm	Whole	Flipper/Skin	Jaw	Stom	Blub	Musc	Repro Tract	Head/Skull			

General Comments: \_\_\_\_\_

BOTTLENOSE DOLPHIN  
 PSID # \_\_\_\_\_  
 A. Snout-eye (cm) \_\_\_\_\_  
 B. Snout-ear (cm) \_\_\_\_\_  
 C. Snout-blow (cm) \_\_\_\_\_  
 D. Snout-flip (cm) \_\_\_\_\_

BOTTLENOSE DOLPHIN  
 PSID # \_\_\_\_\_  
 A. Snout-eye (cm) \_\_\_\_\_  
 B. Snout-ear (cm) \_\_\_\_\_  
 C. Snout-blow (cm) \_\_\_\_\_  
 D. Snout-flip (cm) \_\_\_\_\_

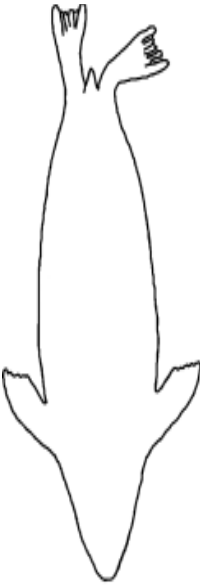

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc.  
 PSID# \_\_\_\_\_

Circle one: Left / Right      Circle one: Dorsal / Ventral

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	OF



Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:  
 PSID # \_\_\_\_\_

Circle one:  Left / Right       Dorsal / Ventral

---



Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:  
 PSID # \_\_\_\_\_

Circle one:  Left / Right       Dorsal / Ventral

---



Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:  
 PSID # \_\_\_\_\_

Circle one:  Left / Right       Dorsal / Ventral

---

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:  
 PSID # \_\_\_\_\_

Circle one:  Left / Right       Dorsal / Ventral

## Sea Turtle Biological Sample Log

The purpose of this log is to record body measurements, scute counts, identification criteria, condition, and biological samples taken from all incidentally taken sea turtles on an individual basis. For more detailed instructions on incidental take sample collection, refer to the [Sea Turtle Incidental Take and Biological Sampling Guidelines](#) section of the [NEFSC Observer Program Training Manual](#).

Do not record information on terrapins on this log. These animals should be recorded on the [Individual Animal Log](#).

### Instructions

For instructions on completing the Header fields **A**, **B**, and **C**, refer to the [Common Haul Log Data](#) section of the [NEFSC Observer Program Manual](#).

If any of the measurements cannot be collected, record a dash (—) in the field and record the reason why it wasn't obtained in COMMENTS.

**1. PSID #:** Record the consecutive identification number (Protected Species ID) for each animal that is sampled during this trip. This should be the same number as recorded on the [Marine Mammal, Sea Turtle, and Seabird Incidental Take Log](#).

**2. SPECIES NAME:** Record the complete common name of each incidentally taken sea turtle biologically sampled on this trip, as listed in [Appendix O: Species List and Corresponding Logs](#). This should be the same species name as recorded on the [Marine Mammal, Sea Turtle, and Seabird Incidental Take Log](#).

**NOTE:** If it is not possible to make a positive species identification, identify the animal to the most specific generic group of which you are positive. Note whether turtle is a hard-shelled turtle (including Loggerhead, Green, Hawksbill, and Ridleys) or a leathery-shelled turtle (Leatherback). **DO NOT GUESS AT SPECIES IDENTIFICATION.**

**3. SCANNED?:** Indicate whether or not all four flippers, head, and shoulder areas were scanned for the presence of PIT Tags by recording the appropriate one-digit code:

0 = No.

1 = Yes.

**4. PIT TAG NUMBER:** If a PIT Tag is present and detected by a PIT Tag Scanner, record the complete alphanumeric number here.

**NOTE:** If the turtle is scanned for the presence of PIT Tags and none are found, record a dash (-) in this field.

### Measurements

Accurate and precise measurements are critical. Measurements are taken to the nearest **tenth of a centimeter**, over the curvature of the carapace (curvilinear), using a flexible tape. If epibiota (*e.g.*, barnacles, algae, etc) affect any of these measurements, record the details in COMMENTS.

**5. NOTCH TO TIP LENGTH:** Record the curvilinear length measurement of the carapace from the center of the nuchal notch to the longest posterior **tip**. See Figure 1 and Figure 7.

Figure 1: Measuring carapace length, notch to tip..



**6. NOTCH TO NOTCH LENGTH:** Record the curvilinear length measurement of the carapace centerline from the center of the nuchal notch to the center of the two posterior tips. See Figure 2 and Figure 7.

Figure 2: Measuring carapace length, notch to notch.



**7. WIDTH:** Record the curvilinear width measurement of the carapace across the widest part of the shell, perpendicular to the centerline of the carapace. See Figure 3 and Figure 7.

Figure 3: Measuring carapace width.



**Identification Criteria**

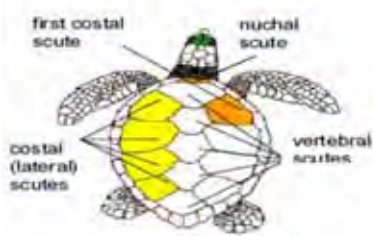
**8. VERTEBRAL SCUTE COUNT:** Record the number of vertebral scutes on the carapace of the turtle.

*NOTE:* The vertebral scutes are the plates that run down the middle of the carapace. See Figure 4.

**9. LATERAL SCUTE COUNT:** Record the number of lateral (costal) scutes on the carapace of the turtle.

*NOTE:* The lateral scutes are the plates that run on either side of the midline vertebral scutes. See Figure 4, yellow highlight.

Figure 4: Sea turtle dorsal view, showing vertebral and costal (lateral) scutes.



**10. INFRAMARGINAL SCUTE COUNT:** Record the number of inframarginal scutes on the plastron of the turtle.

*NOTE:* The inframarginal scutes are a series of small scutes covering the bridge bones, between the carapacial marginals and the sides of the adjacent plastral scutes. See Figure 5.

Figure 5: Sea turtle ventral view, showing inframarginal scutes.



**11. 1 PAIR PREFRONTALS?:** Indicate whether or not the sea turtle has one pair of prefrontal scales by recording the most appropriate one-digit code:

- 0 = No.
- 1 = Yes.

*NOTE:* The prefrontal scales are the scales between the eyes of the turtle. There should be either one or two pairs. See Figure 6.

Figure 6: Head of sea turtle, showing pre-frontal scales.



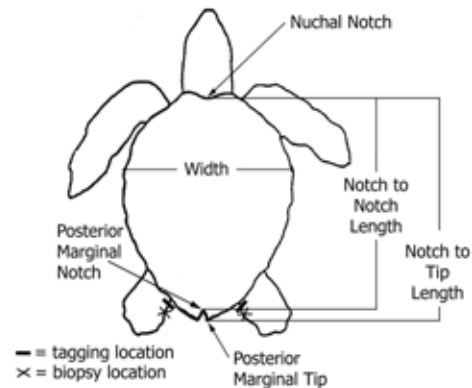
**12. OVERLAP SCUTES?:** Indicate whether or not the sea turtle has overlapping scutes on the carapace by recording the most appropriate one-digit code:

- 0 = No.
- 1 = Yes.

**13. DORSAL COLOR CODE:** Indicate the dorsal coloration of the sea turtle by recording the most appropriate 2-digit color code:

- 00 = Unknown.
- 01 = Black.
- 02 = Gray-Green.
- 03 = Orange/Red-Brown.
- 04 = Brown.
- 99 = Other, record the color in the COMMENTS section.

Figure 7: Turtle measurements.



**Samples**

For the following fields, record the total number of samples taken. These fields should not be left blank or dashed.

**14. WHOLE ANIMAL RETAINED:** Record "1" if the sea turtle is retained by the observer to be brought to shore. Record "0" if the sea turtle is not retained whole.

**15. BIOPSY/SKIN:** Record the total number of biopsy tissue samples collected from the sea turtle. Record "0" if no samples are taken.

**16. OTHER:** Record the number of additional sam-

ples collected. Record "0" if no samples are taken.

*NOTE:* If any additional sample(s) is (are) collected from this sea turtle, record which ones in COMMENTS.

### Conditions

The following fields are designed to help scientists make determinations regarding probability of survival and severity of injuries incurred by sea turtles. Mark the boxes for any conditions that apply to the PSID on the Sea Turtle Biological Sample Log. Mark all options that apply. You must mark **at least one box for each category**. Provide more comments and details, where instructed, in COMMENTS.

**17. BEHAVIOR ON DECK:** Mark any behavior(s) you see while the turtle is on deck being handled, sampled, and measured.

**18. REFLEX TESTS AND RESUSCITATION:** Provide additional comments for this field, regardless of the box(es) marked. If no reflex tests are performed, record the reason in COMMENTS, including turtles that are active.

**19. SHELL (CARAPACE AND PLASTRON):** Mark the condition(s) specific to the shell or leathery carapace and plastron for any injuries, marks, or conditions seen.

*NOTE:* If you do not examine both carapace and plastron, mark the 'Not Examined' box, regardless of any other boxes marked.

**20. HEAD:** Mark the condition(s) specific to the head and any injuries, marks, or conditions seen in that area.

*NOTE:* Mark 'One or both eyes closed/injured' if the eye(s) was(were) closed for longer than a typical blink.

**21. SKIN:** Mark the condition(s) specific to any skin not on the head or flippers.

**22. FLIPPERS:** Mark the condition(s) specific to all four flippers and any injuries, marks, or conditions seen involving the flippers.

**23. BEHAVIOR AT RELEASE:** Mark the animal's behavior just prior to release and/or once the turtle is back in the water.

**24. ADDITIONAL INFORMATION:** Mark actions that were performed. If any action was not performed, record the reason in COMMENTS.

### Comments

For **each animal**, document how much of the animal was examined (*e.g.*, only dorsal and lateral sides seen). Thoroughly sketch and describe identifying characteristics (including scute counts), new and/or healed wounds, the amount and location of scavenger damage and/or decomposition, the coloration of tissues, condition of the skin (*i.e.* cracked, cut), the presence or absence of blood (record if bleeding), any missing parts, and smell. Also, sketch the tag and biopsy location(s). Include comments about the animal's behavior on deck and upon release (lethargic, active, calm, struggling, swam away, sank, floated at surface, righted itself, dove, etc). Provide details of animal's retrieval and details of the release (lethargic, active, calm, struggling, swam away, sank, floated at surface, righted itself, dove, etc). Also record the amount and location of gear remaining on the animal, and the time required for resuscitation. Record any additional information regarding the sea turtle incidental take(s), especially when data are unable to be collected. Reference each comment with its corresponding field name.

**SEA TURTLE BIOLOGICAL SAMPLE LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBBTU 05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> / /
PAGE #	<b>C</b> OF <b>OF</b>

PSID #	SPECIES NAME	TAGS				MEASUREMENTS (Curv)				IDENTIFICATION CRITERIA					NUMBER OF SAMPLES		
		Scan? 0=N 1=Y	Pit Tag Number	Notch-to- Tip Length cm	Notch-to- Notch Length cm	Width	Vertebral Scute Count	Lateral (Costal) Scute Count	Infra- marginal Scute Count	1 Pair Pre- frontals? 0=N,1=Y	Overlap Scutes?	Dorsal Color Code	Whole	Biopsy/ Skin	Other		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		

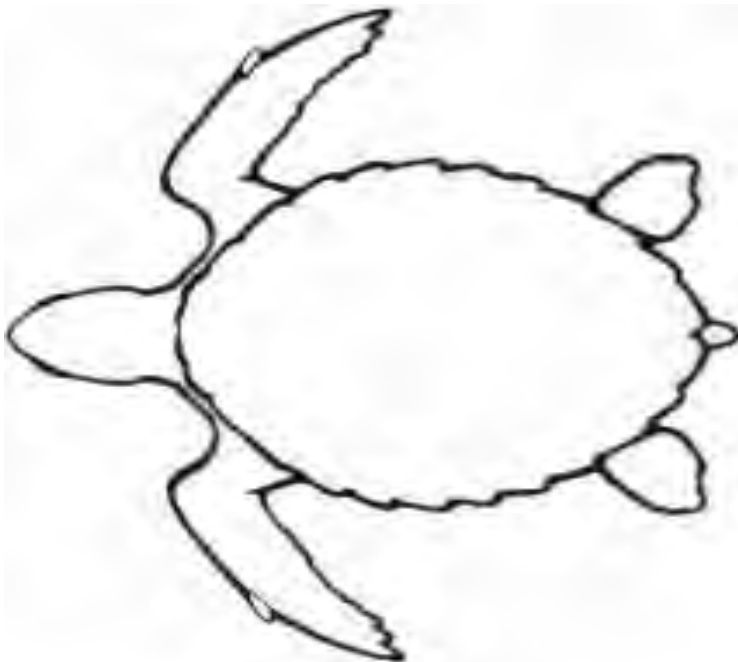
**Directions: Mark the boxes below for any conditions that apply for PSD above, mark all options that apply. You must mark at least 1 box for each category. Provide more comments and details where instructed.**

<p><b>17 Behavior on Deck</b></p> <p>Eyes open while on deck          Lifting head to breath          All flippers moving/flapping          Moving sluggish/slow          No movement seen          Head or flippers hanging limply</p> <p>If yes to following, provide comments &amp; photo/video</p>	<p><b>19 Shell (Carapace and Plastron)</b></p> <p>No cracks/chips/injuries observed          If yes to following, provide comments &amp; photo/video          Shell crack with bone or tissue visible          Crack includes vertebral scutes          Crack with sharp/clean edges          Crack includes marginal scutes          Only marginals cracked, &lt;50% width          Only marginals cracked, =&gt;50% width          Superficial scuffs/chips/abrasions observed          Barnacles present          Algae present          Not examined</p>	<p><b>21 Skin</b></p> <p>No injuries/wounds/bleeding observed          If yes to following, provide comments &amp; photo/video          Any indents, abrasions, swelling, lacerations or bleeding seen          External bleeding from skin          Cut/injury through skin (no bleeding)          Bleeding seen while tagging/biopsy          Bleeding from cloaca (anus)          Barnacles present          Algae present          Worms/parasites present          Not examined</p>	<p><b>22 Flippers</b></p> <p>No injuries/wounds/bleeding observed          If yes to following, provide comments &amp; photo/video          Amputation of &lt;50% of flipper          Amputation of =&gt;50% of flipper          Whole or broken bone visible in wound          Soft tissue exposed/involved          Any indents, abrasions, swelling, lacerations or bleeding seen          Not examined</p>
<p><b>18 Reflex Tests and Resuscitation</b></p> <p>If yes to following, provide comments on the reaction</p> <p>No reflex test performed, explain          Touch corner/upper eyelid (both eyes)          Tail or flipper pinch (all 4 flippers)          Rocking side to side          Lightly splashing water on face          Touch soft tissue around nose          Put in resuscitation position          Duration(hrs):</p>	<p><b>20 Head</b></p> <p>No injuries/wounds/bleeding observed          If yes to following, provide comments &amp; photo/video          One or both eyes closed/injured          Any bones or muscle visible          Object seen in/coming from mouth          Discharge/bleeding/growth seen from eyes/nares/mouth          Any indents, abrasions, swelling, lacerations or bleeding seen          Barnacles present          Not examined</p>	<p><b>23 Behavior at Release</b></p> <p>Eyes open at release          Lifting head to breath          All flippers moving/flapping          Immediately dove          Seen in water after release          If yes to following, provide comments &amp; photo/video          Still no response to reflex tests          Moving sluggish/slow once in water          Head or flippers hanging limply          Gear on animal          Circling/listing once in water          Upside down/can't right itself once in water          Surfaced after diving          Stays at surface, does not dive          Released while observer not present          Not seen once in water</p>	<p><b>24 Additional Information</b></p> <p>Sampling completed and waiting to release          Protected from elements          Anything put over eyes, nares not covered          Additional release details          Boat in neutral and gear out of water          Released off stern of boat          No other boats in immediate area</p>

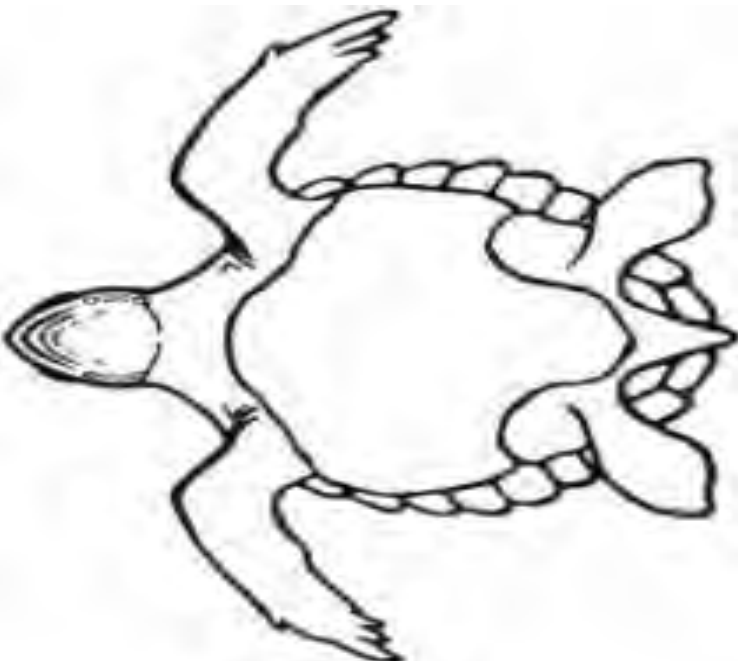
**Comments:** Using the boxes above as a guide, provide comments and sketches to describe ID characteristics, overall condition of carapace, plastron and soft tissue, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on animal, results of reflex tests/resuscitation, details of retrieval, details of release and any other relevant information. Sketches and space for more comments available on back of log.

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C OF

**Comments and Sketches:** Using the boxes on the front of the log as a guide provide comments and sketches to describe ID characteristics, overall condition of carapace, plasteron and soft tissue, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on animal, results of reflex tests/resuscitation, details of retrieval, details of release and any other relevant information.



Dorsal View



Ventral View

Additional space for comments (if needed):



**SEA TURTLE BIOLOGICAL SAMPLE LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBBTU 05/01/13**

OBS/TRIP ID	A99021-	
DATE LANDED mm/yy	06	/ 13
PAGE #	1	OF 2

PSID #	SPECIES NAME	TAGS	MEASUREMENTS (Curv)			IDENTIFICATION CRITERIA				NUMBER OF SAMPLES			
			Pit Tag Number	Notch-to-Tip Length cm	Notch-to-Notch Length cm	Width cm	Vertebral Scute Count	Lateral (Costal) Scute Count	Infra-marginal Scute Count	1 Pair Pre-frontals? 0=N,1=Y	Overlap Scutes? 0=N,1=Y	Whole	Biopsy/Skin
01	Green Turtle	1	38.5	38.1	33.2	5	4	4	1	0	0	2	0

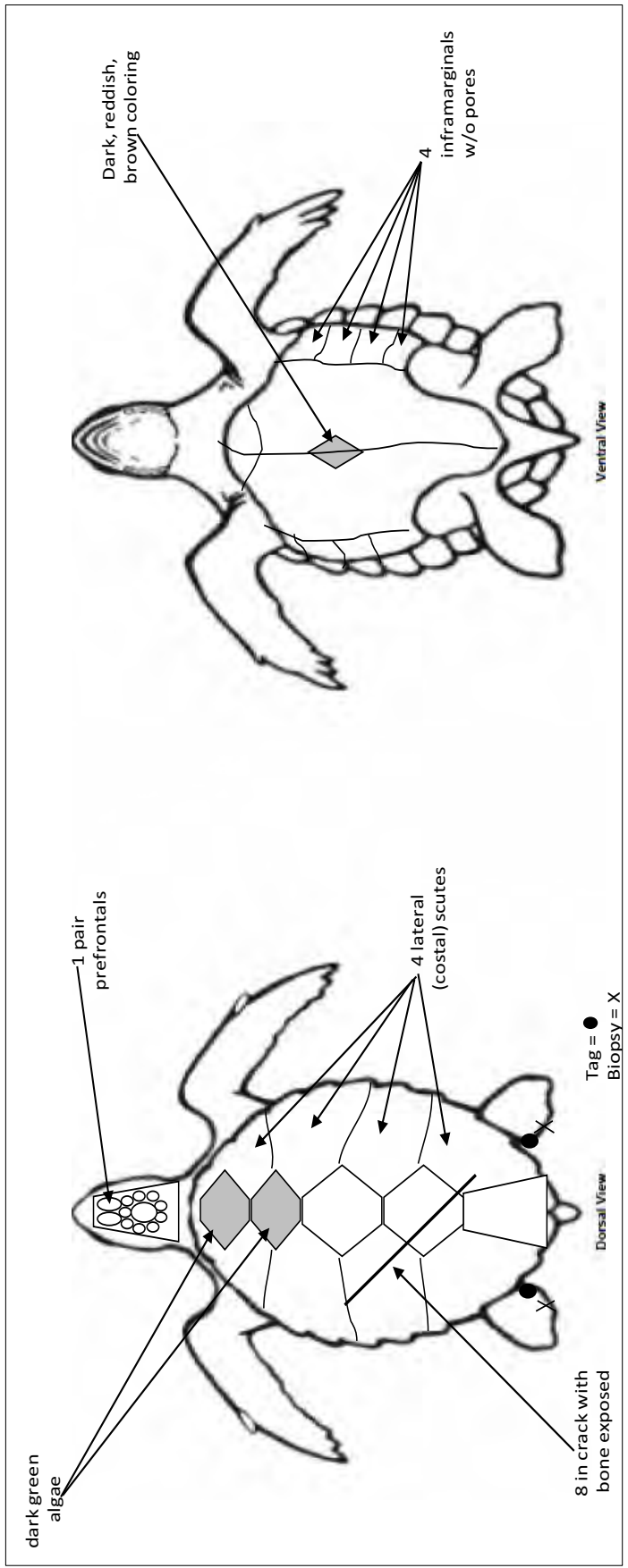
**Directions: Mark the boxes below for any conditions that apply for PSD above, mark all options that apply. You must mark at least 1 box for each category. Provide more comments and details where instructed.**

<p><b>DORSAL COLOR CODE (Above)</b></p> <p>01 = Black 02 = Gray-Green 03 = Orange/Red-Brown 04 = Brown 99 = Other 00 = Unknown</p> <p><b>Behavior on Deck</b></p> <p>Eyes open while on deck <input type="checkbox"/> Lifting head to breathe <input type="checkbox"/> All flippers moving/flapping <input type="checkbox"/> If yes to following, provide comments &amp; photo/video <input type="checkbox"/> Moving sluggish/slow <input type="checkbox"/> No movement seen <input checked="" type="checkbox"/> Head or flippers hanging limply <input checked="" type="checkbox"/></p> <p><b>Reflex Tests and Resuscitation</b></p> <p>If yes to following, provide comments on the reaction <input type="checkbox"/> No reflex test performed, explain <input checked="" type="checkbox"/> Touch corner/upper eyelid (both eyes) <input checked="" type="checkbox"/> Tail or flipper pinch (all 4 flippers) <input checked="" type="checkbox"/> Rocking side to side <input checked="" type="checkbox"/> Lightly splashing water on face <input checked="" type="checkbox"/> Touch soft tissue around nose <input checked="" type="checkbox"/> Put in resuscitation position <input checked="" type="checkbox"/> Duration(hrs): <u>6.5</u></p>	<p><b>Shell (Carapace and Plastron)</b></p> <p><input type="checkbox"/> No cracks/chips/injuries observed If yes to following, provide comments &amp; photo/video <input type="checkbox"/> Shell crack with bone or tissue visible <input checked="" type="checkbox"/> Crack includes vertebral scutes <input checked="" type="checkbox"/> Crack with sharp/clean edges <input checked="" type="checkbox"/> Crack includes marginal scutes <input type="checkbox"/> Only marginals cracked, &lt;50% width <input type="checkbox"/> Only marginals cracked, =&gt;50% width <input type="checkbox"/> Superficial scuffs/chips/abrasions observed <input checked="" type="checkbox"/> Barnacles present <input checked="" type="checkbox"/> Algae present <input checked="" type="checkbox"/> Not examined <input type="checkbox"/></p> <p><b>Head</b></p> <p><input type="checkbox"/> No injuries/wounds/bleeding observed If yes to following, provide comments &amp; photo/video <input checked="" type="checkbox"/> One or both eyes closed/injured <input type="checkbox"/> Any bones or muscle visible <input type="checkbox"/> Object seen in/coming from mouth <input type="checkbox"/> Discharge/bleeding/growth seen from eyes/nares/mouth <input type="checkbox"/> Any indents, abrasions, swelling, lacerations or bleeding seen <input type="checkbox"/> Barnacles present <input type="checkbox"/> Not examined <input type="checkbox"/></p>	<p><b>Skin</b></p> <p><input checked="" type="checkbox"/> No injuries/wounds/bleeding observed If yes to following, provide comments &amp; photo/video <input type="checkbox"/> Any indents, abrasions, swelling, lacerations or bleeding seen <input type="checkbox"/> External bleeding from skin <input type="checkbox"/> Cut/injury through skin (no bleeding) <input type="checkbox"/> Bleeding seen while tagging/biopsy <input type="checkbox"/> Bleeding from cloaca (anus) <input type="checkbox"/> Barnacles present <input type="checkbox"/> Algae present <input type="checkbox"/> Worms/parasites present <input type="checkbox"/> Not examined <input type="checkbox"/></p> <p><b>Flippers</b></p> <p><input checked="" type="checkbox"/> No injuries/wounds/bleeding observed If yes to following, provide comments &amp; photo/video <input type="checkbox"/> Amputation of &lt;50% of flipper <input type="checkbox"/> Amputation of =&gt;50% of flipper <input type="checkbox"/> Whole or broken bone visible in wound <input type="checkbox"/> Soft tissue exposed/involved <input type="checkbox"/> Any indents, abrasions, swelling, lacerations or bleeding seen <input type="checkbox"/> Not examined <input type="checkbox"/></p>	<p><b>Behavior at Release</b></p> <p>Eyes open at release <input checked="" type="checkbox"/> Lifting head to breathe <input checked="" type="checkbox"/> All flippers moving/flapping <input checked="" type="checkbox"/> Immediately dove <input type="checkbox"/> Seen in water after release <input checked="" type="checkbox"/> If yes to following, provide comments &amp; photo/video <input type="checkbox"/> Still no response to reflex tests <input type="checkbox"/> Moving sluggish/slow once in water <input type="checkbox"/> Head or flippers hanging limply <input type="checkbox"/> Gear on animal <input type="checkbox"/> Circling/listing once in water <input checked="" type="checkbox"/> Upside down/can't right itself once in water <input type="checkbox"/> Surfaced after diving <input type="checkbox"/> Slays at surface, does not dive <input checked="" type="checkbox"/> Released while observer not present <input type="checkbox"/> Not seen once in water <input type="checkbox"/></p> <p><b>Additional Information</b></p> <p>Sampling completed and waiting to release <input type="checkbox"/> Protected from elements <input checked="" type="checkbox"/> Anything put over eyes, nares not covered <input checked="" type="checkbox"/> Additional release details <input type="checkbox"/> Boat in neutral and gear out of water <input checked="" type="checkbox"/> Released off stern of boat <input checked="" type="checkbox"/> No other boats in immediate area <input checked="" type="checkbox"/></p>
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**Comments:** Using the boxes above as a guide, provide comments and sketches to describe ID characteristics, overall condition of carapace, plastron and soft tissue, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on animal, results of reflex tests/resuscitation, details of retrieval, details of release and any other relevant information. Sketches and space for more comments available on back of log.

Turtle was identified by one pair of pre-frontals, 4 lateral scutes, 4 inframarginal scutes without pores, brown carapace color with starburst like pattern. Turtle came up in codend and was dumped with catch, landed right side up and was covered by a layer of fish. Turtle was inactive with no movement seen. Observer brought to side of deck to sample, carrying by a hand on either side of the shell. Observer performed reflex tests marked above, all elicited no response or movement. While examining animal observer saw thick, dark green algae present on the first two vertebral scutes. Also noted a ~8in crack in carapace going from 3rd left lateral scute across 4th vertebral scute to the 4th right lateral scute. Crack had a clean edge but slight flaking of outer layer of carapace seen, bone exposed in center of crack, no muscle or other tissue seen in wound. Crack was ~2-3mm across. In center of plastron there was a diamond shaped area that was dark reddish brown, no texture or wound seen just discolored. Once turtle was examined, sampled and measured observer used a checkpen board leaning against a pile of rope to support turtle while in resuscitation position. Observer did same reflex tests every hour, did not see any change for first

**Comments and Sketches:** Using the boxes on the front of the log as a guide provide comments and sketches to describe ID characteristics, overall condition of carapace, plastron and soft tissue, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on animal, results of reflex tests/resuscitation, details of retrieval, details of release and any other relevant information.



Dorsal View

Ventral View

Additional space for comments (if needed):

4 hours. When checking at the four hour mark there was a slight twitch when rubbing above left eye, but no reaction for other tests. At five hour mark slight withdraw of left flippers when pinched and both eyes were now open. Still very lethargic and not much movement so left in resuscitation position. When checking at the 6.5 hour mark it was actively moving. When observer came out on deck it had moved off of board under its own power and was actively moving around deck, lifting head to breathe, all flippers seen moving. Pinched tail and flippers to make sure it was alert and all pinches elicited a withdraw response of a couple inches. Gear was still in water but near end of a tow so talked with captain and decided since it was day 3 of 10 day trip it was best to get turtle back in the water once gear was back on board. For the next 45 minutes turtle was corralled into corner of deck and a damp cloth was placed over eyes and a wet towel was placed over carapace. Once gear was back on deck and boat in neutral turtle was carried to stern of vessel by observer and released down stern ramp. It initially went under water but surfaced about 2 seconds later and was swimming in circles at the surface until it was out of sight, boat was steaming away once turtle was released. Observer saw it for about 2 minutes while at surface and it was circling the entire time. Total time on deck was about 7.5 hours.

**SEA TURTLE BIOLOGICAL SAMPLE LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBBTU 05/01/13**

<b>OBS/TRIP ID</b>			
<b>DATE LANDED mm/yy</b>	/ /		
<b>PAGE #</b>	OF		

PSID #	SPECIES NAME	TAGS	MEASUREMENTS (Curv)		IDENTIFICATION CRITERIA				NUMBER OF SAMPLES				
		Pit Tag Number Scan? 0=N 1=Y	Notch-to-Tip Length cm	Notch-to-Notch Length cm	Width cm	Vertebral Scute Count	Lateral (Costal) Scute Count	Infra-marginal Scute Count	1 Pair Pre-frontals? 0=N,1=Y	Overlap Scutes? 0=N,1=Y	Whole	Biopsy/Skin	Other

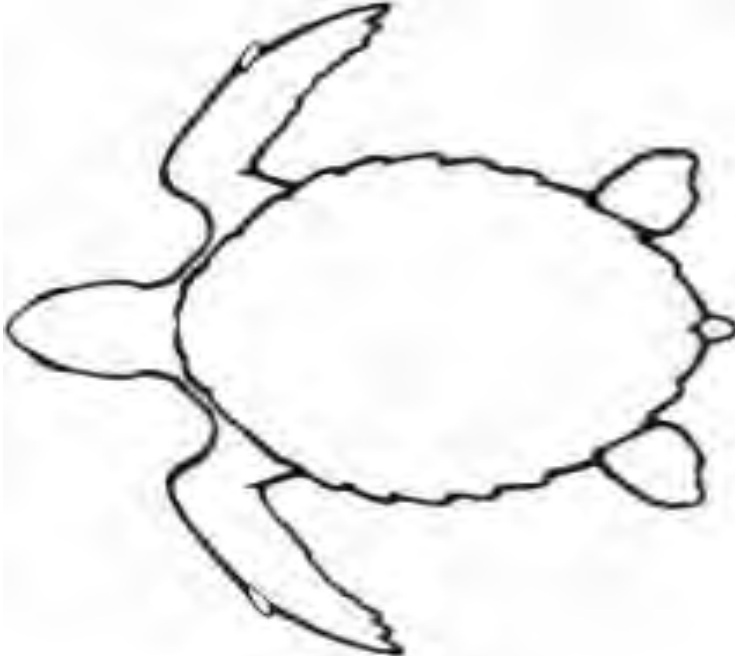
**Directions: Mark the boxes below for any conditions that apply for PSID above, mark all options that apply. You must mark at least 1 box for each category. Provide more comments and details where instructed.**

<p><b>DORSAL COLOR CODE (Above)</b></p> <p>01 = Black 02 = Gray-Green 03 = Orange/Red-Brown 04 = Brown 99 = Other 00 = Unknown</p> <p><b>Behavior on Deck</b></p> <p>Eyes open while on deck Lifting head to breath All flippers moving/flapping If yes to following, provide comments &amp; photo/video</p> <p><input type="checkbox"/> Moving sluggish/slow <input type="checkbox"/> No movement seen <input type="checkbox"/> Head or flippers hanging limply</p>	<p><b>Shell (Carapace and Plastron)</b></p> <p><input type="checkbox"/> No cracks/chips/injuries observed If yes to following, provide comments &amp; photo/video</p> <p>Shell crack with bone or tissue visible Crack includes vertebral scutes Crack with sharp/clean edges Crack includes marginal scutes Only marginals cracked, &lt;50% width Only marginals cracked, =&gt;50% width Superficial scuffs/chips/abrasions observed Barnacles present Algae present Not examined</p> <p><b>Head</b></p> <p><input type="checkbox"/> No injuries/wounds/bleeding observed If yes to following, provide comments &amp; photo/video</p> <p>One or both eyes closed/injured Any bones or muscle visible Object seen in/coming from mouth Discharge/bleeding/growth seen from eyes/nares/mouth Any indents, abrasions, swelling, lacerations or bleeding seen Barnacles present Not examined</p>	<p><b>Skin</b></p> <p><input type="checkbox"/> No injuries/wounds/bleeding observed If yes to following, provide comments &amp; photo/video</p> <p>Any indents, abrasions, swelling, lacerations or bleeding seen External bleeding from skin Cut/injury through skin (no bleeding) Bleeding seen while tagging/biopsy Bleeding from cloaca (anus) Barnacles present Algae present Worms/parasites present Not examined</p> <p><b>Flippers</b></p> <p><input type="checkbox"/> No injuries/wounds/bleeding observed If yes to following, provide comments &amp; photo/video</p> <p>Amputation of &lt;50% of flipper Amputation of =&gt;50% of flipper Whole or broken bone visible in wound Soft tissue exposed/involved Any indents, abrasions, swelling, lacerations or bleeding seen Not examined</p>	<p><b>Behavior at Release</b></p> <p>Eyes open at release Lifting head to breath All flippers moving/flapping Immediately dove Seen in water after release If yes to following, provide comments &amp; photo/video</p> <p><input type="checkbox"/> Still no response to reflex tests <input type="checkbox"/> Moving sluggish/slow once in water <input type="checkbox"/> Head or flippers hanging limply <input type="checkbox"/> Gear on animal <input type="checkbox"/> Circling/listing once in water <input type="checkbox"/> Upside down/can't right itself once in water <input type="checkbox"/> Surfaced after diving <input type="checkbox"/> Stays at surface, does not dive <input type="checkbox"/> Released while observer not present <input type="checkbox"/> Not seen once in water</p> <p><b>Additional Information</b></p> <p>Sampling completed and waiting to release Protected from elements Anything put over eyes, nares not covered Additional release details Boat in neutral and gear out of water Released off stern of boat No other boats in immediate area</p>
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**Comments:** Using the boxes above as a guide, provide comments and sketches to describe ID characteristics, overall condition of carapace, plastron and soft tissue, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on animal, results of reflex tests/resuscitation, details of retrieval, details of release and any other relevant information. Sketches and space for more comments available on back of log.

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	OF

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Dorsal View



Ventral View

Additional space for comments (if needed):

## Sea Turtle Sampling Guidelines

The following are guidelines for documenting and biologically sampling incidentally taken sea turtles in all fisheries. Each trip may present different challenges in accommodating these priorities such as rough weather conditions, the animal falling out of the gear, etc. It is up to the observer to use his/her best judgment in following these guidelines.

**All sea turtles incidentally caught by the vessel, or entangled in its gear, during any stage of fishing activity, are considered incidental takes.** Animals cannot be recorded as both incidental takes and protected species sightings.

### Safe Sea Turtle Handling Guidelines

Wear gloves and clean and disinfect any cuts or abrasions incurred when handling sea turtles.

Sea turtles have powerful jaws. Always keep clear of the head and wear durable foot wear when working around them on deck.

Sea turtles of all species, except leatherbacks, have claws on their flippers. Keep clear of flapping flippers, especially if the animal is on its back (carapace). Avoid straddling animals when you are working with them.

Never pick up sea turtles by the flippers, head or tail. For all turtles except leatherbacks, pick them up by placing one hand at the front and back of the carapace or one hand at each side of the carapace. Extra care should be taken when handling leatherback turtles since they are covered with skin. Leatherback turtles should never be turned over on their carapace and should always be picked up by their plastron, *i.e.*, by supporting their underneath instead of just picking up by their carapace. Since leatherback turtles can be large, you might need assistance when moving them - do not try to drag or push them.

Placing a clean, damp cloth over an agitated turtle's head/eyes can sometimes have a calming effect. Be careful not to cover the nares (nasal openings) and possibly suffocating the animal.

Turtles brought on deck should be protected from adverse weather conditions as much as possible. If it is sunny and hot, turtles should be covered with a clean damp cloth/towel and kept in the shade. If it is cold, turtles should be insulated with available clean dry material and kept out of the weather.

### Sampling Requirements

The following biological sampling requirements, listed in priority order, apply to all incidentally taken sea turtles whether alive or dead. See the [Sea Turtle Sampling Protocols](#) in the [Biological Sampling Manual](#) for more information.

1. Photograph and video, including something for scale
2. Describe identifying characteristics and condition, including any visible wounds
3. Check for the presence of tags. Record tag number and photograph, if possible.
4. Body Measurements (3, curvilinear)
5. Biopsy/tissue (genetic) sample:
  - Live Animals: Turtle must > 25 cm notch to tip carapace length.
  - Dead Animals: Retain animals whole, if possible otherwise biopsy
6. Tag with Inconel tag(s) on rear flippers:
  - Live Animals: 2 tags, turtle must > 26 cm notch to tip carapace length.
  - Dead Animals: 1 tag for all dead sea turtles
7. Scan for PIT tags on flippers and all soft tissue.
8. If comatose attempt resuscitation (see below) otherwise release.

### Genetic Sampling Protocols

Genetic samples provide valuable information on stock structure. Small skin biopsies provide a simple method to obtain tissue samples for genetic studies from live and dead sea turtles. For live or comatose turtles larger than 25 cm notch to tip carapace length, and all dead turtle tissue samples large enough for genetic analysis can be obtained using a disposable biopsy punch.

This tool consists of a plastic handle that supports a sharp circular blade. Tissue samples should be preserved in 5 ml vials filled with 20% saturated DMSO. This preservative has a low toxicity, however it can soak into the skin rapidly and cause a garlic-like taste and breath odor. DMSO increases the rate of skin absorption and can "pick up" any chemical already on your hands. Therefore, the use of latex gloves is required throughout the sampling procedure.

1. The best method is to leave the turtle carapace up, with a damp cloth over the head (careful not to cover nares).

2. Put on a pair of latex gloves and thoroughly wipe the ventral and dorsal surfaces of the rear flipper with a Betadine wipe. This area is along the trailing edge of the flipper and is just past (away from the body) the Inconel tag location, which is near the first scale closest to the body. The betadine must remain on a minimum of 5 minutes.
3. Use an alcohol swab to wipe the hard surface (plastic dive slate, biopsy vial cap or other available clean surface) that will be used under the flipper. Allow alcohol to evaporate, then place this surface underneath the Betadine treated flipper.
4. Holding a new biopsy punch by the thumb and index finger, press the biopsy punch firmly into the flesh. Make sure the biopsy punch goes past the flipper edge, creating a 3/4 crescent shaped biopsy. Rotate the punch one or two complete turns. This technique promotes quicker healing. The biopsy tool has a sharp cutting edge so exercise caution at all times. Wipe the punched area with a Betadine swab.
5. Repeat the procedure to the other rear flipper using the same biopsy punch. You will now have two samples from this turtle in the same biopsy punch.
6. Place the plugs directly into a vial containing 20% saturated DMSO. Remove the tissue plugs by using a pair of tweezers cleaned with alcohol wipes, a clean toothpick or by tapping the punch on the edge of the vial. It is important that the tissue samples do not come into contact with any other surface or materials during collection.
7. Secure the vial cap. Using a fine point permanent marker (Sharpie), label the vial with the same PSID number used on your Sea Turtle Biological Sample Log and the trip number. Then cover the writing with a piece of clear tape to prevent smearing. After capping, tightly wrap a piece of Parafilm around the vial cap and place it in a Whirl-pak. Include a completed tyvek tag with all relevant information, except for disposition code.
8. Be sure to indicate that biopsy samples were taken on the Sea Turtle Biological Sample Log.
9. Dispose of the used biopsy punch. It is very important to use a new punch for each animal to avoid cross contamination.
10. Submit the vial with your data. It can be mailed in with your paper trip.
11. Maintain all biopsy equipment in a clean and dry condition in the biopsy sample kit. Ensure that the kit has all necessary supplies.

Notify the Area Coordinator or FSB Incidental Take Lead for additional supplies. Air dry all equipment once you land from trip.

## Tagging Sea Turtles with Inconel Tags

### *Live or Comatose Sea Turtles:*

1. All turtles should be examined for existing external tags prior to applying new Inconel tags. All existing tags should be recorded accurately. Inconel and other external tags are recorded on the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. Prior to release, each turtle **larger than 26 cm Notch to Tip carapace length** should have two well attached and clearly legible external Inconel tags each rear flipper.
2. The best method is to leave the turtle carapace up, with a damp cloth over the head (careful not to cover nares).
3. Put on a pair of latex gloves and thoroughly wipe the ventral and dorsal surfaces of the rear flipper with a Betadine wipe. This area is along the trailing edge of the flipper on the first scale closest to the body. The betadine must remain on a minimum of 5 minutes. Record the tag identification number prior to placing it into the applicator. Place the pointed (piercing) side of the tag up and place the end of your index finger inside the tag against the bend. Pull the tag straight back into the open jaws of the applicator, aligning the pointed side of the tag opposite to the side of the pliers that has the small depression (see Figure 8). Do not squeeze the pliers before you are ready to tag or the tag will fall out.
4. Position the Inconel tag so that it extends slightly past the trailing edge of the rear flipper (approximately 1/3 the length of the tag). For leatherback turtles tag 5cm from base of tail. For all other turtles tag in the soft tissue between body and the first scale. It should not be cinched in too tight against the flipper without room to move freely. Also avoid positioning the tag close to edge of the flipper where it can rip out. See Figure 9.
5. Due to tag loss, double tagging is standard procedure. If the recommended tagging site is damaged or is for some reason unsuitable for tag application, then an alternative site along the trailing edge of the front flipper may be used.
6. There are two distinct motions involved in applying Inconel tags. The first step is to squeeze the applicator so the tag point pierces the flipper. The second step, a moment later, involves applying greater force to drive the point through the tag hole

and make it bend over completely. Use both hands and squeeze in a firm, steady manner to ensure that the tag will fully lock. The handles of the applicator should always be gripped as far back as possible to gain maximum leverage. The tag point should pierce the flipper and lock into place with the tip bending securely over by 3-5 mm. After attachment, feel the tag with your finger and visually inspect to make sure the point has bent over into a fully locked position. Repeat the procedure and apply a second tag on the other rear flipper. All live turtles should be double tagged in this manner. If possible, use consecutive tag numbers on the same turtle.

7. In the event that the Inconel tag does not lock, fit the pliers back around the tag and apply greater pressure. Tags that fail to lock when applied to a turtle are difficult, frustrating and sometimes impossible to properly correct, even when using additional tools. Improperly applied tags can be shed quickly. A tag that malfunctions should be removed, recorded as being destroyed and replaced with a new tag. If you are having persistent problems when attempting to apply Inconel tags, please contact the FSB staff for help or additional training.
8. When you have finished working with one turtle, clean and disinfect the applicator (pliers) to avoid cross contamination between turtles. Maintain the tag applicators so they continue to work properly by washing them in fresh water after use, drying them thoroughly and spraying the spring and pivot surface with WD40 and storing them in a sealed plastic bag once dried.
9. In order to ensure that Inconel tags remain clean and sterile, keep them in that bag and remove one at a time as needed. Inconel tags are expensive; take care of them and do not pass them on to other observers. Any lost tags should be reported to FSB personnel.

Figure 8: Sea turtle Inconel tag applicator.



Figure 9: Properly applied Inconel tags to the rear flippers of a live sea turtle.



#### **All Dead Sea Turtles:**

Tag all dead sea turtles with a single Inconel tag following the above guidelines and take a biopsy from all dead sea turtles following the protocols previously described for live or comatose sea turtles. Any animals that cannot be brought ashore whole will be released at sea following the same release guidelines followed for live or comatose turtles.

Observers are requested to retain all dead sea turtles if possible. Whole sea turtle carcasses can provide important information about the health of the animal at the time of death. Fresh dead turtles observed taken during fishing activities provide a rare necropsy opportunity for trained professionals. On single day trips the observer should request that all dead sea turtles be brought back to the dock. On multi-day trips observers should request space in the fish hold so that dead turtles can be brought back to the dock. It may not be possible to accommodate larger turtles. Using the heaviest bags available, double bag salvaged turtles and take all appropriate measures to absolutely ensure that fish are not contaminated or spoiled by contact with the turtle. Fill out two Tyvek tags, using a permanent marker (Sharpie). Fill in all fields except for the disposition code. Attach one Tyvek tag directly to the flipper of the dead sea turtle and a second to the outside of the bag. Before you return to the dock, contact your Program Manager or Area Coordinator to notify them that you have a dead sea turtle. Contact FSB staff at (508) 566-6071 if there are any specific sampling questions.

#### **PIT Tag Scanning Guidelines**

All turtles should be scanned for PIT tags. Many turtle research projects now routinely use PIT tags in addition to external tags.

1. Keep your PIT tag scanner inside a plastic zip lock bag whenever you use it. PIT tag scanners are expensive and since they are not

waterproof this will help protect them from water or slime. Even the smallest amount of water will destroy a PIT tag scanner, so please be careful when using and/or storing the scanner. Placing the scanner in a plastic bag during use will not affect its performance. However, do not store the scanner in a plastic bag since condensation may develop inside the plastic bag.

2. Scan the provided sample PIT tag, attached to the scanner, to verify that the batteries are good and that the PIT tag scanner is working properly. Be sure to hold/keep the sample tag well out of the way when you are scanning a sea turtle. Test the scanner periodically. Avoid situations where you are unable to properly scan turtles because of dead batteries.
3. Place the PIT tag reader scanning surface directly on the skin of the turtle and **SLOWLY** scan the dorsal (top) surface of both front flippers, including the "shoulder", "armpit" and neck areas. For the scanner to work properly, you will need to hold the button down while scanning. It is important to move the reader slowly since it cycles through different tag types and frequencies. An overlapping circular motion has been shown to increase tag detection over a straight swiping motion. Scan the entire area multiple times to ensure that you have not missed a tag. Repeat the same procedure for both rear flippers. See Figure 10.
4. For all turtles EXCEPT leatherbacks, gently place the turtle on its carapace and scan the ventral (bottom) surface of all flippers following the procedures outlined above. Also check the area of plastron between the front and rear flippers.
5. If a PIT tag is detected, record the identification code, exactly as it appears on the PIT tag scanner display, on the [Sea Turtle Biological Sample Log](#). Codes may be all numbers or alpha-numeric. Record all hyphens which may appear as part of the code. Double check to make sure you have recorded the code exactly as it appears on the scanner display.
6. Retain the turtle and notify the FSB Incidental Take Lead if a tag is detected. We will be able to learn more about the history of the PIT tag. If the turtle is dead make all attempts to retain it since additional information may be obtained from the PIT tagged turtle.

Figure 10: Scanning sea turtle for PIT tags.



### Handling and Resuscitation Requirements

Any live sea turtle taken incidentally taken during the course of commercial fishing or scientific research activities must be handled with care to prevent injury. Incidentally taken sea turtles should be observed for activity and then returned to the water according to the following procedures:

Resuscitation must be attempted on sea turtles that are comatose or inactive but not dead by placing the turtle right side up (on plastron) and elevating the hindquarter 20° for a period of 4 up to 24 hours (refer to Figure 11). Periodically rock the turtle from side to side by holding the outer edge of the carapace and lifting one side about 3 inches, alternate lifting from one side to the other. This allows the lungs to drain off water. Sea turtles being resuscitated must be protected from the elements at all times. If it is sunny and warm then shade the turtle and keep moist using clean sea water or clean damp towels. If it is cold then keep the turtle out of the weather and warm by insulating with clean rags or other suitable material.

**Important:** Do not assume that an inactive turtle is dead. The onset of rigor mortis or the rotting of flesh is often the only definitive indication that a turtle is dead. Otherwise the turtle is determined to be comatose or inactive and resuscitation attempts are necessary. There are five methods that may elicit a reflex response from an inactive animal:

**Cloaca or tail reflex.** Stimulate the tail with a light touch. This may cause a retraction or side movement of the tail.

**Eye reflex.** Lightly touch the upper eyelid. This may cause an inward pulling of the eyes, flinching or blinking response.

**Nose reflex.** Press the soft tissue around the nose which may cause a retraction of the head or neck region or an eye reflex response.

**Tail/flipper pinch.** Pinch the tail or flippers which



may cause a retraction response.

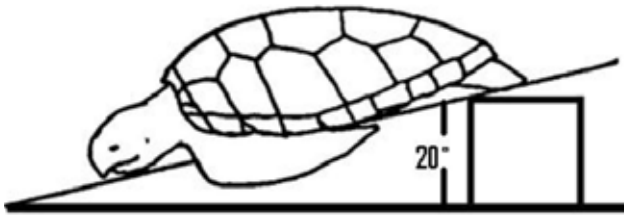
**Splash small amount of water on face.** This may cause a retraction of the head or neck region or an eye reflex response.

Sea turtles that are alive or dead must be released over the stern of the vessel. In addition, they must be released only when fishing gear is not in use, when the engine gears are in neutral position, and in areas where they are unlikely to be recaptured or injured by fishing gear or vessels.

*NOTE:* Follow the above guidelines for dead turtles only when it is not possible to retain the whole animal.

*NOTE:* ALL animals should be released as close to the water surface as possible.

Figure 11: Proper positioning of sea turtle for resuscitation.



### Transfer of Injured Sea Turtles for Rehabilitation

Turtles can sustain a variety of life threatening injuries when they interact with fishing gear. Beyond resuscitation, observers are not trained or expected to administer medical aid. When injured animals are released, it is likely that a number of them die. With treatment and rehabilitation by trained professionals, these animals have a higher probability to survive and be released back into the wild. When possible, the observer is requested to transfer live, injured turtles to a cooperating U.S. Coast Guard vessel or to deliver them to a NMFS permitted member of the Sea Turtle Stranding and Salvage Network (STSSN) in the state where the vessel lands. This can be found in the on-deck reference sheets.

On single day trips, all injured turtles should be brought in whenever possible. On multi-day trips, arrangements should only be made to bring in injured turtles if the observed fishing vessel will land within a 36 hour period. If the observed vessel will not be landing within the 36 hour period, contact FSB staff at (508) 566-6071 to make arrangements for a U.S. Coast Guard at sea pick up. Keep in mind that these plans should be discussed with the captain first.

A plan for the exchange of an injured turtle needs to be established before making the decision to bring an injured turtle in to the dock. The observer may need to request the use of the vessel's satellite phone or radio to contact FSB staff or the STSSN. Vessels will be reimbursed for all incurred costs. Turtles should not be brought in for rehabilitation unless the STSSN can meet the observer at the dock when the vessel lands.

It is not the observer's responsibility to deliver the turtle to a rehabilitation facility. If the observer is unable to establish contact with the STSSN then the animal should be released. Contact FSB staff at (508) 566-6071 before releasing as FSB staff may be able to help observers contact the STSSN.

It is understood that any request to transfer or bring in a turtle is contingent on the cooperation of the vessel operator. The observer is advised to make a polite request of the vessel operator and to be aware that a number of factors may prevent the vessel operator's cooperation. In that case, the turtle should be released following the above release guidelines. The behavior of the released turtle should be noted on the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

## Protected Species Sighting Log

The purpose of this log is to record all protected species sightings. This information is critical in determining the temporal and spatial distribution of protected species, and the relative abundance and behavior of animals in the vicinity of fishing operations. Sea bird sightings are not recorded here.

All protected species observed during a deployment, which are determined not to be incidental takes by the observer, are recorded on the Protected Species Sighting Log.

An animal must not be recorded on both the Protected Species Sighting Log **and** the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log. See the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log in the NEFSC Observer Program Manual for more detailed instructions on deciding when an animal is a sighting versus an incidental take. An animal determined to be an incidental take is recorded on the Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

### Sighting Types

**On-Effort Sightings:** A sighting of a protected species made while conducting a dedicated protected species watch.

Protected species watches are performed on **every haul** of limited fish sampling gillnet trips and all alternative platform sampling trips, regardless of weather conditions.

During a haul watch, the observer should face the net, looking down along the line of the net as it exits the water and is brought up to the vessel or onto the beach. The primary focus should be along that line and where the net breaks the water's surface. Continuous scanning of the water surface in the designated area to either side of the net (from the bow to the stern) should be done with the naked eye.

**Off-Effort Sightings:** An opportunistic sighting of a protected species made at a time when the observer is not conducting a protected species watch.

*Example:* While observing a trawl haul back, a group of common dolphins are sighted about 50 meters from the vessel. This is considered an off-effort sighting.

### Instructions

For instructions on completing fields **A**, **B**, and **C**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. TODAY'S DATE:** Record the month, day, and year that the event being described occurred.

*Example:* 03/20/01.

**2. EVENT NUMBER:** A consecutive event number is assigned to each animal sighting on this trip. If there are insufficient lines on one form to record all animals seen on the haul, continue listing animals on an additional Protected Species Sighting Log, making sure to fill in the proceeding number.

**3. EVENT TIME:** Record the local time using the 24 hour clock (0000–2359) that the event being described occurred.

*Example:* 20:32.

**4. EVENT TYPE CODE:** Indicate whether the observer is on- or off-effort, and describe the vessel activity at the time the sighting was made by recording the most appropriate two-digit code:

- 08 = On-effort, during dedicated watch.
- 10 = Off-effort, vessel activity unknown.
- 11 = Off-effort, vessel stop/anchor/drift.
- 12 = Off-effort, sitting on gear.
- 13 = Off-effort, transiting or searching.
- 14 = Off-effort, towing gear.
- 15 = Off-effort, hauling in gear.
- 16 = Off-effort, setting out gear.
- 19 = Off-effort, pumping catch.

*NOTE:* If the sighting is made during a protected species watch on a limited gillnet trip, the sighting event code is always "On-effort, during dedicated watch" (08).

#### General:

- 00 = Unknown.
- 99 = Other, describe the event type in COMMENTS.

*NOTE:* Use code 99 to describe dedicated sighting activity outside of the specified watches.

**5. POSITION CODE:** Indicate the location and position of the observer on the vessel at the time of this event by recording the most appropriate two-digit code:

- 00 = Unknown.
- 01 = Bow, facing forward.

- 08 = Bow, facing sideways.
- 02 = Wheelhouse, facing forward.
- 03 = Wheelhouse, facing backward.
- 09 = Wheelhouse, facing sideways.
- 04 = Work deck, facing backward.
- 05 = Work deck, facing sideways.
- 06 = Starboard side, facing net.
- 07 = Port side, facing net.
- 99 = Other, describe the position in COMMENTS.

*NOTE:* If the sighting is not seen by the observer, record “Other” (99), and describe in COMMENTS.

**6. HAUL NUMBER:** Record the haul number assigned to the haul in which any on-effort events or off-effort sightings occurred between the beginning and end of a haul. This number must agree with the number recorded for this haul on the corresponding Haul Log.

*NOTE:* If the event does not occur during a haul, record a dash (—).

#### **7. LATITUDE/LONGITUDE OR LORAN:**

Record the latitude and longitude location, to the tenth of a minute, where the event occurred. If the latitude and longitude location is given in seconds, convert them to tenths of minutes. If latitude and longitude positions are not available, record the LORAN stations and bearings.

*NOTE:* See Appendix I: Conversion Tables for a list of second ranges and corresponding conversions to tenths of minutes.

*NOTE:* If **neither** latitude/longitude or LORAN positions are available, record the statistical area as listed in Appendix N: Overview of the Northeast Statistical Areas

*Example:* 35 23.4 75 16.7

*Example:* 9960X 27054 9960Y 41824

**8. WEATHER CODE:** Indicate the weather at the time the event occurred by recording the most appropriate two-digit code listed in Appendix J: Weather Codes.

**9. WAVE HEIGHT:** Record, in whole feet, the wave height at the time the event occurred. If the wave height is less than six inches, record “0”.

*NOTE:* This is **not** a range.

**10. COMMENTS?:** Indicate whether there is a comment associated with this event by recording the appropriate code:

0 = No.

1 = Yes.

#### **COMMENTS ARE REQUIRED FOR EVERY PROTECTED SPECIES SIGHTING.**

Comments are recorded on the back of the Protected Species Sighting Log. Each event has an unique EVENT NUMBER per day. Care should be taken to correctly record the matching EVENT NUMBER on both sides of the log.

Sighting comments should include all field characteristics **actually seen** by the observer and used to make an identification of the animal. Any unusual marks, scars or coloration on the animal(s) should be noted. Size of animal(s) should be included if an estimation is possible. Record ranges of the number of animals sighted, including the number of calves. Behaviors of the animal(s) sighted should be included, such as swim speed and direction and any other activities noted while the animal(s) was (were) observed.

Observed associations with other vessels, marine life or oceanographic phenomena (*e.g.*, wind rows, current lines, flotsam, jetsam or a dramatic change of water color in the immediate area) should also be included. If photographs were taken, upload photos immediately after trip with accompanying electronic data.

#### **Sighting Information**

**11. SPECIES NAME:** Record the complete common name of each protected species sighted, as listed in Appendix A: Species Names.

*NOTE:* If it is not possible to make a positive species identification, identify the animal to the most specific generic group of which you are positive, *e.g.*, baleen whale, unidentified dolphin, seal, hard-shelled sea turtle, *etc.* **DO NOT GUESS AT SPECIES IDENTIFICATION.**

*Example:* Toothed Whale, NK.

*Example:* Harbor Porpoise.

**12. SPECIES CODE:** Leave this field blank.

**13. NUMBER OF ANIMALS:** Record the number of animals sighted. **Do not record a range.**

**14. SIGHT CUE CODE:** Indicate how the sighting was **first** detected by recording the most appropriate one-digit code:

0 = Unknown.

- 1 = Sighted with naked eye.
- 2 = Sighted with binoculars.
- 3 = First sighted by captain or crew, then by observer.
- 4 = Sighted by captain or crew **ONLY**.
- 9 = Other, describe the sight cue in COMMENTS.

**15. ANIMAL CONDITION CODE:** Indicate the condition of the animal(s) sighted by recording the most appropriate two-digit code:

- 00 = Unknown, explain why you can not identify the animal condition in COMMENTS.
- 01 = Alive, see COMMENTS
- 04 = Alive, hook/gear in/around mouth, attempt to determine where in the mouth the hook is, *etc.* and describe in COMMENTS.
- 05 = Alive, hook/gear in/around flipper, *e.g.*, hook in the flipper or gear around the flipper.
- 06 = Alive, hook/gear in/around another single body part, *e.g.*, hook in the neck or plastron; specify which in COMMENTS.
- 07 = Alive, hook/gear in/around several body parts, describe more fully in COMMENTS.
- 08 = Alive, seen by captain and/or crew **ONLY**.
- 10 = Dead, condition unknown.
- 11 = Dead, fresh.
- 12 = Dead, moderately decomposed.
- 13 = Dead, severely decomposed.
- 14 = Dead, seen by captain and/or crew **ONLY**.

*NOTE:* If more than one code applies, choose the code that describes the most specific condition.

*Example:* A turtle is sighted alive with gear around the left front flipper—choose code '05' (Alive, hook/gear in/around flipper) as it is most specific.

**16. ANIMAL BEHAVIOR CODE:** Indicate the **initial** behavior of the animal(s) when first sighted by recording the most appropriate two-digit code:

- 00 = Unknown.
- 01 = Near gear, physical contact.
- 02 = Near gear, within 50 meters.
- 03 = Near gear, within 51 to 150 meters.
- 04 = Feeding on catch.
- 05 = Porpoising: the animal(s) is (are) splashing along at the surface, breaking the surface regularly, showing most of the body.
- 06 = Bow riding: the animal(s) is (are) observed keeping pace with the vessel on the bow

wave.

- 07 = Breaching: the animal(s) emerge(s) from the water and crash(es) down on a flank, back or belly.
- 08 = Swimming at surface: the animal(s) is (are) observed several times surfacing 'normally', each surfacing at some irregular distance from the previous one; it (they) appear(s) to be just moving along.
- 09 = Milling: the animal(s) is (are) rolling at the surface with no direction, making short dives without moving along. Often a group activity.
- 10 = Motionless at surface (or dead).
- 11 = Vessel avoidance: the animal(s) abruptly change(s) its (their) swimming direction or behavior to avoid the vessel; a startling, alarming, fleeing reaction.
- 12 = Vessel attraction: the animal(s) change(s) its (their) swimming direction to approach the vessel, such as a pod of dolphins purposefully heading toward the vessel to bow ride.
- 99 = Other, describe the animal behavior in COMMENTS.

*NOTE:* If the animal(s) exhibit(s) multiple behaviors, record the code for the **initial behavior** only, and describe all subsequent behaviors in COMMENTS. If **multiple initial** animal behaviors exist for one sighting, record the lowest numerical code which applies, and record the other behaviors in COMMENTS.

*NOTE:* If there are a large number of animals (same species) that appear to be in a cohesive group, record the **initial behavior** of the majority of the animals. If a large number of animals (same species) appear to be in distinct groups behaving differently, record each group as a separate sighting.

**PROTECTED SPECIES SIGHTING LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBSIG 05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> / /
PAGE #	<b>C</b> OF <b> </b>
TODAY'S DATE mm/dd/yy	<b>1</b> / /

EVENT #	EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)		WEA- THER CODE	WAVE HGT ft	COMM- ENTS? 0=N, 1=Y	SPECIES NAME	SPECIES CODE	#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
					Station 1	Station 2									
2	1 3 4 5 6				9960-	7	9960-	9	10	11	12	13	14	15	16
2	:				9960-		9960-								
3	:				9960-		9960-								
4	:				9960-		9960-								
5	:				9960-		9960-								
6	:				9960-		9960-								
7	:				9960-		9960-								
8	:				9960-		9960-								
9	:				9960-		9960-								
10	:				9960-		9960-								
11	:				9960-		9960-								
12	:				9960-		9960-								

EVENT TYPE CODES:	POSITION CODES:	SIGHT CUE CODES:	ANIMAL CONDITION CODES:	ANIMAL BEHAVIOR CODES:
08 = On-effort, during dedicated watch 10 = Off-effort, vessel activity unknown 11 = Off-effort, vessel stop/anchor/drift 12 = Off-effort, sifting on gear 13 = Off-effort, transiting or searching 14 = Off-effort, towing gear 15 = Off-effort, hauling in gear 16 = Off-effort, setting out gear 19 = Off-effort, pumping catch GENERAL 00 = Unknown 99 = Other	00 = Unknown 01 = Bow, facing wind 08 = Bow, facing sideways 02 = Wheelhouse, facing forward 03 = Wheelhouse, facing backward 09 = Wheelhouse, facing sideways 04 = Work deck, facing backward 05 = Work deck, facing sideways 06 = Starboard side, facing net 07 = Port side, facing net 99 = Other	0 = Unknown 1 = Sighted with naked eye 2 = Sighted with binoculars 3 = First sighted by capt/crew then by observer 4 = Sighted by capt/crew ONLY 9 = Other	00 = Unknown 01 = Alive, see comments 04 = Alive, hook/gear in/around mouth 05 = Alive, hook/gear in/around flipper 06 = Alive, hook/gear in/around other body part 07 = Alive, hook/gear in/around several body parts 08 = Alive, seen by capt/crew ONLY 10 = Dead, condition unknown 11 = Dead, fresh 12 = Dead, moderately decomposed 13 = Dead, severely decomposed 14 = Dead, seen by capt/crew ONLY NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal	00 = Unknown 01 = Near gear, physical contact 02 = Near gear, within 50 meters 03 = Near gear, 51-150 meters 04 = Feeding on catch 05 = Porpoising 06 = Bow riding 07 = Breaching 08 = Swimming at surface 09 = Milling 10 = Motionless at surface 11 = Vessel avoidance 12 = Vessel attraction 99 = Other

OBS/TRIP ID	A
DATE LANDED mm/yy	B / /
PAGE #	C OF
TODAY'S DATE mm/dd/yy	1 / /

EVENT #	COMMENTS	EVENT #	COMMENTS
2			
10			

**PROTECTED SPECIES SIGHTING LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBSIG 05/01/13**

OBS/TRIP ID **A99010L**  
DATE LANDED mm/yy **05 / 13**  
PAGE # **1** OF **2**  
TODAY'S DATE mm/dd/yy **05 / 10 / 13**

EVENT #	EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)		WEA- THER CODE	WAVE HGT ft	COMM- ENTS? 0=N, 1=Y	SPECIES NAME	SPECIES CODE	#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
					Station 1	Station 2									
0 1	10:10	08	06	3	9960- 42° 24.3	9960- 70° 41.2	03	4	1	Whitesided Dolphin		22	1	01	05
0 2	10:11	08	06	3	9960- 42° 24.7	9960- 70° 41.2	03	4	1	Humpback Whale		1	1	01	08
0 3	11:14	13	02	---	9960- 42° 25.1	9960- 70° 40.3	03	4	1	Finback Whale		3	2	01	08
4	:				9960-										
5	:				9960-										
6	:				9960-										
7	:				9960-										
8	:				9960-										
9	:				9960-										
10	:				9960-										
11	:				9960-										
12	:				9960-										

EVENT TYPE CODES:	POSITION CODES:	SIGHT CUE CODES:	ANIMAL CONDITION CODES:	ANIMAL BEHAVIOR CODES:
08 = On-effort, during dedicated watch 10 = Off-effort, vessel activity unknown 11 = Off-effort, vessel stop/anchor/drift 12 = Off-effort, sitting on gear 13 = Off-effort, transiting or searching 14 = Off-effort, towing gear 15 = Off-effort, hauling in gear 16 = Off-effort, setting out gear 19 = Off-effort, pumping catch GENERAL 00 = Unknown 99 = Other	00 = Unknown 01 = Bow, facing wind 08 = Bow, facing sideways 02 = Wheelhouse, facing forward 03 = Wheelhouse, facing backward 09 = Wheelhouse, facing sideways 04 = Work deck, facing backward 05 = Work deck, facing sideways 06 = Starboard side, facing net 07 = Port side, facing net 99 = Other	0 = Unknown 1 = Sighted with naked eye 2 = Sighted with binoculars 3 = First sighted by capt/crew then by observer 4 = Sighted by capt/crew ONLY 9 = Other	00 = Unknown 01 = Alive, see comments 04 = Alive, hook/gear in/around mouth 05 = Alive, hook/gear in/around flipper 06 = Alive, hook/gear in/around other body part 07 = Alive, hook/gear in/around several body parts 08 = Alive, seen by capt/crew ONLY 10 = Dead, condition unknown 11 = Dead, fresh 12 = Dead, moderately decomposed 13 = Dead, severely decomposed 14 = Dead, seen by capt/crew ONLY NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal	00 = Unknown 01 = Near gear, physical contact 02 = Near gear, within 50 meters 03 = Near gear, 51-150 meters 04 = Feeding on catch 05 = Porpoising 06 = Bow riding 07 = Breaching 08 = Swimming at surface 09 = Milling 10 = Motionless at surface 11 = Vessel avoidance 12 = Vessel attraction 99 = Other

OBS/TRIP ID	A99010L		
DATE LANDED mm/yy	05	/	13
PAGE #	2	OF	2
TODAY'S DATE mm/dd/yy	05	/	10 / 13

EVENT #	COMMENTS	EVENT #	COMMENTS
01	Whitesided dolphins IDed by tan patch over white on hind flank, short beak with black top and white bottom, black dorsal body coloration. Two animals half the size of others in group assumed to be calves. Porpoising along behind another fishing vessel towing gear amidship of this vessel off our port side. Other vessel was headed northeast. Animals were approx. 100 meters to the stern of the vessel and 1/4 mile from our vessel.		
02	Long, white pectoral flippers seen through the water. Fluke underside had white pattern against black background with a scalloped trailing edge Photographed the underside of fluke (see photo log). While gear was being hauled in whale approached the vessel swimming at the surface from 1/4 mile off starboard stern to within 250 meters amidship and the lifted its fluke and dove. Not seen again.		
03	Three whales sighted by tall blows 1/2 mile off port amidship with swimming heading of 330 degrees swimming toward the vessel. All three animals had falcate dorsal fins set far back on the body. The blow was visible first and then the dorsal fin. All three dove in a wheel like motion exposing the dorsal fin. No flukes seen. Animals were spaced approximate 100 meters apart from one another.		



**PROTECTED SPECIES SIGHTING LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBSIG 05/01/13**

OBS/TRIP ID \_\_\_\_\_  
 DATE LANDED mm/yy \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 PAGE # \_\_\_\_\_ OF \_\_\_\_\_  
 TODAY'S DATE mm/dd/yy \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

EVENT #	EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)		WEA- THER CODE	WAVE HGT ft	COMM- ENTS? 0=N, 1=Y	SPECIES NAME	SPECIES CODE	#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE	
					Station 1	Station 2										
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																

EVENT TYPE CODES:	POSITION CODES:	SIGHT CUE CODES:	ANIMAL CONDITION CODES:	ANIMAL BEHAVIOR CODES:
08 = On-effort, during dedicated watch 10 = Off-effort, vessel activity unknown 11 = Off-effort, vessel stop/anchor/drift 12 = Off-effort, drifting on gear 13 = Off-effort, transiting or searching 14 = Off-effort, towing gear 15 = Off-effort, hauling in gear 16 = Off-effort, setting out gear 19 = Off-effort, pumping catch GENERAL 00 = Unknown 99 = Other	00 = Unknown 01 = Bow, facing wind 08 = Bow, facing sideways 02 = Wheelhouse, facing forward 03 = Wheelhouse, facing backward 09 = Wheelhouse, facing sideways 04 = Work deck, facing backward 05 = Work deck, facing sideways 06 = Starboard side, facing net 07 = Port side, facing net 99 = Other	0 = Unknown 1 = Sighted with naked eye 2 = Sighted with binoculars 3 = First sighted by capt/crew then by observer 4 = Sighted by capt/crew ONLY 9 = Other	00 = Unknown 01 = Alive, see comments 04 = Alive, hook/gear in/around mouth 05 = Alive, hook/gear in/around flipper 06 = Alive, hook/gear in/around other body part 07 = Alive, hook/gear in/around several body parts 08 = Alive, seen by capt/crew ONLY 10 = Dead, condition unknown 11 = Dead, fresh 12 = Dead, moderately decomposed 13 = Dead, severely decomposed 14 = Dead, seen by capt/crew ONLY NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal	00 = Unknown 01 = Near gear, physical contact 02 = Near gear, within 50 meters 03 = Near gear, 51-150 meters 04 = Feeding on catch 05 = Porpoising 06 = Bow riding 07 = Breaching 08 = Swimming at surface 09 = Milling 10 = Motionless at surface 11 = Vessel avoidance 12 = Vessel attraction 99 = Other

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	OF
TODAY'S DATE mm/dd/yy	/ /

EVENT #	COMMENTS	EVENT #	COMMENTS

## Pinger Tester Worksheet

The purpose of this log is to record the location, brand and condition of Active Deterrent Devices (ADD) or pingers on gillnet gear. On **limited sampling gillnet trips**, all pingers should be tested, when pingers are present. On **complete sampling trips**, no pingers will be tested until an incidental take of a marine mammal occurs, in which case the pingers on both sides of the marine mammal and the remaining pingers for that haul should be tested and recorded.

If pingers were tested and a Pinger Tester Worksheet submitted, record Program Code '101' on the Vessel and Trip Information Log.

### Instructions

For instructions on completing the Header fields **A**, **B**, and **C**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

If any pinger(s) cannot be tested, record Unknown (0) in the ADD CONDITION CODE (#4) and ADD BRAND CODE (#5). Record why the pinger(s) could not be tested in COMMENTS.

**1. PINGER TESTER NUMBER:** Record the number of the pinger tester used on this trip. It can be found at the base of the handle on the battery opening.

**2. HAUL NUMBER:** Record the haul number assigned to the haul in which the pingers were tested. This number must agree with the number recorded for this haul on the corresponding Haul Log.

**3. PINGER NUMBER:** This field is already filled out but should match the position of where pingers should be located on the gear.

*NOTE:* If the number of pingers used exceeds 25, continue recording pinger positions using the following HAUL NUMBER (#2) column and renumber the PINGER NUMBER to match pinger positions.

*NOTE:* Pingers should be located on each end of the gear and on the bridles between each net panel. If you see a pinger in a different position than those mentioned, provide details in COMMENTS about where it was in the gear.

*NOTE:* If extra pinger(s) are on the gear, record them in the order that they came onboard. Comment where the extra pinger(s) are located.

**4. ADD CONDITION CODE:** Record the Active Deterrent Device condition for each pinger, by

recording the most appropriate code:

- 0 = Unknown
- 1 = No pinger
- 2 = Audible, Not Tested
- 3 = Inaudible, Tested and Working
- 4 = Inaudible, Tested and Not Working
- 5 = Inaudible, Not Tested
- 6 = Absent (Lost)
- 7 = Audible, Tested and Working
- 8 = Audible, Tested and Not Working

*NOTE:* "Tested" means the pinger signal was measured using a testing tool provided by FSB or an observer provider.

*NOTE:* If no pinger is present in a position where a pinger is expected to be, and it was not on the gear when it was set, record 'No Pinger' (1). If no pinger is present and it was on the gear when it was set, record 'Absent (Lost)' (6). You may need to communicate with captain or crew to determine if a pinger was lost.

**5. ADD BRAND CODE:** Record the appropriate Active Deterrent Device brand for each pinger, by recording the most appropriate code:

- 00 = Unknown
- 01 = Dukane
- 02 = Airmar
- 03 = Fumunda
- 04 = Future Oceans LED
- 99 = Other, describe in COMMENTS

### Comments

Provide details on any other or unknown codes, any reason(s) pingers were not tested, and any other information regarding the pingers (*e.g.*, a broken pinger, a unique pinger location set-up, etc.). If any issues with the pinger tester arise, provide details concerning how the tester was operating, any errors encountered, and specific details about the problem experienced.

**PINGER TESTER WORKSHEET**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> of
PINGER TESTER #	<b>1</b>

HAUL # <b>2</b>			HAUL #			HAUL #		
PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE
<b>3</b> 1	<b>4</b>	<b>5</b>	1			1		
2			2			2		
3			3			3		
4			4			4		
5			5			5		
6			6			6		
7			7			7		
8			8			8		
9			9			9		
10			10			10		
11			11			11		
12			12			12		
13			13			13		
14			14			14		
15			15			15		
16			16			16		
17			17			17		
18			18			18		
19			19			19		
20			20			20		
21			21			21		
22			22			22		
23			23			23		
24			24			24		
25			25			25		

**ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:**

- 0 = Unknown
- 1 = No pinger
- 2 = Audible, Not Tested
- 3 = Inaudible, Tested and Working
- 4 = Inaudible, Tested and Not Working
- 5 = Inaudible, Not Tested
- 6 = Absent (Lost)
- 7 = Audible, Tested and Working
- 8 = Audible, Tested and Not Working

**ACTIVE DETERRENT DEVICE (ADD) BRAND CODES:**

- 00 = Unknown
- 01 = Dukane
- 02 = Airmar
- 03 = Fumunda
- 04 = Future Oceans LED
- 99 = Other (Comment)

**COMMENTS**

**PINGER TESTER WORKSHEET**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**05/01/13**

OBS/TRIP ID	<b>A99002L</b>
DATE LANDED mm/yy	<b>06 / 13</b>
PAGE #	<b>1 of 3</b>
PINGER TESTER #	<b>15</b>

HAUL # 1			HAUL # 2			HAUL # 3		
PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE
1	8	03	1	8	03	1	7	03
2	8	03	2	8	03	2	3	02
3	3	03	3	8	03	3	3	03
4	7	03	4	7	03	4	7	03
5	8	03	5	4	03	5	7	03
6	3	03	6	8	03	6	7	02
7	3	03	7	7	03	7	8	03
8			8	7	03	8	7	02
9			9	7	03	9	3	02
10			10			10	6	00
11			11			11		
12			12			12		
13			13			13		
14			14			14		
15			15			15		
16			16			16		
17			17			17		
18			18			18		
19			19			19		
20			20			20		
21			21			21		
22			22			22		
23			23			23		
24			24			24		
25			25			25		

**ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:**  
0 = Unknown  
1 = No pinger  
2 = Audible, Not Tested  
3 = Inaudible, Tested and Working  
4 = Inaudible, Tested and Not Working  
5 = Inaudible, Not Tested  
6 = Absent (Lost)  
7 = Audible, Tested and Working  
8 = Audible, Tested and Not Working

**ACTIVE DETERRENT DEVICE (ADD) BRAND CODES:**  
00 = Unknown  
01 = Dukane  
02 = Airmar  
03 = Fumunda  
04 = Future Oceans LED  
99 = Other (Comment)

**COMMENTS**  
**Haul 2: Pinger # 5 not working, plastic casing broken, captain replaced**  
**Haul 3: No pinger present at end of string after last net; captain confirmed it was lost**

**PINGER TESTER WORKSHEET**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	of
PINGER TESTER #	

HAUL #			HAUL #			HAUL #		
PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE
1			1			1		
2			2			2		
3			3			3		
4			4			4		
5			5			5		
6			6			6		
7			7			7		
8			8			8		
9			9			9		
10			10			10		
11			11			11		
12			12			12		
13			13			13		
14			14			14		
15			15			15		
16			16			16		
17			17			17		
18			18			18		
19			19			19		
20			20			20		
21			21			21		
22			22			22		
23			23			23		
24			24			24		
25			25			25		

**ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:**

- 0 = Unknown
- 1 = No pinger
- 2 = Audible, Not Tested
- 3 = Inaudible, Tested and Working
- 4 = Inaudible, Tested and Not Working
- 5 = Inaudible, Not Tested
- 6 = Absent (Lost)
- 7 = Audible, Tested and Working
- 8 = Audible, Tested and Not Working

**ACTIVE DETERRENT DEVICE (ADD) BRAND CODES:**

- 00 = Unknown
- 01 = Dukane
- 02 = Airmar
- 03 = Fumunda
- 04 = Future Oceans LED
- 99 = Other (Comment)

**COMMENTS**

## Individual Animal Log

This log should only be used under the following circumstances:

- In gillnet fisheries, except the pelagic drift gillnet fishery, to record all pelagics, sturgeons, tagged fish and shellfish EXCEPT:
  - bonito,
  - skipjack tuna,
  - false albacore and
  - king mackerel.

These species should be recorded on the Gillnet Haul Log.

- In all other fisheries, record only pelagics, sturgeons, tagged fish and shellfish caught in a particular haul. It is important to ensure that a weight is recorded for **every** animal (except chunked fish carcasses and only heads of animals).
- In all fisheries, record incidental catches of **terrapins** on this log. These animals are not recorded on a Marine Mammal, Sea Turtle, and Seabird Incidental Take Log.

**Any animal recorded on this log should NOT also be recorded in the Haul Log Species Summary section.**

“Pelagics” include, but are not limited to:

Swordfish	Billfish	Sharks
Atl. Needlefish	Tuna	Bonito
Torpedo Rays	Cutlassfish	Wahoo

See Appendix O: Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted.

### Instructions

For instructions on completing the Header fields **A**, **B**, **C**, and **F**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. GEAR NUMBER:** Record the gear number assigned to this uniquely identified gear as specified on the corresponding Gear Characteristics Log.

**\*2. SEQUENCE NUMBER:** Consecutive numbers are assigned to each animal recorded on this log. If there are insufficient lines on one form, continue listing animals on an additional Individual Animal Log, making sure to fill in the preceding number.

**\*3. SPECIES NAME:** Record the **complete** com-

mon name of each animal to record on this log, as listed in Appendix A: Species Names.

*Example:* Swordfish.

*Example:* Yellowfin Tuna.

**4. SPECIES CODE:** Leave this field blank.

**5. INITIAL STATUS:** Indicate the status of each animal caught as it comes up, whether it is brought onboard or not, by recording the appropriate one-digit code:

0 = Unknown.

1 = Alive.

2 = Dead.

3 = Dead, Damaged.

4 = Dead, Head Only.

**\*6. END STATUS:** Indicate the final status of each animal caught, whether it is brought onboard or not, by recording the appropriate one-digit code:

0 = Unknown.

1 = Alive.

2 = Dead.

3 = Dead, Damaged.

4 = Dead, Head Only.

**\*7. FISH DISPOSITION:** Indicate the disposition of each animal or item listed in SPECIES NAME (#3) by the vessel by recording the most appropriate three-digit code listed in Appendix M: Fish Disposition Codes.

*Example:* A 47-lb swordfish is discarded because regulations prohibit its retention because it's too small (012).

**8. PROCESSING TYPE:** Indicate the type of processing done to each animal by recording the appropriate two-digit code:

00 = Unknown.

01 = No Processing.

02 = Chunked.

03 = Filleted.

04 = Dressed (Gutted Only).

05 = Dressed (Finned Only).

06 = Dressed (Headed and Gutted).

07 = Dressed (Headed, Gutted, and Finned).

08 = Dressed (Headed, Gutted, and Tailed).

09 = Dressed (Headed, Gutted, Finned, and Tailed).

99 = Other, specify in COMMENTS.

**\*9. WEIGHT:** Record the dressed or round, actual or estimated weight for each animal listed in SPECIES NAME (#3). In general, the types of weights the observer should be able to obtain are as follows:

**Kept Pelagic Species:** the dealer's actual dressed individual animal weight for those species tagged and carcass weights obtained dockside, *e.g.*, swordfish, billfish, tuna, bonito, sharks, etc.

**Discarded Pelagic Species:** the observer's estimated round individual animal weight for those species discarded, *e.g.*, swordfish, billfish, tuna, bonito, sharks, etc.

*NOTE:* Actual weights may be recorded to the nearest **tenth** of a pound if reasonable. Estimated weights greater than one pound should be recorded to the nearest whole pound.

*NOTE:* When a **shark is finned**, with the carcass discarded or kept, record the **carcass** and its corresponding length and dressed weight information on this log. Record a "D" for "dressed" in DRESSED OR ROUND (#10) and record the appropriate processing code for the shark carcass in PROCESSING TYPE (#8). Create a separate summary record, by species, on the corresponding Haul Log, for **kept fins**.

*NOTE:* When a **fish or shark is "upgraded" or "high graded"**, and a previously kept fish or shark is discarded and replaced with one that is larger (or of higher quality/value), record the discarded animal and a weight, and code it appropriately for FISH DISPOSITION (#7). Upgrading may result in dressed discard weights. Upgrading is typically done with swordfish and tuna, but may also occur with sharks and other fish.

*NOTE:* When a **fish or shark is filleted** on the vessel, record the round weight for the animal before filleting, as appropriate.

*NOTE:* Do not record any weight information for chunked fish or only heads of animals. Create a separate summary record, by species, on the corresponding Haul Log, for kept fish chunks.

*NOTE:* Do not record any weight information for terrapins.

**\*10. DRESSED OR ROUND:** Indicate whether the weight recorded in WEIGHT (#9) is a dressed or round weight by recording the appropriate letter code:

D = Dressed.

R = Round.

**\*11. ESTIMATION METHOD:** Record the method used to estimate the catch weight of each animal by recording the appropriate two-digit code:

01 = Actual, spring scale.

04 = Estimated by captain.

05 = Tally.

06 = Visually estimated by observer.

11 = Actual, electronic (Marel) scale.

99 = Other, describe in COMMENTS.

**\*12. TAG NUMBER(S):** Record the complete alphanumeric characters, with no spaces or hyphens, from the tag(s) that you attach, or that were already attached, to the animal. This number may be from:

- a) a kept pelagic fish tagged by the observer with a carcass tag. This tag allows the observer to uniquely identify each kept fish carcass for the purpose of recording its actual, dressed weight at the dealer. Record the tag number as it appears on the carcass tag.
- b) a **tag recaptured fish or shark**. If the animal is kept by the vessel, record both the recaptured animal tag number, **and** the carcass tag number in this field, and the correct TAG CODES (#14). If the tag is preceded by a letter, be sure to include that when recording the tag number.

*NOTE:* For fish and shark tagging instructions, refer to the Tagging and Tag Recapture instructions in the NEFSC Observer Program Training Manual.

*Example:* M145697, R324061

*NOTE:* On NEFOP and IFS trips, up to 2 unique tag numbers may be recorded in this field. On ASM trips, record the secondary tag number under TAG #2 (#12a) and TAG #2 CODE (#13a).

**\*13. TAG CODE(S):** Indicate the origin of the tag number(s) recorded above (#13), for each tag attached to the animal, by recording the appropriate one-digit code:

0 = Unknown.

1 = Tag Applied by Observer.

2 = No Tag(s).

3 = Tag Already Present, Left On.

4 = Tag Already Present, Removed.

5 = Carcass Tagged.

*NOTE:* Use code 2 when no tag number was



recorded; **do not leave this field blank.**

*NOTE:* Use codes 1 – 4 for swordfish, billfish, tuna, and sharks released alive.

*NOTE:* Use code 5 only for fish and sharks processed and weighed at the dealer.

**14. DATA STORAGE TAG?:** Record whether a data storage tag was used by recording an “X” next to the appropriate code:

0 = No.

1 = Yes.

*NOTE:* Data Storage Tags are small computers attached to fish that can collect temperature and pressure data. Tag numbers are usually written on the backs of the tags. See Figure 1.

Figure 1: Image of a data storage tag.  
Photo Credit: Yellowtail Tagging Program.



### Individual Animal Measurements

The following three fields are for length measurements for all **animals** brought on board. If time allows, two measurements should be made on each animal according to its type, *e.g.*, swordfish, billfish, tuna, bonito, shark, terrapin, etc.

The length measurements are listed across the form in order of priority. If time and/or fishing conditions preclude obtaining multiple measurements from each animal, it is important to collect at least one measurement, preferably STANDARD LENGTH #1 (#16), and sex from as many animals as possible. Do not try to piece animals together that have been cut up. If the biological standards are missing on the animal, record any length measurements in COMMENTS.

*Example:* Measurements can be collected on a shark that is missing its dorsal fin. Measurements cannot be collected on a shark that is missing its caudal fin.

Do not record any length information for only heads of animals.

*NOTE:* On ASM trips, only record STANDARD LENGTH #1 (#15). If unable to obtain the required length, dash the field and record the

estimated length (if possible) and reason in COMMENTS.

**All length measurements are recorded in whole centimeters.**

**\*15. STANDARD LENGTH #1:** Record the measured length of the animal according to these standards:

- Swordfish and Other Billfish (*e.g.*, white marlin, blue marlin, sailfish, and spearfish): **Lower Jaw to Fork length (LJFL)**—tip of lower jaw to caudal fork of the tail (**curvilinear**).
- Tunas and Bonito: **Fork Length (FL)**—tip of upper jaw to caudal fork of the tail (**straight**).
- Sharks: **Fork Length (FL)**—tip of snout to caudal fork of the tail (**straight**).
- Rays: **Total length (TL)**—tip of upper snout to end of the tail (**straight**).
- Other Fish (*e.g.*, sturgeon): **Fork length (FL)**—tip of upper snout to fork of the tail (**straight**).
- Terrapins: **Total length (TL)**—nuchal notch to the posterior marginal **tip** (**curvilinear**).

*NOTE:* If unable to obtain required length, dash field and comment reason in the corresponding comments section.

*NOTE:* If the STANDARD LENGTH #1 cannot be measured, record the estimated length in field #17 (NEFOP and IFS trips) or in comments (ASM trips).

**16. STANDARD LENGTH #2:** Record the measured length of the animal according to the standards listed below:

- Swordfish: **Cleithrum to Keel length (CK)**—cleithral arch to the anterior rise of the caudal keel (**curvilinear**), *i.e.*, where the external dark body pigment meets the white inner cleithrum membrane, to the origin of the caudal keel (carcass length).
- Billfish: **Pectoral to Fork length (PFL)**—anterior insertion of the pectoral fin to the caudal fork of the tail (**curvilinear**).
- Tunas and Bonito: **Pectoral to Fork length (PFL)**—anterior insertion of the pectoral fin to the caudal fork of the tail (**straight**).
- Sharks: **Total length (TL)**—tip of snout to the tip of the upper caudal lobe (**straight**).
- Rays: **Disc Width (DW)**—tip of pectoral fin to tip of pectoral fin, across the widest point of the animal (**straight**).
- Other Fish (*e.g.*, sturgeon): **None**.
- Terrapins: **Notch length (NL)**—nuchal notch to the posterior marginal **notch** (**curvilinear**).

*NOTE:* If unable to obtain required length, dash field and comment reason in the corresponding comments section.

**17. ESTIMATED LENGTH:** Record the estimated **straight** length of the animal according to the standards listed under STANDARD LENGTH #1 (#15) if the animal is not brought onboard or whole.

*NOTE:* If unable to estimate the length, dash field and comment reason in the corresponding comments section.

*NOTE:* Complete either field #15 or #17, not both.

**18. SEX:** Indicate the sex of each animal, whether it is brought onboard or not (if possible) by recording the appropriate one-digit code:

0 = Unknown.

1 = Male.

2 = Female.

**19. BIOLOGICAL SAMPLE TAKEN?:** Indicate whether or not a biological sample was collected by recording the appropriate one digit code:

0 = No.

1 = Yes.

*NOTE:* Record the sample type in the COMMENT section of this log.

**20. PHOTO(S) TAKEN?:** Indicate whether any photograph(s) is (are) taken of the animal by recording the appropriate one-digit code:

0 = No. If no photographs are taken, record reason in COMMENTS.

1 = Yes.

*NOTE:* Photograph all animals that are recorded on the Individual Animal Log. If more than one specimen of a species is taken on a particular trip, every specimen should be fully photographed (where time and space allow).

## Comments

Record identification characteristics for each animal (particularly individual sharks, rays, and sturgeons), regardless of whether photographs were taken. Record any additional information regarding the animal(s), *e.g.*, samples collected, processing types, explanation for data that cannot be collected, etc. If animals cannot be photographed, indicate why and give details, perhaps providing drawings of the characteristics for which photos would be requested (*i.e.*, identifying species characteristics). Remember, cameras can be lost and photos can be blurry or corrupted, so describe thoroughly and take multiple photos.

Also, be sure to include any tag recapture information, such as tagging program, tag description and location, phone number, etc. If more room is needed, use the back of this log, making sure to indicate "SEE BACK" on the front of the log in the comments. Reference each comment with its corresponding animal sequence number and field name.

**INDIVIDUAL ANIMAL LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBIAL 05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> OF
HAUL #	<b>F</b>

GEAR #	SEQ #	SPECIES		INTL STAT- US CODE	END STAT- US CODE	FISH DISP CODE	PROC CODE	WEIGHT		EST. METH- OD	NUMBER(S)	TAG			DATA STORAGE TAG? 0=N, 1=Y	CODE	LENGTHS cm			SEX	BIO-SAMP	PHOTO TAKEN?	
		NAME	CODE					POUNDS	MKT D/R			#1	#2	Est (#1)			#1	#2	18				19
1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			

**COMMENTS:** List identifying characteristics such as fin placement relative to other body parts, coloration, head and tail shape, presence/absence of lateral and/or anal scutes (sturgeon), presence of spines, etc. Also include tag recapture information such as tagging program, phone number, etc.

STATUS CODES:	PROCESSING CODES:	WEIGHT MARKET CODES:	TAG CODES:	ESTIMATION METHOD CODES:	STANDARD LENGTHS:																			
					Swordfish (c)	Bilfish (c)	Tuna	Shark	Sturgeon	Ray	Terrapin	Other												
0 = Unknown	00 = Unknown	D = Dressed	0 = Unknown	01 = Actual, spring scale	#1	#2	CK	PFL	PFL															
1 = Alive	01 = No Processing	R = Round	1 = Tag Applied by Observer	04 = Estimated by captain																				
2 = Dead	02 = Chunked		2 = No Tag(s)	05 = Tally																				
3 = Dead, Damaged	03 = Filleted		3 = Tag Already Present, Left On	06 = Visually Estimated by observer																				
4 = Dead, Head only	04 = Dressed (Gutted only)		4 = Tag Already Present, Removed	11 = Actual, electronic scale																				
	05 = Dressed (Finned only)		5 = Carcass Tagged (fish only)	99 = Other, describe in COMMENTS																				

**INDIVIDUAL ANIMAL LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBIAL 05/01/13**

OBS/TRIP ID	A99015C
DATE LANDED mm/yy	06 / 13
PAGE #	2 OF 5
HAUL #	0 0 1

GEAR #	SEQ #	SPECIES		INTL STAT- US CODE	END STAT- US CODE	FISH DISP CODE	PROC CODE	WEIGHT		EST. METH- OD	NUMBER(S)	TAG			DATA STORAGE TAG? 0=N, 1=Y	CODE	LENGTHS cm			SEX	BIO- SAMP 0=N 1=Y	PHOTO TAKEN? 0=N 1=Y
		NAME	CODE					POUNDS	MKT D/R			#1	#2	Est (#1)			#1	#2	Est (#1)			
1	0	1	Swordfish	3	3	100	09	165	D	01	A2999	193	106	---	5	0	193	106	---	1	0	1
1	0	2	Blue Shark	2	2	100	06	170	D	01	A2318 M45392	201	240	---	5	0	201	240	---	2	1	1
1	0	3	Atlantic Sturgeon	1	1	001	01	180	R	04	BOS873	---	---	---	3	0	---	---	244	0	0	1
1	0	4	Torpedo Ray	1	2	001	01	28	R	01	---	82	46	---	2	---	82	46	---	1	0	1
1	0	5	Porbeagle Shark	2	2	100	08	40	R	06	---	114	---	---	2	---	114	---	---	2	0	0
		6																				
		7																				
		8																				
		9																				
		0																				

**COMMENTS:** List identifying characteristics such as fin placement relative to other body parts, coloration, head and tail shape, presence/absence of lateral and/or anal scutes (sturgeon), presence of spines, etc. Also include tag recapture information such as tagging program, phone number, etc.

01- Slightly damaged by sharks. ID'd by broad flat bill; dorsal fin extends only short length along body; single caudal keel; brownish/black dorsal color.

02- Removed yellow plastic tag from base of dorsal fin. Took vertebrae sample. ID'd by long snout; long narrow pec fins; dorsal fin set way back, closer to pelvic fins than pec fins. Deep blue dorsal color.

03- Tagged along dorsal midline; blue tag from Fish and Wildlife, PO Box 23, Sudbury, MA 01651; released in good condition. Unsure of ID, photo taken.

05- Only one measurement, not enough time to fully sample. ID'd by white patch on trailing edge of 1st dorsal; caudal fins equal size; two caudal keels; thick body dorsal color dark gray.

STATUS CODES:	PROCESSING CODES:	WEIGHT MARKET CODES:	TAG CODES:	ESTIMATION METHOD CODES:
0 = Unknown	00 = Unknown	D = Dressed	0 = Unknown	01 = Actual, spring scale
1 = Alive	01 = No Processing	R = Round	1 = Tag Applied by Observer	04 = Estimated by captain
2 = Dead	02 = Chunked		2 = No Tag(s)	05 = Tally
3 = Dead, Damaged	03 = Filleted		3 = Tag Already Present, Left On	06 = Visually Estimated by observer
4 = Dead, Head only	04 = Dressed (Gutted only)		4 = Tag Already Present, Removed	11 = Actual, electronic scale
	05 = Dressed (Finned only)		5 = Carcass Tagged (fish only)	99 = Other, describe in COMMENTS

STANDARD LENGTHS:	
#1	#2
Swordfish (c)	LJFL CK
Bilfish (c)	LJFL PFL
Tuna	FL PFL
Shark	FL TL
Sturgeon	FL None
Ray	TL DW
Terrapin	TL NL
Other	FL None

**INDIVIDUAL ANIMAL LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBIAL 05/01/13**

OBS/TRIP ID	
DATE LANDED	mm/yy /
PAGE #	OF
HAUL #	

GEAR #	SEQ #	SPECIES		INTL STAT- US CODE	END STAT- US CODE	FISH DISP CODE	PROC CODE	POUNDS	WEIGHT MKT D/R	EST. METH- OD	NUMBER(S)	TAG		LENGTHS cm		SEX	BIO-SAMP 0=N 1=Y	PHOTO TAKEN? 0=N 1=Y	
		NAME	CODE									CODE	DATA STORAGE TAG? 0=N, 1=Y	#1	#2				Est (#1)

COMMENTS: List identifying characteristics such as fin placement relative to other body parts, coloration, head and tail shape, presence/absence of lateral and/or anal scutes (sturgeon), presence of spines, etc.  
Also include tag recapture information such as tagging program, phone number, etc.

STATUS CODES:			PROCESSING CODES:			WEIGHT MARKET CODES:			TAG CODES:			ESTIMATION METHOD CODES:			STANDARD LENGTHS:																
0 = Unknown	1 = Alive	2 = Dead	00 = Unknown	01 = No Processing	02 = Chunked	03 = Filleted	04 = Dressed (Gutted only)	05 = Dressed (Finned only)	06 = Dressed (Headed and Gutted)	07 = Dressed (Headed, Gutted, Finned)	08 = Dressed (Headed, Gutted, Tailed)	09 = Dressed (Headed, Gutted, Finned, Tailed)	99 = Other	D = Dressed	R = Round	0 = Unknown	1 = Tag Applied by Observer	2 = No Tag(s)	3 = Tag Already Present, Left On	4 = Tag Already Present, Removed	5 = Carcass Tagged (fish only)	01 = Actual, spring scale	04 = Estimated by captain	05 = Tally	06 = Visually Estimated by observer	11 = Actual, electronic scale	99 = Other, describe in COMMENTS	#1	#2	CK	PFL

**INDIVIDUAL ANIMAL LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMIAL 05/01/13**

OBS/TRIPID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> ___ of ___
HAUL #	<b>F</b>

SEQ # 2 <input type="text"/>	SPECIES NAME 3	SEQ # <input type="text"/>	SPECIES NAME	SEQ # <input type="text"/>	SPECIES NAME
<b>END STATUS 6</b> ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>END STATUS</b> ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>END STATUS</b> ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>	
<b>DISP. CODE 7</b>	<b>WEIGHT (POUNDS) 9</b>	<b>DISP. CODE</b>	<b>WEIGHT (POUNDS)</b>	<b>DISP. CODE</b>	<b>WEIGHT (POUNDS)</b>
<b>DRESSED? 10</b> Y <input type="checkbox"/> N <input type="checkbox"/>	<b>EST. METHOD 11</b>	<b>DRESSED?</b> Y <input type="checkbox"/> N <input type="checkbox"/>	<b>EST. METHOD</b>	<b>DRESSED?</b> Y <input type="checkbox"/> N <input type="checkbox"/>	<b>EST. METHOD</b>
<b>LENGTH (cm) 16</b>		<b>LENGTH (cm)</b>		<b>LENGTH (cm)</b>	
<b>TAGS</b>		<b>TAGS</b>		<b>TAGS</b>	
<b>TAG #1 12</b>		<b>TAG #1</b>		<b>TAG #1</b>	
<b>TAG #1 CODE 13</b> APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>TAG #1 CODE</b> APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>TAG #1 CODE</b> APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>	
<b>TAG #2 12a</b>		<b>TAG #2</b>		<b>TAG #2</b>	
<b>TAG #2 CODE 13a</b> APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>TAG #2 CODE</b> APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>TAG #2 CODE</b> APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>	
<b>COMMENTS</b>					

**INDIVIDUAL ANIMAL LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMIAL 05/01/13**

OBS/TRIPID	<b>A99002-</b>
DATE LANDED mm/yy	<b>10/ 13</b>
PAGE #	<b>2</b> of <b>2</b>
HAUL #	<b>003</b>

SEQ #	SPECIES NAME	SEQ #	SPECIES NAME	SEQ #	SPECIES NAME
<b>01</b>	<b>Torpedo Ray</b>	<b>02</b>	<b>Porbeagle Shark</b>	<b>03</b>	<b>Spiny Dogfish</b>
<b>END STATUS</b> ALIVE <input checked="" type="checkbox"/> <b>X</b> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>END STATUS</b> ALIVE <input type="checkbox"/> DEAD <input checked="" type="checkbox"/> <b>X</b> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>END STATUS</b> ALIVE <input checked="" type="checkbox"/> <b>X</b> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>	
<b>DISP. CODE</b>	<b>WEIGHT (POUNDS)</b>	<b>DISP. CODE</b>	<b>WEIGHT (POUNDS)</b>	<b>DISP. CODE</b>	<b>WEIGHT (POUNDS)</b>
<b>001</b>	<b>43</b>	<b>001</b>	<b>95</b>	<b>001</b>	<b>5</b>
<b>DRESSED?</b>	<b>EST. METHOD</b>	<b>DRESSED?</b>	<b>EST. METHOD</b>	<b>DRESSED?</b>	<b>EST. METHOD</b>
Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>X</b>	<b>01</b>	Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>X</b>	<b>06</b>	Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <b>X</b>	<b>01</b>
<b>LENGTH (cm)</b>		<b>LENGTH (cm)</b>		<b>LENGTH (cm)</b>	
<b>82</b>		<b>176</b>		<b>67</b>	
<b>TAGS</b>		<b>TAGS</b>		<b>TAGS</b>	
<b>TAG #1</b>		<b>TAG #1</b>		<b>TAG #1</b>	
----		----		<b>RI22345</b>	
<b>TAG #1 CODE</b>		<b>TAG #1 CODE</b>		<b>TAG #1 CODE</b>	
APPLIED BY OBSERVER <input type="checkbox"/>	NO TAG(S) <input checked="" type="checkbox"/> <b>X</b>	APPLIED BY OBSERVER <input type="checkbox"/>	NO TAG(S) <input checked="" type="checkbox"/> <b>X</b>	APPLIED BY OBSERVER <input type="checkbox"/>	NO TAG(S) <input type="checkbox"/>
TAG PRESENT, LEFT ON <input type="checkbox"/>	TAG PRESENT, REMOVED <input type="checkbox"/>	TAG PRESENT, LEFT ON <input type="checkbox"/>	TAG PRESENT, REMOVED <input type="checkbox"/>	TAG PRESENT, LEFT ON <input checked="" type="checkbox"/> <b>X</b>	TAG PRESENT, REMOVED <input type="checkbox"/>
UNKNOWN (COMMENT) <input type="checkbox"/>		UNKNOWN (COMMENT) <input type="checkbox"/>		UNKNOWN (COMMENT) <input type="checkbox"/>	
<b>TAG #2</b>		<b>TAG #2</b>		<b>TAG #2</b>	
----		----		----	
<b>TAG #2 CODE</b>		<b>TAG #2 CODE</b>		<b>TAG #2 CODE</b>	
APPLIED BY OBSERVER <input type="checkbox"/>	NO TAG(S) <input checked="" type="checkbox"/> <b>X</b>	APPLIED BY OBSERVER <input type="checkbox"/>	NO TAG(S) <input checked="" type="checkbox"/> <b>X</b>	APPLIED BY OBSERVER <input type="checkbox"/>	NO TAG(S) <input checked="" type="checkbox"/> <b>X</b>
TAG PRESENT, LEFT ON <input type="checkbox"/>	TAG PRESENT, REMOVED <input type="checkbox"/>	TAG PRESENT, LEFT ON <input type="checkbox"/>	TAG PRESENT, REMOVED <input type="checkbox"/>	TAG PRESENT, LEFT ON <input type="checkbox"/>	TAG PRESENT, REMOVED <input type="checkbox"/>
UNKNOWN (COMMENT) <input type="checkbox"/>		UNKNOWN (COMMENT) <input type="checkbox"/>		UNKNOWN (COMMENT) <input type="checkbox"/>	
<b>COMMENTS</b>					
<b>01: ID characteristics = round disk, dark grey dorsal, white ventral, relatively small mouth</b>					
<b>02: ID characteristics = white patch on trailing edge of 1st dorsal, caudal fins equal in size, 2 caudal keels, thick bodied, dorsal color dark grey</b>					
<b>03: tag located on dorsal fin, long yellow tube, "Dogfish Group, PO Box 123, Providence, RI"</b>					

**INDIVIDUAL ANIMAL LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMIAL 05/01/13**

OBS/TRIPID	
DATE LANDED mm/yy	/ /
PAGE #	___ of ___
HAUL #	

SEQ #	SPECIES NAME	SEQ #	SPECIES NAME	SEQ #	SPECIES NAME
<input type="text"/>		<input type="text"/>		<input type="text"/>	
<b>END STATUS</b> ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>END STATUS</b> ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		<b>END STATUS</b> ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> DEAD, DAMAGED <input type="checkbox"/> DEAD, HEAD ONLY <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>	
DISP. CODE	WEIGHT (POUNDS)	DISP. CODE	WEIGHT (POUNDS)	DISP. CODE	WEIGHT (POUNDS)
DRESSED?	EST. METHOD	DRESSED?	EST. METHOD	DRESSED?	EST. METHOD
Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>	
LENGTH (cm)		LENGTH (cm)		LENGTH (cm)	
<b>TAGS</b>		<b>TAGS</b>		<b>TAGS</b>	
TAG #1		TAG #1		TAG #1	
TAG #1 CODE APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		TAG #1 CODE APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		TAG #1 CODE APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>	
TAG #2		TAG #2		TAG #2	
TAG #2 CODE APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		TAG #2 CODE APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>		TAG #2 CODE APPLIED BY OBSERVER <input type="checkbox"/> NO TAG(S) <input type="checkbox"/> TAG PRESENT, LEFT ON <input type="checkbox"/> TAG PRESENT, REMOVED <input type="checkbox"/> UNKNOWN (COMMENT) <input type="checkbox"/>	
<b>COMMENTS</b>					



## Length Frequency Log

Complete this log on a per haul basis for the biological sampling of specified finfish, squid, and sea scallops (see notes below). Length frequencies and shell height frequencies should be collected in the priority order listed in Tables 1a–h Length Frequency and Age Structure Sampling Priorities in the NEFSC Observer Program Biological Sampling Manual.

Lengths and heights, and any corresponding age structures must be collected from the same trip, haul, and fish disposition. Sometimes, samples must also be separated by sex. While one log may be used for multiple species, if fish dispositions or sexes sampled from one haul differ, then separate columns on the log must be used for each of these catch segments. Samples from mixed segments of the catch are not usable.

*NOTE:* Sea scallop and clam/quahog heights are recorded in the right-hand section of this log.

*NOTE:* Pelagic species sampling is recorded on the Individual Animal Log, unless otherwise instructed.

*NOTE:* Crustacean sampling (*e.g.*, lobster and crab sampling) is recorded on the Crustacean Sample Log.

*NOTE:* Marine mammal and sea turtle sampling is recorded on the Marine Mammal Biological Sample Log or the Sea Turtle Biological Sample Log, respectively.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted. Age structures are not collected on ASM trips.

### Instructions

For instructions on completing the Header fields **A**, **B**, **C**, and **F**, refer to the Common Haul Log Data section of the manual.

**\*1. SPECIES NAME:** Record the complete common name of the animals being sampled, as listed in Appendix A: Species Names. This name must agree with the species name recorded on the corresponding Haul Log.

*NOTE:* If this species requires multiple columns for length measurements, be sure to rewrite the same species name in each column needed, and carry the rest of the column header information over to the other col-

umn(s) with arrows.

*Example:*

SPECIES NAME	Atlantic Cod	Atlantic Cod
SPECIES CODE		
FISH DISPOSITION CODE	100	→
SEX CODE	2	→
SAMPLE WEIGHT (R/A)	503	→
AGE SAMPLE TYPE CODE	0	→
# SAMPLES		→

**2. SPECIES CODE:** Leave this field blank.

**\*3. FISH DISPOSITION CODE:** Indicate the disposition of each species listed in SPECIES NAME (#1) by recording the most appropriate three-digit code listed in Appendix M: Fish Disposition Codes. The code must agree with the code recorded for this species on the corresponding Haul Log.

**4. SEX CODE:** Indicate the sex of the animals being sampled by recording the appropriate one-digit code:

0 = Unknown.

1 = Male.

2 = Female.

*NOTE:* It may be necessary to sample a species by sex. See Table 2. Fish and Shellfish Sampling Requirements by Species for all Domestic Fisheries in the NEFSC Observer Program Biological Sampling Manual. For samples which are sexed, each sex must be recorded in a separate column.

**\*5. SAMPLE WEIGHT:** Record to the nearest tenth of a pound, the actual weight of all of the animals measured for the species being sampled. **All finfish should be recorded as ROUND ACTUAL weights. All shellfish should be recorded as DRESSED ACTUAL weights.**

*NOTE:* For scallop trips, record the dressed weight from the basket of scallops measured and used to obtain a volumetric measurement. If no volumetric measurement is obtained during a haul, dash this field. The meat weight must be recorded to the nearest tenth of a pound, and should match the average pound per basket used for catch estimation.

*NOTE:* If a sample from the same catch disposition is sampled by sex, be sure to record the appropriate sample weight for each sex.

*NOTE:* Do not collect length frequencies or age structures from dressed or damaged fish.

**6. AGE SAMPLE TYPE CODE:** Indicate the type of age structure collected from this sample of measured animals by recording the appropriate one-digit code:

- 0 = None.
- 1 = Scales.
- 2 = Otoliths.
- 3 = Shells (no longer collected in the scallop fishery).
- 4 = Whole.
- 5 = Vertebra.
- 6 = Dorsal Spines.
- 7 = Scales and Otoliths (for each animal).
- 8 = Head.
- 9 = Other, record the age structure in COMMENTS.

*NOTE:* See Table 2. Fish and Shellfish Sampling Requirements by Species for all Domestic Fisheries in the NEFSC Observer Program Biological Sampling Manual for the proper age structure to collect for each species.

**7. NUMBER OF SAMPLES:** Record the total number of animals from which age structure samples were collected from this sample of measured animals.

*Example:* One pair of otoliths or one envelope of scales is one age structure sample.

**\*8. LENGTHS:** Precede the 0's (zero's) in each interval with the appropriate digit(s) to indicate the centimeter or millimeter range being used for this sample.

*NOTE:* Finfish and squid are measured in whole **centimeters**. Shellfish (if sampled on this log) are measured in whole **millimeters**.

*NOTE:* Lengths should be recorded consecutively from shortest to longest.

**\*9. NUMBERS-AT-LENGTH:** Record the **total** number of animals measured at each centimeter or millimeter. Do not stroke tally in this field.

*Example:*

SPECIES NAME	Redfish			Redfish		
SPECIES CODE						
FISH DISPOSITION CODE	001			001		
SEX CODE	2			1		
SAMPLE WEIGHT (R/A)	100			85		
AGE SAMPLE TYPE CODE	2			2		
# SAMPLES	10			10		
<b>MEASUREMENTS:</b>	20		0	20	1	0
Finfish, Squid - cm	1		1	1		1
Shellfish - mm	2		2	2	3	2
<b>SEX CODES:</b>	3	1	3	3		3
0=Unknown	4	2	4	4		4

### Sea Scallop Sampling

**10. VOLUMETRIC MEASURE OF SCALLOP MEATS:** After the first haul of each observed watch, record the volumetric measure of the scallop meats, to the nearest 50 milliliters, of all of the animals measured from the random basket sample of kept scallops. See the Scallop Fishery Sampling Priorities in the NEFSC Observer Program Biological Sampling Manual for further instructions on how to collect this measurement.

**11. NUMBERS-AT-HEIGHT:** Record the **total** number of sea scallops, clams, or quahogs measured at each height interval. Do not stroke tally in this field.

### Comments

Record information regarding fish, scallops, clams, or quahogs sampled on this haul. If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

*NOTE:* If a complete sample can not be obtained, record the reason(s) in this section.

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> OF
HAUL #	<b>F</b>

**LENGTH FREQUENCY LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBLNH OBLND 05/01/13**

SPECIES NAME	1																																																								
SPECIES CODE	2																																																								
FISH DISPOSITION CODE	3																																																								
SEX CODE	4																																																								
SAMPLE WEIGHT (R/A)	5																																																								
AGE SAMPLE TYPE CODE	6																																																								
# SAMPLES	7																																																								
<b>MEASUREMENTS:</b>	8	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Finfish, Squid - cm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Shellfish - mm	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4			
	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5				
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6				
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7					
	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8				
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		
<b>AGE SAMPLE TYPE CODES:</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
None	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Scales	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Otoliths	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Shells	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4			
Whole	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5			
Vertebra	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6		
Dorsal Spines	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7			
Scales & Otoliths	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8			
Head	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9			
Other																																																									

<b>COMMENTS</b>																																																							
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LENGTH FREQUENCY LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBLNH OBLND 05/01/13

OBS/TRIP ID	A99010-
DATE LANDED mm/yy	06 / 13
PAGE #	3 OF 3
HAUL #	005

SPECIES NAME	Atlantic Cod	Haddock	Spiny Dogfish	Spiny Dogfish	Spiny Dogfish	VOLUMETRIC MEASURE OF MEATS nearest 50 ml
SPECIES CODE						
FISH DISPOSITION CODE	100	100	100			100
SEX CODE	0	0	2			1
SAMPLE WEIGHT (R/A)	61	29	503			18.5
AGE SAMPLE TYPE CODE	2	2	0			0
# SAMPLES	6	5				
<b>MEASUREMENTS:</b>						
Finfish, Squid - cm	6 0 8 0	6 0 1 0	6 0 8 0 2	10 0 1 0	7 0	110 - 114
Shellfish - mm	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 2	115 - 119
	2 2 2 2	2 2 2 2	2 2 2 2	2 2 2 2	3	120 - 124
	3 3 1 1	3 1 3 1	3 3 9 3	3 3 3 3	1	125 - 129
	4 4 4 4	4 2 4 4	4 4 9 4	4 4 4 4	4	130 - 134
	5 5 5 5	5 1 5 5	5 5 4 5	5 5 5 5	5	135 - 139
	6 3 6 6	6 6 6 6	6 6 7 6	6 6 6 6	6	140 - 144
	7 7 7 7	7 7 7 7	7 7 8 7	7 7 7 7	7	145 - 149
	8 2 8 8	8 8 8 8	8 1 8 6	8 8 8 8	8	150 - 154
	9 9 9 9	9 9 9 9	9 1 9 6	9 9 9 9	9	155 - 159
<b>AGE SAMPLE TYPE CODES:</b>						
0=None	7 0 1	0 0 0	7 0 2 9 0 5	0 0 0	0	160 - 164
1=Scales	1 1 1 1	1 1 1 1	1 1 1 4	1 1 1 1	1	165 - 169
2=Otoliths	2 1 2 2	2 2 2 2	2 2 2 2	2 2 2 2	2	170 - 174
3=Shells	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3	175 - 179
4=Whole	4 4 4 4	4 4 4 4	4 1 4 1	4 4 4 4	4	180 - 184
5=Vertebra	5 5 5 5	5 5 5 5	5 1 5 1	5 5 5 5	5	185 - 189
6=Dorsal Spines	6 6 6 6	6 6 6 6	6 6 6 6	6 6 6 6	6	190 - 194
7=Scales & Otoliths	7 7 7 7	7 7 7 7	7 3 7 3	7 7 7 7	7	195 - 199
8=Head	8 8 8 8	8 8 8 8	8 3 8 8	8 8 8 8	8	200 - 204
9=Other	9 9 9 9	9 9 9 9	9 2 9 9	9 9 9 9	9	205 - 209

**COMMENTS**

All kept catch from the last haul weighed (actual, round) and measured. Did not have time to get otoliths from all cod.

**LENGTH FREQUENCY LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBLNH OBLND 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	OF
HAUL #	

SPECIES NAME																																								
SPECIES CODE																																								
FISH DISPOSITION CODE																																								
SEX CODE																																								
SAMPLE WEIGHT (R/A)																																								
AGE SAMPLE TYPE CODE																																								
# SAMPLES																																								
MEASUREMENTS:																																								
Finfish - Squid - cm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shellfish - mm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
AGE SAMPLE TYPE CODES:																																								
0=None	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1=Scales	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2=Otoliths	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3=Shells	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4=Whole	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5=Vertebra	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6=Dorsal Spines	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7=Scales & Otoliths	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8=Head	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9=Other	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
COMMENTS																																								

**LENGTH FREQUENCY LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMLNH ASMLND 05/01/13**

OBS/TRIPID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> ___ of ___
HAUL #	<b>F</b>

SPECIES NAME		SPECIES NAME		SPECIES NAME		SPECIES NAME		SPECIES NAME	
<b>1</b>									
FISH DISP. CODE		FISH DISP. CODE		FISH DISP. CODE		FISH DISP. CODE		FISH DISP. CODE	
<b>3</b>									
SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)	
<b>5</b>									
<b>8</b>	0	<b>9</b>	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
COMMENTS									

**LENGTH FREQUENCY LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
 ASMLNH ASMLND 05/01/13

OBS/TRIPID	<b>A99002-</b>
DATE LANDED mm/yy	<b>10 / 13</b>
PAGE #	<u>2</u> of <u>3</u>
HAUL #	<b>003</b>

SPECIES NAME			SPECIES NAME			SPECIES NAME			SPECIES NAME			SPECIES NAME								
<b>Spiny Dogfish</b>			<b>Spiny Dogfish</b>			<b>Haddock</b>			<b>Atlantic Cod</b>			<b>Winter Fld.</b>								
FISH DISP. CODE			FISH DISP. CODE			FISH DISP. CODE			FISH DISP. CODE			FISH DISP. CODE								
<b>100</b>			<b>100</b>			<b>100</b>			<b>100</b>			<b>012</b>								
SAMPLE WEIGHT (R/A)			SAMPLE WEIGHT (R/A)			SAMPLE WEIGHT (R/A)			SAMPLE WEIGHT (R/A)			SAMPLE WEIGHT (R/A)								
<b>167</b>			<b>167</b>			<b>10.8</b>			<b>61</b>			<b>5.3</b>								
<b>5</b>	<b>0</b>		<b>8</b>	<b>0</b>		<b>11</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
1		1	1		1	1		1	1		1	1		1	1		1	1		1
2	<b>2</b>	2	<b>2</b>	<b>2</b>	2	2		2	2		2	2		2	2		2	2		2
3		3			3	3	<b>2</b>	3	3		3	3		3	3		3	3		3
4		4	<b>5</b>		4	4		4	4		4	4		4	4		4	4		4
5		5			5	5		5	5		5	5		5	5	<b>1</b>	5	5		5
6	<b>3</b>	6			6	6	<b>1</b>	6	6	<b>3</b>	6	6		6	6	<b>3</b>	6	6		6
7		7	<b>2</b>		7	7		7	7		7	7		7	7	<b>4</b>	7	7		7
8		8			8	8		8	8		8	8		8	8	<b>6</b>	8	8		8
9		9			9	9		9	9		9	9		9	9	<b>4</b>	9	9		9
<b>6</b>	<b>0</b>		<b>9</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>7</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>
1		1	1		1	1		1	1	<b>2</b>	1	1		1	1		1	1		1
2	<b>2</b>	2			2	2		2	2	<b>1</b>	2	2		2	2		2	2		2
3	<b>1</b>	3	<b>3</b>		3	3		3	3	<b>1</b>	3	3		3	3		3	3		3
4	<b>1</b>	4			4	4		4	4		4	4		4	4		4	4		4
5		5			5	5		5	5		5	5		5	5		5	5		5
6		6	<b>5</b>		6	6		6	6		6	6		6	6		6	6		6
7		7			7	7		7	7		7	7		7	7		7	7		7
8		8			8	8		8	8		8	8		8	8		8	8		8
9		9			9	9		9	9		9	9		9	9		9	9		9
<b>7</b>	<b>0</b>		<b>10</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
1		1	1		1	1		1	1	<b>2</b>	1	1		1	1		1	1		1
2		2			2	2		2	2		2	2		2	2		2	2		2
3	<b>1</b>	3			3	3		3	3		3	3		3	3		3	3		3
4		4			4	4		4	4		4	4		4	4		4	4		4
5		5			5	5		5	5		5	5		5	5		5	5		5
6		6	<b>1</b>		6	6		6	6		6	6		6	6		6	6		6
7		7			7	7		7	7		7	7		7	7		7	7		7
8		8			8	8		8	8		8	8		8	8		8	8		8
9		9			9	9		9	9		9	9		9	9		9	9		9
COMMENTS																				

**LENGTH FREQUENCY LOG (FRONT)**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**ASMLNH ASMLND 05/01/13**

OBS/TRIPID	
DATE LANDED mm/yy	/
PAGE #	___ of ___
HAUL #	

SPECIES NAME		SPECIES NAME		SPECIES NAME		SPECIES NAME		SPECIES NAME	
FISH DISP. CODE		FISH DISP. CODE		FISH DISP. CODE		FISH DISP. CODE		FISH DISP. CODE	
SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)		SAMPLE WEIGHT (R/A)	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

COMMENTS



## Catch Composition Log

The Catch Composition Log is designed to categorize the catch on vessels that are catching extremely large quantities of fish, in the tens or hundreds of thousands of pounds on a single haul. Due to the size of catches, it is necessary to obtain subsamples from all portions of a haul in order to properly quantify the amount of fish caught. However, the method in which subsamples are collected is different from other gears such as bottom otter trawl, gillnet, and scallop dredge.

On midwater vessels, the fish may be pumped onboard or hauled onboard into holding pens. The fish are then directed through a series of chutes into fish holds and stored in running seawater tanks for transport back to port.

Notify the captain at the beginning of the trip that you need to view all catch, regardless of whether it is brought onboard the vessel or not. Record details related to the pumping process, observing of catch, and any discards on the Discard Log.

### Catch Pumped Onboard

Collect basket subsamples from each chute that leads to the fish holds. Subsamples should be spaced out evenly throughout the pumping process to account for any stratification that may occur while the net is alongside the vessel. You should aim for 10 basket subsamples, but be careful not to under- or over-sample different portions of the pumping process.

Catch may be sent through excluding grates to prevent larger species from entering the fish hold. If large fish are being picked out at the grate (*e.g.*, dogfish, groundfish, lobster, etc.), request that the crew keep them aside for you to weigh and sample after pumping operations are complete. Basket subsamples should be collected before fish pass through any other sorting devices.

If pumping operations are paused at any time due to clogging or readjusting of the pump, position yourself on the side of the vessel with a clear view of the pump to observe any large animals, such as incidental takes.

### Catch Hauled Onboard

When the catch is hauled onboard the vessel into sorting pens, subsamples should also be spread out over the course of the hauling process. If the codend

is sectioned off with the catch being brought onboard in smaller portions (“splitting the bag”), make sure to collect samples each time fish are brought onboard.

### Recording Weights

In between filling the basket subsamples, continue to observe the fish along the chutes and record any species being discarded. **Do not** sort your subsample baskets between sampling intervals. Record the hand-picked fish weights on the Haul Log as an actual weight or a tally count estimate. The species in the basket subsamples should represent catch going directly into the fish hold (kept).

For each subsampled basket, record the basket number, time at which it was collected, and catch composition (species names and weights). Calculate the total weight for each species from all baskets, and extrapolate using the captain’s estimate of the total kept catch.

At the end of the pumping or hauling process, position yourself to view the codend or bunt. Ask the captain to bring the codend onboard, if it is not already, so you can see the entire contents of the net. Visually verify and/or estimate any catch remaining in the net. Record any large species that did not pass through the pump on the Individual Animal Log or Marine Mammal, Sea Turtle, and Seabird Incidental Take Log, depending on the species. Record any other fish left in the net (*i.e.*, operational discards) on the Haul Log as “Fish NK” with the corresponding weight, and record observed identification characteristics on the Discard Log.

### Instructions

For instructions on completing the Header fields **A**, **B**, **C**, and **F**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**1. ESTIMATED PUMPING TIME:** Record, in minutes, the approximate amount of time it will take to pump the catch onboard the vessel to which you are deployed. This information should be obtained from the captain. Use this value to determine the time increments when obtaining a subsample.

*NOTE:* If catch is not pumped onboard, record a dash in this field.

**2. BASKET NUMBER:** Record the number assigned to a particular subsample basket of fish collected during the process of pumping or hauling fish

onboard the vessel.

*NOTE:* Basket subsamples should be evenly spaced out over the course of pumping or hauling the ENTIRE catch onboard the vessel, to account for any stratification that may occur in the fishing net.

*NOTE:* You should aim for 10 subsample baskets. If pumping/hauling ends before you have taken 10 baskets, do not take additional baskets that were not evenly spaced - just use the baskets taken. If the end of pumping is later than expected and all 10 baskets have been filled, continue to take basket samples at regular intervals until pumping has ended, as available baskets allow.

*Example:* The captain estimates pumping will take about 30 minutes. You plan to take your basket subsamples every 3 minutes. Pumping ends after 20 minutes, and you have only collected 8 baskets. Sort and weigh the catch from only the 8 baskets collected.

*Example:* The captain estimated 30 minutes of pumping, but after this time catch is still coming onboard. Your 10 baskets have been filled, and you have no extras. You estimate that the pumping process will take another 20-30 minutes. Dump your odd-numbered baskets into the chutes, and continue taking basket subsamples every 6 minutes until pumping is complete.

**3. TIME:** Record the local time, using the 24 hour clock (0000–2359), at which each subsample is taken.

*NOTE:* Do not include times when the pumping process stops.

*Example:* Pumping starts at 10:15, and you are taking baskets every 5 minutes. At 10:25 you have collected 4 baskets, when pumping stops due to a clog. When pumping resumes at 10:45, you should take your 5th basket, and continue to taking baskets every 5 minutes.

**4. SPECIES NAME:** Record the **complete** common name of the species in the subsample baskets, as listed in Appendix O: Species List and Corresponding Logs. This name must agree with the species name recorded on the corresponding Haul Log.

**5. SPECIES CODE:** Leave this field blank.

**6. POUNDS:** Record, to the nearest tenth of a pound, the **round actual** weight of each animal listed in SPECIES NAMES (#4).

*NOTE:* If a species weight from a single basket is less than 0.1 pounds, record the weight to the nearest hundredth of a pound.

**7. BASKET SUBTOTAL WEIGHT (b):** Record, to the nearest tenth of a pound, the total individual basket weight by summing all species weights from this basket sample.

**8. TOTAL WEIGHT OF PUMPED CATCH (d):** Record, in whole pounds, the captain's estimate of the total catch pumped onboard.

### Catch Summary By Species

**9. SPECIES NAME:** Summarize and record the complete common name of **all** species in all of the basket samples, as listed in Appendix O: Species List and Corresponding Logs. All species in the subsample must be accounted for.

**10. SPECIES WEIGHT (POUNDS) (a):** Record, to the nearest tenth of a pound, the combined basket weight of each species listed in SPECIES NAMES (#4).

**11. TOTAL BASKET WEIGHT (COMBINED) (b):** Record, to the nearest tenth of a pound, the total weight of all basket samples added together (a) (#10).

**12. CATCH COMPOSITION AS A PROPORTION OF TOTAL BASKET WEIGHT (c):** Record the proportion of the catch composition of the basket sample by dividing the summed SPECIES WEIGHT (a) (#8) by the TOTAL BASKET WEIGHT (b)(#11) for each individual species. The summed proportions should equal 1.

*Example:* The total species weight for Alewife is 4.5 pounds. The total basket weight for all species is 683 pounds. The proportion of alewife should be recorded as:

$$4.5 \div 683 = 0.0065886$$

Round to 0.0066

**13. EXTRAPOLATED WEIGHT:** Record, in whole pounds, the total estimated weight of each species by multiplying the PROPORTION OF TOTAL BASKET WEIGHT (c) (#12) by the TOTAL WEIGHT OF PUMPED CATCH (d) (#8).

*NOTE:* This weight should be recorded on the Haul Log as a kept estimated weight.

### **Comments**

Record information regarding this sample or your sampling methods below. If room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name or basket number.

*NOTE:* If a complete sample cannot be obtained, record the reason(s) in this section.

### **Manadatory Comments**

Record all times the pumping stops, and the reason for stoppage.

**CATCH COMPOSITION LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBCMP 05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> / /
PAGE #	<b>C</b> OF
HAUL #	<b>F</b>

ESTIMATED PUMPING TIME 1 minutes

BASKET # 2 TIME 3 :

SPECIES	CODE	POUNDS (R/A)
	5	6
SUBTOTAL		7

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ :

SPECIES	CODE	POUNDS (R/A)
SUBTOTAL		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ :

SPECIES	CODE	POUNDS (R/A)
SUBTOTAL		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ :

SPECIES	CODE	POUNDS (R/A)
SUBTOTAL		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ :

SPECIES	CODE	POUNDS (R/A)
SUBTOTAL		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ :

SPECIES	CODE	POUNDS (R/A)
SUBTOTAL		

COMMENTS

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> OF <b>F</b>
HAUL #	<b>F</b>

BASKET # 2 TIME 3 : 00 : 00 BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
	<b>5</b>	<b>6</b>
SUBTOTAL		<b>7</b>

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
SUBTOTAL		

(d) TOTAL WEIGHT OF PUMPED CATCH (Captain's Estimate) \_\_\_\_\_ **8** lbs

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
SUBTOTAL		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	POUNDS (R/A)	PROPORTION OF TOTAL BASKET WEIGHT (ab)	EXTRAPOLATED WEIGHT (bs)(c x d)
<b>9</b>	(a) <b>10</b>	(c) 0 . <u>12</u>	<b>13</b>
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
<b>TOTAL</b>	(b) <b>11</b>	(c) 0 .	<b>1</b>

**CATCH COMPOSITION LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBCMP 05/01/13**

OBS/TRIP ID	A99011-	
DATE LANDED mm/yy	11 /	13
PAGE #	2	OF 4
HAUL #	003	

ESTIMATED PUMPING TIME 45 minutes

BASKET # 1 TIME 22 : 30

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		63 . 7
Atlantic Mackerel		0 . 2
SUBTOTAL		63 . 9

BASKET # 2 TIME 22 : 34

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		65 . 9
SUBTOTAL		65 . 9

BASKET # 3 TIME 22 : 38

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		69 . 3
Atlantic Mackerel		8 . 1
Blueback Herring		2 . 4
SUBTOTAL		79 . 8

BASKET # 4 TIME 22 : 42

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		74 . 3
Blueback Herring		1 . 5
SUBTOTAL		75 . 9

BASKET # 5 TIME 22 : 46

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		62 . 8
Atlantic Mackerel		9 . 4
SUBTOTAL		72 . 2

BASKET # 6 TIME 22 : 50

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		68 . 6
SUBTOTAL		68 . 6

COMMENTS

OBS/TRIP ID	A99011-	
DATE LANDED mm/yy	11 / 13	
PAGE #	3	OF 4
HAUL #	d 03	

BASKET # 7 TIME 22 : 54

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		61 . 4
Blueback Herring		4 . 9
Silver Hake		0 . 1
SUBTOTAL		66 . 4

BASKET # 8 TIME 22 : 58

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		61 . 3
Atlantic Mackerel		6 . 5
SUBTOTAL		67 . 4

BASKET # 9 TIME 23 : 02

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		69 . 3
Silver Hake		3 . 5
SUBTOTAL		72 . 8

BASKET # 10 TIME 23 : 06

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		67 . 6
SUBTOTAL		67 . 6

(d) TOTAL WEIGHT OF PUMPED CATCH (Captain's Estimate) 200,000 lbs

SPECIES	POUNDS (R/A)	PROPORTION OF TOTAL BASKET WEIGHT (a/b)	EXTRAPOLATED WEIGHT (lbs) (c x d)
Atlantic Herring	(a) 664 . 2	(c) 0 . 9 4 7 8	189,555
Atlantic Mackerel	(a) 24 . 2	(c) 0 . 0 3 4 5	6,906
Blueback Herring	(a) 8 . 8	(c) 0 . 0 1 2 6	2,511
Silver Hake	(a) 3 . 6	(c) 0 . 0 0 5 1	1,027
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
TOTAL	(b) 700 . 8	1	

**CATCH COMPOSITION LOG  
 NMFS FISHERIES OBSERVER PROGRAM  
 OBCMP 05/01/13**

OBS/TRIP ID _____	
DATE LANDED mm/yy _____ / _____	
PAGE # _____	OF _____
HAUL # _____	

ESTIMATED PUMPING TIME \_\_\_\_\_ minutes

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
<b>SUBTOTAL</b>		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
<b>SUBTOTAL</b>		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
<b>SUBTOTAL</b>		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
<b>SUBTOTAL</b>		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
<b>SUBTOTAL</b>		

BASKET # \_\_\_\_\_ TIME \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

SPECIES	CODE	POUNDS (R/A)
<b>SUBTOTAL</b>		

**COMMENTS**





## Catch Estimation Worksheet

This worksheet contains detailed information about obtaining and recording catch weight information for sea life and/or debris taken by a fishing vessel. Use this worksheet to organize and illustrate catch estimation methodology and work. Complete this worksheet for **every** haul.

Accurate weights are extremely important. It will be possible to obtain actual weights in most situations. In some cases (*e.g.*, extremely large catches, rough weather, etc.), it may be necessary to estimate the catch or a portion of the catch.

Become familiar with the following definitions.

### Definitions

**Area (ft<sup>2</sup>):** The amount of space in a flat surface measured in square units. Record in square feet.

**Fish Tote:** Commonly known as the 70 liter or 100 lb. fish tote which is the standard for seafood handling in the North Atlantic. Equivalent to fish totes commonly seen in the gillnet fishery. FSB standard flush volume of 2.65 ft<sup>3</sup>.

**Length:** Distance from one end to another. For a trapezoid, the length is the straight line (perpendicular) distance between the two parallel widths. For an oval, the length is the longer of the two diameters.

**Orange Basket:** Equivalent to orange bushel basket commonly seen on scallop and trawl trips. FSB standard flush volume of 1.47 ft<sup>3</sup>.

**Pi (π):** The ratio of the circumference of a circle to its diameter. For simplicity, the value of π is rounded to 3.14.

**Sample Weight Multiplier:** The ratio of the total catch volume to the volume of the subsample. Used to extrapolate the total catch weight for each species/disposition subsampled.

**Subsample:** A subsample is used in lieu of actual weights to determine catch composition and extrapolate the total catch weight of individual sea life and/or debris for a large catch. As a guideline, a subsample is random and must represent approximately 20% of the total catch size.

**Subsampling Containers:** Any container used to hold a subsample.

**Volume (ft<sup>3</sup>):** The amount of three dimensional space occupied by an object. Record in cubic feet.

Area (ft<sup>2</sup>) x Average Depth (ft) = Volume (ft<sup>3</sup>)

**Width (W):** The greatest dimension at right angles to length. For a trapezoid, the two parallel sides are called width 1 and width 2, and averaged before multiplying by the length and depth. For an oval, the width is the shorter of the two diameters.

### Estimation Methods

#### Actual Weights

An actual weight is a weight taken using a measuring scale provided by FSB or an observer provider. All individuals of a species and disposition must be actually weighed. There are currently two types of approved scales:

**Spring Scales:** A handheld scale that measures the tension on a coiled spring. Estimation method = '01'.

**Electronic Scales:** A scale with an electronic weight read-out. FSB currently uses Marel motion-compensated scales. Estimation method = '11'.

#### Tally Counts

Estimation Method = '05'

To take a tally count, obtain actual weights of a representative sample (approximately 20%) of a particular species and disposition to determine an average weight per individual. This average is multiplied by the actual count of the total number of individuals to estimate the total weight. The average weight should always be rounded to the nearest tenth of a pound.

*Example:* The crew is tossing dogfish overboard quickly. You weigh 30 animals with a total weight of 172 lbs, and count a total of 247 animals.

Average weight per animal =  
 $172 \div 30 = 5.73$ , rounded to 5.7

Total estimated weight =  
 $5.7 \times 247 = 1407.9$ , rounded to 1408 lbs.

#### Basket/Tote Counts

Estimation Method = '03'

To take a basket or tote count, obtain actual weights of a representative sample (approximately 20%) of containers of a particular species and disposition to determine an average weight per container. This average is multiplied by the actual count of the total number of containers to estimate the total

weight. Be sure to account for the weight of the containers by either taring your scale or subtracting the weight of an empty container. The average weight should always be rounded to the nearest tenth of a pound. Only count full containers; **do not** estimate portions of a container (e.g., “one half basket”).

*Example:* The crew fills 42 full flush baskets with kept redfish. The last basket is only partially full and weighs 37 lbs (actual weight). You weigh 8 full baskets.

Individual basket weights =  
66, 65, 64, 67, 66, 67, 67, and 68 lbs.

Average weight per basket =  
66.25, rounded to 66.3

Estimated weight =  $66.3 \times 42 =$   
2784.6, rounded to 2785.

Total weight =  
2785 (estimate) + 37 (actual) = 2822 lbs.

*NOTE:* Adding actual weights of partial containers is expected using this method. Do not use estimation method ‘98’ (Combination).

### Volume-to-Volume

Estimation Method = ‘02’

Volume-to-volume is an extrapolation method used when actual weights or tally/basket/tote counts are not possible. This usually occurs with very large volumes of mixed catch. Representative subsamples are taken from throughout the catch. The ratio of the total volume (calculated using standard geometric formulas) to the subsample volume (using known container volumes) is used to extrapolate subsample weights for each species and disposition to estimate the total weight.

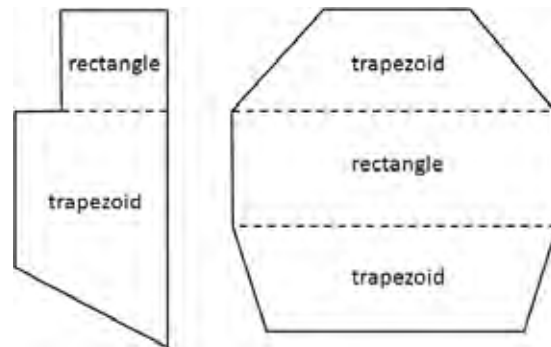
Volume-to-volume may be used on all catch or a portion of the catch (e.g., only the discards, only certain species, etc). Always ensure that your subsample is representative of your total volume (e.g., do not extrapolate a subsample of only discarded fish to a volume of kept and discards). Large or rare individuals should be removed before taking your subsample to avoid over- or under-extrapolating these species. Taking as many actual weights as possible before subsampling will address priorities, make subsampling easier (especially when removing larger species first), and reduce inflating weight estimations from choosing fish that occur at a low frequency.

#### Step 1: Determine the total volume of the catch

If catch will be dumped into a checker pen, measure the area of the pen before the first haul. Break

down irregularly-shaped areas into smaller areas such as rectangles and trapezoids for measuring and calculating (see Figure 1). If the catch is dumped on deck, or does not reach the edges of the checker pen, measure the area of the catch pile. Typically piles will fall into a rounded (oval or half-oval) shape. You may be able to adjust the shape of the pile by shoveling or kicking it into more defined areas.

Figure 1: Breaking down irregular shapes into easily calculated areas.



After the catch is dumped, determine the depth of the pile. To avoid bias, measure several (9-10) representative depths from throughout the pile. It may help to visually separate the pile into a grid, like a tic-tac-toe board, and take a depth in every square. Do not target particularly high or low areas of the pile. Make sure to measure the depth of the catch, not the depth of the checker pen or fish bin.

In lieu of calculating the total volume, catch may be shoveled into baskets, totes, or other containers. Sort approximately 1 out of every 5 containers to obtain a 20% subsample.

#### Step 2: Obtain a subsample

Take a random, representative subsample (approximately 20%) of the total catch, by volume. To obtain a sufficient subsample, you can estimate the total volume and calculate 20%, or visually approximate 1/5<sup>th</sup> of the total catch.

Always fill containers flush to the top. Over- or under-filling containers will bias your estimates. Do not selectively choose which animals to sample, and do not give favoritism to exceptional individuals (e.g., particularly large or small fish). To aid randomness, a shovel can be used to sort subsample materials into containers. Be sure to sample both vertically (top, middle, bottom) and horizontally (all sides and the center). It is better to take many random small portions from numerous areas of the catch instead of large portions from few areas.

If a subsample is too small or not randomly collected, total weight estimates may be over- or under-extrapolated, therefore not representing the catch composition accurately.

**Step 3: Take subsample weights and extrapolate**

Sort all the catch in your subsamples by species and disposition. Weigh each grouping separately and record the subsample weights on the Haul Log next to the appropriate species name and disposition code. You must take actual weights using a scale issued by FSB or your observer provider. If weighing subsamples in a container such as a basket or bucket, remember to tare or subtract the container weight.

Calculate the total volume and your subsample volume, following the calculations on the Catch Estimation Worksheet. The ratio between these volumes is called the **sample weight multiplier**. For each species grouping, multiply the subsample weight by the sample weight multiplier to determine the total estimated weight. Record the total extrapolated weight on the Haul Log for each species and disposition code.

*Example:* Before the first haul, you measure and record the length and width of a rectangular checker pen. When the haul is dumped, you collect 10 representative depths and fill 8 subsample baskets from throughout the pile.

Total volume =  
5.2 ft (length) x 8.7 ft (width)  
x 1.4 ft (avg. depth) = 63.34 cu.ft

Subsample volume =  
8 baskets x 1.47 cu.ft = 11.76 cu.ft

Sample weight multiplier =  
 $63.34 \div 11.76 = 5.39$

Monkfish =  
126 lbs (subsample) x 5.39 = 679 lbs total

Atlantic cod =  
78 lbs (subsample) x 5.39 = 420 lbs total

Summer flounder =  
93 lbs (subsample) x 5.39 = 501 lbs total

*Example:* The crew fills 15 totes with mixed skate species. You sample 3 totes and weigh each species.

Sample weight multiplier =  $15 \div 3 = 5$

Little skate =  
109 lbs (subsample) x 5 = 545 lbs total

Winter skate, kept =  
157 lbs (subsample) x 5 = 785 lbs total

Winter skate, discarded =

24 lbs (subsample) x 5 = 120 lbs total

## Cumulative Sum

Estimation Method = '07'

The cumulative sum method is the distribution of an actual weight amongst several hauls. It is used when catches from multiple hauls are mixed. In these cases, the exact weight for a haul cannot be reliably estimated, but the total weight for several hauls can be actually weighed.

This method is typically used when catch is deckloaded (one haul dumped on top of the next). Record the haul period in which deckloading occurred on the Catch Estimation Worksheet. If you use this method in any other situation, clearly document the situation in comments.

Obtain an actual total weight for each species and disposition group. Divide the total weight by the number of hauls in the period. Record the same estimated weight on all Haul Logs for the period.

*Example:* During a scallop trip, the crew deckloads for 7 hauls and then stops to cut. The observer collects all the flounders after the 7th haul and weighs each separately.

Yellowtail flounder, kept =  
156 lbs (total)  $\div$  7 =  
22.29, rounded to 22 lbs per haul

Yellowtail flounder, discarded =  
43 lbs (total)  $\div$  7 =  
6.14, rounded to 6 lbs per haul

Winter flounder, discarded =  
18 lbs (total)  $\div$  7 =  
2.57 rounded to 3 lbs per haul.

## Catch Composition

Estimation Method = '10'

Catch composition is a method of extrapolating small subsamples to very large catches. It is used in the High Volume Fisheries (Paired and Single Mid-water Trawl and Purse Seine). Catch composition accounts for stratification that occurs when catch is pumped onboard, on brought onboard in segments.

Instructions for the Catch Composition Log begin on page 333. All calculations for this method should be documented on the Catch Composition Log, not the Catch Estimation Worksheet.

## Captain's Estimates

Estimation Method = '04'

Captain's estimates are provided by the vessel captain when the observer is unable to weigh or estimate a species or portion of the catch. Captain's estimates may be used for unobserved hauls, or for catch that cannot be weighed (*e.g.*, very large rocks). This method can also be used if the catch is being immediately put in the fish hold.

In some cases, the captain may provide an estimated number of baskets or an estimated average weight per basket. Document which portion of the estimate was provided by the captain and which was actually weighed/counted. Record the estimation method as '04'.

You can also ask the captain for an estimate to use as a comparison to your own estimates. If there are large discrepancies, document the situation in comments.

*Example:* You use the volume-to-volume method to determine catch weights. Because this is your first time using this estimation method, you also ask the captain for his estimates of the catch. Record his estimates of the total weights as a comment on the Catch Estimation Worksheet.

### Visual Estimates

Estimation Method = '06'

Visual estimates are made by the observer without weighing, counting, or subsampling. Visual estimates may be based on observer experience, but should not be used unless there is no other way of estimating the weight. Visual estimates may be used for trash and debris species (*e.g.*, mud, seaweed, empty shells).

If possible, record an estimate of the number of individuals or volume observed.

*Example:* "3 lobsters thrown over before I could weigh them; approximately 3 lbs each"

*Example:* "About 1 tote's worth of skates washed out scuppers"

### Combination Estimates

Estimation Method = '98'

Combination describes a situation where two or more estimation methods are used for a single species and disposition. Always document the methods used.

#### Added Weights

If weights from two or more estimation methods are added together, document the calculations used to determine each partial weight on the Catch Estimation Worksheet, and record the total weight on the Haul Log.

*Example:* You actually weigh 87 lbs of haddock, and visually estimate another 15 pounds that were discarded before you could weigh them. Record 102 lbs on the Haul Log with estimation method '98' (comment: "01 + 06").

#### Mixed Methods

Sometimes an estimated value must be substituted for an actual weight within another calculation. In these cases, make sure to show all calculations used.

*Example:* During a deckloading period, you counted 134 baskets of scallops picked out by the crew over a period of 5 hauls. You had the crew shuck 1 basket to obtain a meat weight of 6.3 lbs per basket.

Estimated total scallop weight =  
 $134 \times 6.3 = 844 \text{ lbs}$

Estimated weight of scallops per haul =  
 $844 \div 5 = 168.8$ , rounded to 169 lbs per haul

Record estimation method '98' ("03 + 07")

### Other Estimates

Estimation Method = '99'

Observers should always try to use the methodologies listed above. If you must use another method, fully document your technique, including all calculations, on the Catch Estimation Worksheet.

### Catch Estimation Strategies

Actual weights are the priority but may not always be possible to obtain. Critically important and managed species have the highest priorities, and must have actual weights when possible. Discuss your priorities and responsibilities with the captain and crew.

If actual weights are not possible, the next preferred method is a Tally or Basket/Tote Count. If the catch is too large, then the volume-to-volume method can be used to extrapolate the total catch weight. Very large volume catches (*i.e.*, those that must be pumped onboard) should be estimated using the Catch Composition Log.

You must be present during the sorting of all catch to ensure sampling is unbiased. In choosing a

sampling station, make sure you have access to the catch (kept and discarded) as well as a clear and unobstructed view of the crew's operations.

Before the first haul back, develop an action plan and share this action plan with the captain and crew. For example, if the catch is to be dumped into a checker pen, measure the area of this pen before fishing operations begin, even if you are not certain that you will use the volume-to-volume method. Every haul, even on the same vessel, may be very different. Below are some common estimation strategies.

### Crew removes all kept catch

If the crew picks out all the kept catch, you may be able to obtain actual weights on all discards. You may work with the crew to separate catch, but **do not** determine kept vs discarded fish yourself; that determination must be made by the captain or crew members to avoid bias.

If the remaining discard pile is large, collect subsamples and use the volume-to-volume method. You may be able to shovel all discards into baskets or totes, and subsample a portion of those containers.

Typically the crew will store the kept catch in baskets or totes. Use a basket/tote count for these species.

### Conveyor Belts

#### Strategy 1

Collect all discards from the end of the conveyor belt, and estimate the kept catch using a basket/tote count. This will require cooperation from the captain and crew. If there is a large volume of discards, fill flush baskets and retain a subsample (approximately 1 out of every 5 baskets). Baskets should be distributed throughout the sorting process to account for any stratification. Use the volume-to-volume extrapolations to estimate the total weight.

*Example:* You fill one basket of discards from the end of the conveyor. When it is full, keep that one aside and begin filling a second. When the second is full, discard the fish into the water, and do the same for the next 3 baskets. When the 6th basket is full, keep it aside and begin filling a new basket. Repeat until the end of the sorting period, and then sort and weigh your subsamples. At the end you have collected 6 subsample baskets out of a total of 32 baskets discarded. Your sample weight multiplier is  $32 \div 6 = 5.33$ .

#### Strategy 2

If the volume of discards is too great to keep 1 out of 5 baskets, or if you cannot keep an accurate count of the total number of baskets discarded, you can estimate the discard volume. Measure the total volume of the catch in the checker pen **before the pen is flooded**. Obtain subsample baskets of discarded catch throughout the sorting process.

Determine the volume of the kept catch by recording the exact number of baskets and totes. You can also use these numbers to estimate the kept weights. Estimate the discard volume by subtracting the volume of the kept catch. Extrapolate the discard subsample weights to the estimated discard volume, following the volume-to-volume calculations.

*Example:* You calculate the total volume of all catch as  $87.56 \text{ ft}^3$ . The crew has filled 23 flush totes of kept catch. You collected 4 baskets of discards.

$$\begin{aligned} \text{Volume of kept catch} &= \\ 23 \times 2.65 &= 60.95 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{Volume of discarded catch} &= \\ 87.56 - 60.95 &= 26.61 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{Subsample volume} &= \\ 4 \times 1.47 &= 5.88 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{Sample weight multiplier} &= \\ 26.61 \div 5.88 &= 4.53 \end{aligned}$$

#### Strategy 3

If the volume of kept catch cannot be determined, or it is not possible to sample discards from the end of the conveyor, you must collect subsamples of all catch (kept and discarded) from the checker pen. Be sure to measure the total volume of the catch **before the pen is flooded**.

If your subsamples contain kept and discarded individuals of the same species, you must ask the captain or crew to separate these for you; **do not** determine kept vs. discarded fish yourself. If this is not possible, extrapolate the subsample weight of the entire species (*i.e.*, not separated by disposition), and then subtract the total weight of the kept catch (via actual weight or basket/tote count) to estimate the weight of the discarded catch for that species.

### Large Discarding Events

If a very large catch of unwanted species is discarded, you may not be able to estimate the volume of catch. Always document these situations on the Discard Log. Although these hauls may be unob-

served, you should still attempt to estimate the quantity of fish discarded as best as possible. You may be able to estimate the number or volume of fish discarded.

*Example:* “Approximately 300 dogfish discarded.”

*Example:* “Codend brought onboard but all fish released into the water. Codend dimensions approximately 10ft x 10ft x 20ft cylinder.”

Ask the captain for an estimate of the total weight discarded. If possible, collect a subsample of the discarded catch and record the species composition of your sample. If it is not possible to sample the catch, record any fish you can identify, as well as estimated proportions.

*Example:* “About 90% of the discards looked like skates, but a few roundfish were visible - possibly haddock.”

### Scallop - Picking

During the sorting process, collect actual weights for all discards and bycatch species. You may use the basket/tote count or volume-to-volume methods if the discard volume is very large. For kept scallops, multiply the number of baskets by the meat weight from one basket (cut by the crew).

### Scallop - Shoveling

Keep an accurate count of the number of baskets of mixed catch shoveled by the crew. Ask the crew to keep finfish aside for you, and obtain an actual weight on those fish. Collect a random subsample of the crew-filled baskets, and extrapolate using the volume-to-volume method.

### Scallop - Deckloading

Deckloading occurs when catch from multiple hauls are dumped on top of each other.

#### Start and end with clear deck

The easiest method of dealing with this situation is to be present for all hauls in a deckload period. If the crew sort the catch before the end of the deckload, keep track of how many baskets are removed and weigh any other species that are picked out.

When the deckloading has stopped and the crew sorts the catch, record basket counts for kept scallops and actual weights for all other species. Use the cumulative sum method to determine the estimated weight per haul.

*Example:* Hauls 4-6 are deckloaded. At the end of

haul 7, the crew sorts through the catch and clears the deck. You count 63 baskets of kept scallops, and ask the crew to cut the scallops from one basket for a per-basket weight of 6.7 lbs. You also weigh 14 lbs of yellowtail flounder, 46 lbs of sponge, and tally 27 monkfish at 3.8 lbs each (based on an average weight from 4 animals).

On haul 5 there was one large barndoor skate. You removed the skate from the pile and weighed it at 7.9 lbs. You can record this fish on the Haul Log for Haul 5 as an actual weight.

The total weight for each species is calculated using the cumulative sum method. On each Haul Log, you record:

Estimated kept scallop weight =  
 $63 \text{ baskets} \times 6.7 \text{ lbs/basket} = 422.1 \text{ lbs total}$   
 $422.1 \div 3 \text{ hauls} =$   
 140.7, rounded to 141 lbs per haul  
 Estimation method ‘98’ (“03 + 07”)

Estimated yellowtail flounder weight =  
 $14 \div 3 \text{ hauls} =$   
 4.67, rounded to 5 lbs per haul  
 Estimation method ‘03’

Estimated sponge weight =  
 $46 \div 3 \text{ hauls} =$   
 15.33, rounded to 15 lbs per haul  
 Estimation method ‘03’

Estimated monkfish weight =  
 $27 \text{ fish} \times 3.8 \text{ lbs/fish} = 102.6 \text{ lbs total}$   
 $102.6 \div 3 \text{ hauls} =$   
 34.2, rounded to 34 lbs per haul  
 Estimation method ‘98’ (“05 + 07”)

*NOTE:* You only need to document the math for cumulative sum on one of the hauls, typically the last haul in the deckloading period.

#### Start with clear deck, end with catch on deck

If you have reached the end of your scheduled watch, but the deckloaded pile has not been cleared, you may continue to observe hauls until the deck is clear. However, if you cannot extend your watch, you must account for the catch that has already accumulated during your observed hauls.

Measure the volume of the catch pile and collect several subsample baskets from multiple locations, making sure to sample the top, middle, and bottom of the pile. Use the volume-to-volume method to extrapolate the weights of the catch pile, and then divide those weights by the number of hauls represented. If possible, collect and weigh all finfish from the catch pile.

*Example:* You are scheduled to go off-watch on haul 150. Hauls 147 through 149 have been deckloaded, and the crew tells you they will not clear the deck for at least another 5 hauls. You collect, sort, and weigh a subsample from the pile on deck, which represents 3 hauls worth of catch. Extrapolate the weights using the volume-to-volume method. Divide the extrapolated weights by 3, and record those weights on the Haul Log for hauls 147-149 with estimation method '98' ("02 + 07").

#### Start with catch on deck

If you begin an on-watch with catch already on deck, you can wait until the deck is cleared to begin your on-watch. You may need to adjust your watch schedule to ensure 50% of the hauls are observed. If it is not possible to wait for a clear deck, you must adjust your sampling such that the catch from previous hauls is not accounted for in your observed hauls.

Measure the volume of the existing (remainder) catch pile. After the first haul is dumped, measure the volume of the catch pile again. Collect a subsample from just the top of the catch pile, aiming to sample only the current haul. To calculate the volume of the current haul, subtract the remainder volume from the total catch pile volume.

*Example:* The existing (remainder) volume is  $121.45\text{ft}^3$ . The total volume is  $154.67\text{ft}^3$ . The volume of the current haul is:

$$154.67 - 121.45 = 33.22\text{ft}^3.$$

You will have to continue using the volume-to-volume method for each haul until the deck is cleared. Measure the remainder volume before the next haul is dumped. If only standard volumes (*i.e.*, baskets and/or totes) are removed, you may calculate the remainder volume instead of measuring.

*Example:* The total volume of the current haul is  $154.67\text{ft}^3$ . You removed 6 subsample baskets, and the crew picked 18 flush baskets of scallops. To determine the remainder volume, you may either measure the pile or subtract the basket volumes.

$$\text{Number of baskets removed} = 6 + 18 = 24$$

$$\text{Volume removed} = 24 \times 1.47\text{ft}^3 = 35.28\text{ft}^3.$$

$$\text{Remainder volume} = 154.67 - 35.28 = 119.39\text{ft}^3.$$

## Instructions

For instructions on completing fields **A**, **B**, and **F** refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

If the Tally or Basket/Tote Count methods are used, complete fields 3-11. If the Volume-to-Volume method is used, complete fields 12-16. If the Cumulative Sum method is used, complete fields 17-23.

Two orientations of the Catch Estimation Worksheet exist. One is for scallop dredge and scallop trawl trips, for which deckloading is more likely. The other is for all other gear types.

If there are insufficient lines on one form for all species subsampled in this haul, continue listing species on an additional Catch Estimation Worksheet, making sure to complete all of the Header Information (**A**, **B**, and **F**).

**1. SORTING METHOD:** Record the method the fishers used to sort through the catch by placing an "X" next to the appropriate code:

- 1 = Picked.
- 2 = Shoveled.
- 3 = Deckloaded.
- 4 = Conveyor System.
- 8 = Combination, record all fishing methods on line 1A.
- 9 = Other, record the other fishing method(s) on line 1A.

**2. MAREL SCALE FIT VALUE:** If using a Marel scale for this haul, record the Fit Value after performing a scale calibration.

*NOTE:* Scales should be calibrated on every haul before weighing catch.

### Tally/Basket/Tote Count Method

**3. SPECIES:** Record the name of the species being sampled.

**4. DISPOSITION CODE:** Record the disposition code for this species.

**5. UNIT TYPE:** Record the type of sampling unit used for this species/disposition using the appropriate code:

- B = Standard orange bushel basket
- T = Standard fish tote
- I = Individual (used for tally method)
- O = Other sampling unit

*NOTE:* If a different sampling unit is used (*e.g.*,



milk crates) then record that in the comment section.

**6. LIST INDIVIDUAL SAMPLE WEIGHTS:**

Record the weights of individual sampling units for this species/disposition (*i.e.*, individual fish weights for tally method, basket weights for basket count, etc). If units were not weighed individually, record a brief comment (*e.g.*, “weighed all together”). Sample weights should be recorded to the nearest tenth of a pound for individual fish and small buckets, or to the nearest whole pound for baskets or totes.

**7. TOTAL SAMPLE WEIGHT:** Record the total weight of all sampling units for this species/disposition. This value is the sum of the INDIVIDUAL SAMPLE WEIGHT (#6) values. Sample weights should be recorded to the nearest tenth of a pound for individual fish and small buckets, or to the nearest whole pound for baskets or totes.

**8. NUMBER OF SAMPLE UNITS:** Record the number of sample units for this species/disposition. This value is the count of the INDIVIDUAL SAMPLE WEIGHT (#6) values. This should always be recorded as a whole number. **Do not** sample partial baskets or totes.

**9. AVERAGE WEIGHT PER UNIT:** Record, to the nearest tenth of a pound, the average weight of the sampling unit for this species/disposition. This value is calculated as:

Total sample weight (#7) ÷ Number of sample units (#8)

*Example:* 16 kept haddock are sampled with a total weight of 54.5 lbs. The average weight per fish is  $54.5 \div 16 = 3.4$  lbs.

*NOTE:* If using an average weight calculated on a previous haul, do not complete fields #6, 7, and 8. Record the haul number on which the average weight was calculated (*e.g.*, “see haul 5”.)

**10. TOTAL NUMBER OF UNITS:** Record the total number of units counted for this species/disposition observed in the catch. This number includes the number of units sampled on this haul.

*Example:* 16 kept haddock are sampled, and an additional 149 were tallied. The total number of kept haddock on this haul is  $16 + 149 = 165$ .

**11. TOTAL ESTIMATED WEIGHT:** Record the total estimated weight for this species/disposition. This value is calculated as:

Average weight per unit (#9) x Total number of units (#10).

*Example:* 3.4 lbs per haddock x 165 = 561 lbs.

*NOTE:* This may be the same weight that is recorded on the Haul Log, or it may differ if a combination of estimation methods is used.

### Volume-to-Volume Method

**12. CATCH SHAPE, MEASUREMENTS & VOLUME:**

Record the catch measurements for this haul on the appropriate lines. Use the appropriate equation to calculate the volume. Record each measurement to the nearest tenth of a foot and calculate the total catch volume as cubic feet. Round volumes to the nearest hundredths place. On scallop hauls, circle the shape type.

*NOTE:* You might encounter a combination of shapes. Irregular shapes can be divided into similar shapes to make calculations easier. Record all calculations, measurements, and shapes used in the comment section of this worksheet. Add all shape volumes to obtain the total catch volume. Record all measurements and calculations in the comment section.

**Oval:** The catch is dumped on deck in an irregular pile with roughly rounded edges. The edges are not bounded by the deck or other vertical surface.

**Half-Oval:** The catch is dumped on deck against the side of the vessel (or another vertical surface). The edge that is not against the vessel has roughly rounded edges.

**Rectangle:** The lengths along the top and bottom of the checker pen or fish bin are equal, and the widths along the sides are equal.

**Trapezoid:** Two sides of the checker pen or fish bin are parallel but unequal in length; the other two sides may be straight or angled and may or may not be equal in length. If a trapezoid shape is encountered on a scallop haul, record the widths in the comments section, and record the average of the two width measurements on the Width line.

**Triangle:** The checker pen or fish bin has three sides. This shape is typically seen in combination with other shapes.

**12A. REMAINDER VOLUME:** This section is only completed for **deckloaded** hauls. On scallop

hauls, record the dimensions of the existing catch pile from previous haul(s) (*i.e.*, before this haul is dumped). Separate lines are provided for port and starboard piles, as well as the combined volume. If using an aft dredge or net, record the dimensions in the port section. On other gear types, record the calculated volume on line 12A and record all dimensions in the comments section.

**12B. TOTAL VOLUME:** This section is only completed for **deckloaded** hauls. On scallop trips, record the dimensions of the total catch pile after this haul is dumped. Separate lines are provided for port and starboard piles, as well as the combined volume. If using an aft dredge or net, record the dimensions in the port section. On other gear types, record the dimensions in section 12.

**13. DEPTHS:** Record, to the nearest tenth of a pound, the individual depths measured from throughout the catch pile(s). The average depth should be recorded in the appropriate field in section 12.

*NOTE:* If the pile is dumped on deck, then a single depth of 0.0ft should be included.

*NOTE:* The depth should be the catch depth, not the height of the checker pen or fish bin. Likewise, if sea life and/or debris are removed before subsampling, take the catch depth measurement afterwards.

**14. TOTAL HAUL VOLUME:** Record, in cubic feet, the total volume to which you will extrapolate your subsample. This may be the same as the volume recorded in section 12, or it may be adjusted depending on your sampling strategy. If adjustments are made, show all calculations in the comments section. For deckloaded hauls, this value is the total catch volume (12B) minus the remainder volume (12A). Round the volume to the hundredths place.

**15. TOTAL SUBSAMPLE VOLUME:** Record the number of subsampling containers of each type used on the line next to the appropriate container type. Calculate, to the nearest hundredths place in cubic feet, the subsample volume used for this haul.

Basket = 1.47 ft<sup>3</sup>

Tote = 2.65 ft<sup>3</sup>

Other = Record the volume of any other subsampling container in cubic feet (*e.g.*, milk crate). Record how the volume of this container was calculated in the comment section.

*NOTE:* The volume of the subsampling container is equal to the volume of the subsample flush to the wall of the container.

**16. SAMPLE WEIGHT MULTIPLIER:** Calculate, to the nearest hundredths place, the sample weight multiplier used to estimate total catch weights. Copy this value to field Z on the Haul Log. This value is calculated as:

Total haul volume (#14) ÷ Total subsample volume (#15).

*NOTE:* A low sample weight multiplier indicates a high subsample percentage. A subsample greater than 20% will have a sample weight multiplier of less than 5.

### Deckloading and Cumulative Sum Method

**17. ENTIRE DECKLOADING HAUL RANGE:** Record the haul numbers in which the deckloading period took place.

*Example:* If hauls 9, 10, 11, and 12 were deckloaded, record “9-12” for all 4 hauls.

**18. NUMBER OF HAULS:** Record the number of hauls in this deckloading period.

**19. SPECIES:** Record the name of the species being estimated.

**20. DISPOSITION CODE:** Record the disposition code for this species.

**21. TOTAL SAMPLE WEIGHT:** Record the total weight of this species/disposition during this deckloading period.

**22. ESTIMATION METHOD:** Record the estimation method used to obtain the the species TOTAL SAMPLE WEIGHT (#21). If this is not an actual weight (estimation method ‘01’ or ‘11’), the calculations used to estimate the total weight must be documented on the Catch Estimation Worksheet.

**23. WEIGHT PER HAUL:** Record the estimated weight per haul for this species/disposition during this deckloading period. This value is calculated as:

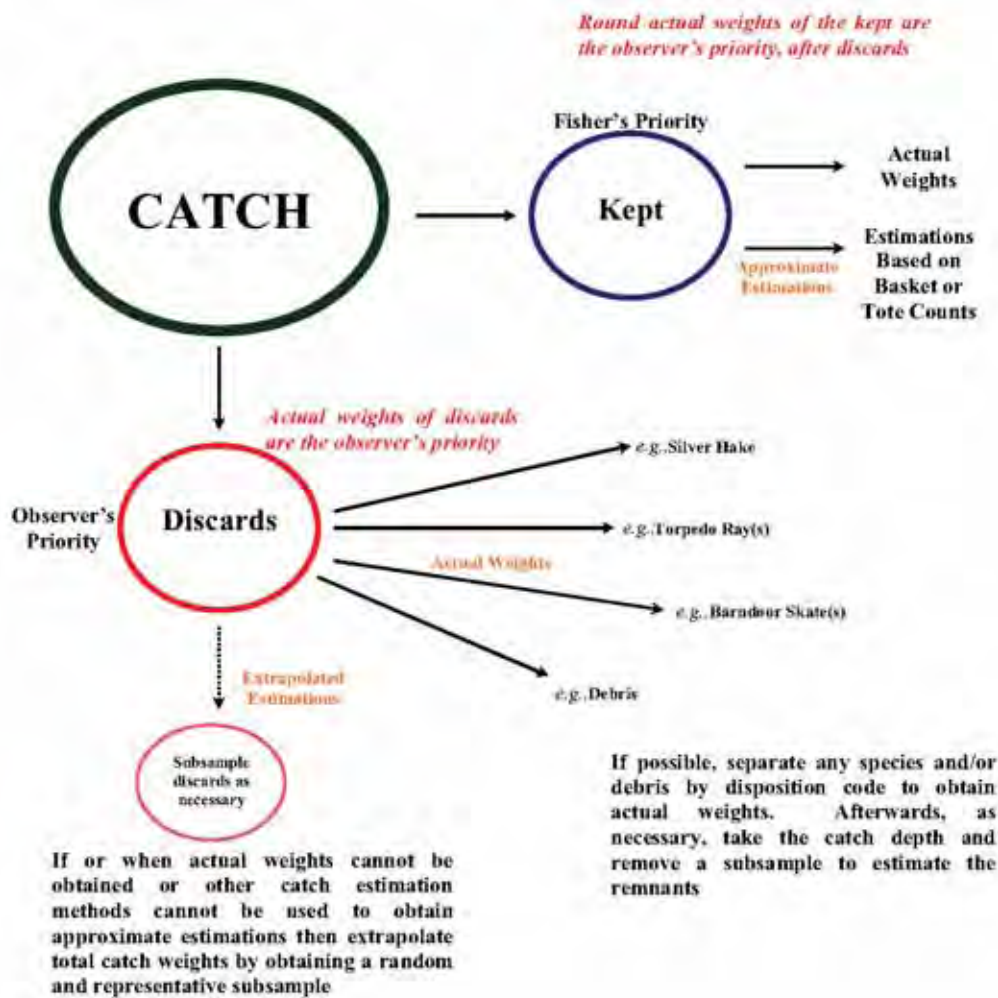
Total sample weight (#21) ÷ Number of Hauls (#18)

This value should be recorded on all Haul Logs during this deckloading period.

### Comments

Record any detailed additional information associated with this log (*e.g.*, description of irregular shapes or other shapes, other catch estimation methods, safety concerns, or time constraints).

Figure 2: A schematic illustrating catch estimation and management.



**Some other useful formulas:**

Volume of a Cylinder (e.g., bucket) =  $\text{Depth} \times \pi \times (\text{Diameter} \div 2)^2$

Volume of a Rectangle (e.g., milk crate) =  $\text{Depth} \times \text{Length} \times \text{Width}$

**CATCH ESTIMATION WORKSHEET  
NMFS FISHERIES OBSERVER PROGRAM**

05/01/13

SORTING METHOD		ESTIMATION METHODS		BASKET OR TOTE COUNT OR TALLY									
1 <input type="checkbox"/> Picked		01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)		SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGT.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.	
2 <input type="checkbox"/> Shoveled		03 = Tally		3	4	5	6	7	8	9	10	11	
3 <input type="checkbox"/> Deckloaded		02 = Volume-to-Volume 07 = Cumulative Sum											
4 <input type="checkbox"/> Conveyor System		04 = Captain											
5 <input type="checkbox"/> Pumping System		06 = Visually Estimated											
8 <input type="checkbox"/> Combination (Comment)		10 = Catch Composition Log											
9 <input type="checkbox"/> Other (Comment)		99 = Other (Comment)											

**VOLUME-TO-VOLUME**  
CATCH PILE SHAPE AS SEEN FROM ABOVE: **12**

Trapezoid  

$$\frac{W_1 + W_2}{2} \times L \times \text{Avg. Depth} = \text{Volume}$$

$$\frac{W_1 + W_2}{2} \times L \times 0.5 = \text{Volume}$$

Rectangle  

$$W \times L \times \text{Avg. Depth} = \text{Volume}$$

Triangle  

$$\frac{W}{2} \times L \times \text{Avg. Depth} = \text{Volume}$$

Full Oval or Half-Oval  

$$W \times L \times 0.785 \times \text{Avg. Depth} = \text{Volume}$$

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

$$\text{Volume} = \text{Volume}$$

**ESTIMATION METHODS**  
 01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)  
 03 = Tally  
 02 = Volume-to-Volume 07 = Cumulative Sum  
 04 = Captain  
 06 = Visually Estimated  
 10 = Catch Composition Log  
 98 = Combination (Comment)  
 99 = Other (Comment)

MAREL SCALE FIT VALUE **2**

**DECKLOADING and CUMULATIVE SUM**

Deckloading Measurements

DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
19	20	21	22
2			23
3			
4			
5			

13

14  
 A) Total Haul Vol. \_\_\_\_\_  
 B) Total Subsample Vol. **15**  
 C) Sample Weight Multiplier (A ÷ B) **16**  
 >> Copy to Front >>

17  
 Total Pile Vol. \_\_\_\_\_  
 Remainder Pile Vol. **14**  
 Total Haul Vol. **12B**

18  
 \*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.

**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 pan or slopes to zero.

**CATCH ESTIMATION WORKSHEET  
NMFS FISHERIES OBSERVER PROGRAM  
05/01/13**

OBS/TRIP ID \_\_\_\_\_  
DATE LANDED mm/yy \_\_\_\_\_  
HAUL # \_\_\_\_\_

BASKET OR TOTE COUNT OR TALLY										
SPECIES	DISP. CODE	UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTs.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.	*Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other	
1 Cod, Atlantic	012	I	weighed all together	14.6	6	2.4	17	41		
2 Squid, Shortfin	100	O	21, 023, 8, 23, 23.2, 23.4, 23.1, 23, 22, 23.3, 23	228.8	10	22.9	162	3710		
3										
4 Skate, Little	001	B	see haul 5			62.1	5	311		
5										
6										
7										
8										
9										
10										

**SORTING METHOD**  
 1 Picked  
 2 Shoveled  
 3 Deckloaded  
 4 Conveyor System  
 5 Pumping System  
 8 Combination (Comment)  
 9 Other (Comment)

**ESTIMATION METHODS**  
 01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)  
 05 = Tally  
 03 = Basket or Tote Count  
 02 = Volume-to-Volume 07 = Cumulative Sum  
 04 = Captain  
 06 = Visually Estimated  
 10 = Catch Composition Log  
 98 = Combination (Comment)  
 99 = Other (Comment)

MAREL SCALE FIT VALUE: 1.7

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

Trapezoid:  $W_1 = 4.4$  ft,  $W_2 = 7.2$  ft,  $L = 3.3$  ft,  $Avg. Depth = 0.9$  ft,  $Volume = 17.23$  ft<sup>3</sup>

Rectangle:  $W = 6.5$  ft,  $L = 7.2$  ft,  $Avg. Depth = 0.9$  ft,  $Volume = 42.12$  ft<sup>3</sup>

Triangle:  $W =$  ft,  $L =$  ft,  $Avg. Depth =$  ft,  $Volume =$  ft<sup>3</sup>

Full Oval or Half-Oval:  $W =$  ft,  $L =$  ft,  $Avg. Depth =$  ft,  $Volume =$  ft<sup>3</sup>

Other Shapes or Combination: Draw and label all dimensions in comments. = \_\_\_\_\_ ft<sup>3</sup>

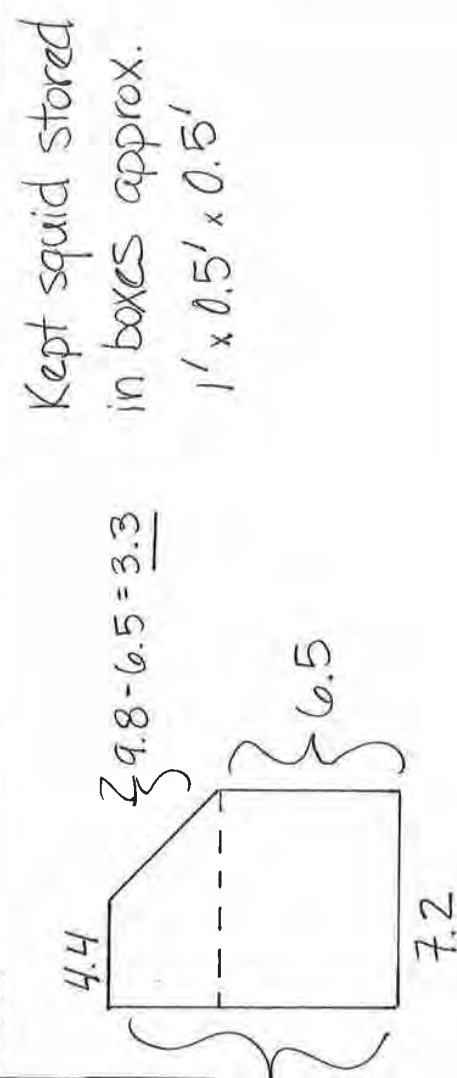
DEPTHS: Representative depths (ft) systematically taken throughout the catch pile. Include a single depth of 0.0 ft if the catch pile is not in a checker pan or slopes to zero.

0.8 0.6 0.9 1.1 1.1 1.1 0.8 1.0 0.7 0.9 0.8

A) Total Haul Vol. \_\_\_\_\_  
 B) Total Subsample Vol. \_\_\_\_\_  
 C) Sample Weight Multiplier (A ÷ B) = 5.05  
 >> Copy to Front >>

**DECKLOADING and CUMULATIVE SUM**  
 Entire Deckloading Haul Range

SPECIES	DISP. CODE	TOTAL		WGT. PER HAUL
		SAMP. WGT.	METH.	
1				
2				
3				
4				
5				



**CATCH ESTIMATION WORKSHEET  
NMFS FISHERIES OBSERVER PROGRAM**

05/01/13

OBS/TRIP ID  
DATE LANDED mm/yy  
HAUL #

BASKET OR TOTE COUNT OR TALLY						
SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGT.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	TOTAL EST. WGT.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

**ESTIMATION METHODS**  
 01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)  
 05 = Tally 03 = Basket or Tote Count  
 02 = Volume-to-Volume 07 = Cumulative Sum  
 04 = Captain  
 06 = Visually Estimated  
 10 = Catch Composition Log  
 98 = Combination (Comment)  
 99 = Other (Comment)

**MAREL SCALE FIT VALUE**

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

$W_1$  ft +  $W_2$  ft X Length Avg. Depth = Volume  
 $W$  ft X Length Avg. Depth = Volume  
 $W$  ft X Length Avg. Depth = Volume  
 $W$  ft X Length Avg. Depth = Volume

Full Oval or Half-Oval  
 $W$  ft X  $9.1$  ft X  $1.2$  ft X  $0.785$  =  $54.00$  ft<sup>3</sup>  
 Volume

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

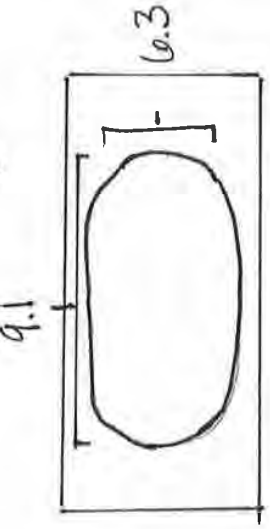
DEPTHS: Representative depths (ft) systematically taken throughout the catch pile. Include a single depth of 0.0 ft if the catch pile is not in a checker pan or slopes to zero.

1.4	1.6	1.5	1.0	1.3	1.1	1.2	0.9	0.9
A) Total Haul Vol.								C) Sample Weight Multiplier (A + B)
B) Total Subsample Vol.								4.08
Basket(s) X 1.47 ft <sup>3</sup> =								>> Copy to Front >>
Tote(s) X 2.65 ft <sup>3</sup> = 13.25 ft <sup>3</sup>								
Other(s) X ft <sup>3</sup> =								

**DECKLOADING and CUMULATIVE SUM**  
 Entire Deckloading Haul Range

SPECIES	DISP. CODE	TOTAL		EST. WGT. PER HAUL
		SAMP. WGT.	METH.	

Pile doesn't reach edges of checker pan



**CATCH ESTIMATION WORKSHEET**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**05/01/13**

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

BASKET OR TOTE COUNT OR TALLY										
SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGT.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.	**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

**ESTIMATION METHODS**  
 01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)  
 05 = Tally 03 = Basket or Tote Count  
 02 = Volume-to-Volume 07 = Cumulative Sum  
 04 = Captain  
 06 = Visually Estimated  
 10 = Catch Composition Log  
 98 = Combination (Comment)  
 99 = Other (Comment)

**MAREL SCALE FIT VALUE** \_\_\_\_\_

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

**Trapezoid**  

$$\left[ \frac{W1 + W2}{2} \times L \right] \times \text{Avg. Depth} = \text{Volume}$$

**Rectangle**  

$$W \times L \times \text{Avg. Depth} = \text{Volume}$$

**Triangle**  

$$\left[ \frac{W}{2} \times L \right] \times \text{Avg. Depth} = \text{Volume}$$

**Full Oval or Half-Oval**  

$$W \times L \times \text{Avg. Depth} \times 0.785 = \text{Volume}$$

Other Shapes or Combination: Draw and label all dimensions in comments. \_\_\_\_\_ = \_\_\_\_\_ ft<sup>3</sup>

**DEPTH**: 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 pan or slopes to zero.

A) Total Haul Vol.	
B) Total Subsample Vol.	
C) Sample Weight Multiplier (A ÷ 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>  
 >>> Copy to Front >>>

**DECKLOADING and CUMULATIVE SUM**

Entire Deckloading Haul Range \_\_\_\_\_ ft<sup>3</sup> = \_\_\_\_\_ ft<sup>3</sup>

Deckloading Measurements  
 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 SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
6				

COMMENTS :

**CATCH ESTIMATION WORKSHEET (SCALLOP)  
NMFS FISHERIES OBSERVER PROGRAM  
05/01/13**

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
HAUL #	F

<b>SORTING METHOD</b> 1 <input type="checkbox"/> Picked 2 <input type="checkbox"/> Shoveled 3 <input type="checkbox"/> Deckloaded 4 <input type="checkbox"/> Conveyor System 5 <input type="checkbox"/> Pumping System 8 <input type="checkbox"/> Combination (Comment) 9 <input type="checkbox"/> Other (Comment)	<b>ESTIMATION METHODS</b> 01 = Actual (Spring Scale)    11 = Actual (Electronic Scale) 03 = Basket or Tote Count    05 = Tally 07 = Cumulative Sum            02 = Volume-to-Volume 04 = Captain 06 = Visually Estimated 10 = Catch Composition Log 98 = Combination (Comment) 99 = Other (Comment)	<b>DECKLOADING</b> Entire Deckloading Haul Range 17 _____	<b>CUMULATIVE SUM</b> *Estimation Method used to obtain species Total Samp.Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations and use '98' on front.																																																																																															
<b>BASKET OR TOTE COUNT OR TALLY</b> **Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other			MAREL SCALE FIT VALUE 2																																																																																															
Number of Hauls 18			<table border="1" style="width:100%"> <thead> <tr> <th>SPECIES</th> <th>DISP. CODE</th> <th>TOTAL SAMP. WGT.</th> <th>*EST. METH.</th> <th>WGT. PER HAUL</th> </tr> </thead> <tbody> <tr> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL	19	20	21	22	23																																																																																					
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19	20	21	22	23																																																																																														

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGT.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
3	4	5	6	7	8	9	10	11

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

Full Oval

Half-Oval

Rectangle

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.

**A1) REMAINDER VOLUME from previous haul(s)**

Starboard Circle One: Full Oval Half-Oval Rectangle

Depths

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

Port Circle One: Full Oval Half-Oval Rectangle

Depths

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

A1) TOTAL REMAINDER VOLUME (Starboard + Port) = \_\_\_\_\_ ft<sup>3</sup>

**A2) TOTAL VOLUME after current haul dumped**

Starboard Circle One: Full Oval Half-Oval Rectangle

Depths

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

Port Circle One: Full Oval Half-Oval Rectangle

Depths

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

A2) TOTAL CATCH PILE VOLUME (Starboard + Port) = \_\_\_\_\_ ft<sup>3</sup>

A) Total Haul Vol. (A2 - A1) **14** \_\_\_\_\_ ft<sup>3</sup>

B) Total Subsample Vol. **15**

\_\_\_\_\_ 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>

C) Sample Weight Multiplier (A ÷ B) **16** \_\_\_\_\_

>> Copy to Front >>

**COMMENTS**



**CATCH ESTIMATION WORKSHEET (SCALLOP)  
NMFS FISHERIES OBSERVER PROGRAM  
05/01/13**

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

<b>SORTING METHOD</b> 1 <input type="checkbox"/> Picked 2 <input type="checkbox"/> Shoveled 3 <input checked="" type="checkbox"/> Deckloaded 4 <input type="checkbox"/> Conveyor System 5 <input type="checkbox"/> Pumping System 8 <input type="checkbox"/> Combination (Comment) 9 <input type="checkbox"/> Other (Comment)		<b>ESTIMATION METHODS</b> 01 = Actual (Spring Scale)    11 = Actual (Electronic Scale) 03 = Basket or Tote Count    05 = Tally 07 = Cumulative Sum    02 = Volume-to-Volume 04 = Captain 06 = Visually Estimated 10 = Catch Composition Log 98 = Combination (Comment) 99 = Other (Comment)		<b>DECKLOADING</b> Entire Deckloading Haul Range <u>147-151</u> MAREL SCALE FIT VALUE _____ Number of Hauls <u>5</u>		<b>CUMULATIVE SUM</b> *Estimation Method used to obtain species Total Samp Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations and use '98' on front.				
--	--	---	--	--	--	--	--	--	--	--

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 WGTs.	TOTAL SAMPLE WGT	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

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

Full Oval

Half-Oval

Rectangle

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 pan or slopes to zero.

Other Shapes or Combinations: Draw & label all dimensions in comments.

**A1) REMAINDER VOLUME from previous haul(s)**

Starboard Circle One: Full Oval  Half-Oval  Rectangle

3.2 ft X 7.1 ft X 1.2 ft (X 0.785) = 21.40 ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

Depths				
1.2	1.0	1.3	1.5	2.0
1.3	1.2	1.1	1.0	0.0

Port Circle One: Full Oval  Half-Oval  Rectangle

3.0 ft X 6.0 ft X 0.8 ft (X 0.785) = 11.30 ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

Depths				
0.8	0.1	1.2	1.0	1.0
0.9	0.8	1.1	0.6	0.0

A1) TOTAL REMAINDER VOLUME (Starboard + Port) = 32.70 ft<sup>3</sup>

**A2) TOTAL VOLUME after current haul dumped**

Starboard Circle One: Full Oval  Half-Oval  Rectangle

3.6 ft X 7.6 ft X 1.2 ft (X 0.785) = 25.77 ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

Depths				
1.3	1.0	0.6	0.3	1.7
1.9	2.0	1.4	1.8	0.0

Port Circle One: Full Oval  Half-Oval  Rectangle

3.0 ft X 7.0 ft X 1.3 ft (X 0.785) = 27.30 ft<sup>3</sup>

Width Length Avg. Depth (if oval or half-oval) Volume

Depths				
0.7	0.9	1.8	1.3	1.9
1.2	1.0	0.8	1.6	1.8

A2) TOTAL CATCH PILE VOLUME (Starboard + Port) = 53.07 ft<sup>3</sup>

A) Total Haul Vol. (A2 - A1) <u>20.37</u> ft <sup>3</sup>	B) Total Subsample Vol. 4 Basket(s) X 1.47 ft <sup>3</sup> = 5.88 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>	C) Sample Weight Multiplier (A ÷ B) <u>3.46</u> >> Copy to Front >>
---	--	--

**COMMENTS**

pile on deck when I came on watch

**CATCH ESTIMATION WORKSHEET (SCALLOP)**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**05/01/13**

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

<b>SORTING METHOD</b> 1 <input type="checkbox"/> Picked 2 <input type="checkbox"/> Shoveled 3 <input type="checkbox"/> Deckloaded 4 <input type="checkbox"/> Conveyor System 5 <input type="checkbox"/> Pumping System 8 <input type="checkbox"/> Combination (Comment) 9 <input type="checkbox"/> Other (Comment)	<b>ESTIMATION METHODS</b> 01 = Actual (Spring Scale)    11 = Actual (Electronic Scale) 03 = Basket or Tote Count    05 = Tally 07 = Cumulative Sum          02 = Volume-to-Volume 04 = Captain 06 = Visually Estimated 10 = Catch Composition Log 98 = Combination (Comment) 99 = Other (Comment)	<b>DECKLOADING</b> Entire Deckloading Haul Range <u>14-17</u> Number of Hauls <u>4</u>
<b>BASKET OR TOTE COUNT OR TALLY</b> **Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other		<b>MAREL SCALE FIT VALUE</b> _____

CUMULATIVE SUM				
*Estimation Method used to obtain species Total Samp.Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations and use '98' on front.				
SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
Yellowtail A	012	31.2	01	8
Scallops	100	523	03	131
Scallops*	002	20	04	5

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

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.

Other Shapes or Combinations: Draw & label all dimensions in comments.

**A1) REMAINDER VOLUME from previous haul(s)**

Starboard Circle One: Full Oval Half-Oval Rectangle

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>  
 Width Length Avg. Depth (if oval or half-oval) Volume

Port Circle One: Full Oval Half-Oval Rectangle

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>  
 Width Length Avg. Depth (if oval or half-oval) Volume

A1) TOTAL REMAINDER VOLUME (Starboard + Port) = \_\_\_\_\_ ft<sup>3</sup>

**A2) TOTAL VOLUME after current haul dumped**

Starboard Circle One: Full Oval Half-Oval Rectangle

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>  
 Width Length Avg. Depth (if oval or half-oval) Volume

Port Circle One: Full Oval Half-Oval Rectangle

\_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft (X 0.785) = \_\_\_\_\_ ft<sup>3</sup>  
 Width Length Avg. Depth (if oval or half-oval) Volume

A2) TOTAL CATCH PILE VOLUME (Starboard + Port) = \_\_\_\_\_ ft<sup>3</sup>

A) Total Haul Vol. (A2 - A1) _____ ft <sup>3</sup>	B) Total Subsample Vol. _____ 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>	C) Sample Weight Multiplier (A ÷ B) <u>5.19</u> >> Copy to Front >>
--	---	---

\* Visual estimate from crew for small scallops discarded at cutting box

**COMMENTS**

crew shoveled all catch after haul 17 = 83 baskets total  
 I sampled 4 baskets/haul (2 per side) = 16    83/16 = 5.19  
 All finfish left on deck from all hauls

**CATCH ESTIMATION WORKSHEET (SCALLOP)**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**05/01/13**

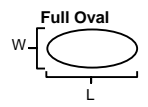
OBS/TRIP ID	
DATE LANDED mm/yy	/
HAUL #	

<b>SORTING METHOD</b>		<b>ESTIMATION METHODS</b>		<b>DECKLOADING</b>	
1 <input type="checkbox"/> Picked 2 <input type="checkbox"/> Shoveled 3 <input type="checkbox"/> Deckloaded 4 <input type="checkbox"/> Conveyor System 5 <input type="checkbox"/> Pumping System 8 <input type="checkbox"/> Combination (Comment) 9 <input type="checkbox"/> Other (Comment)		01 = Actual (Spring Scale)    11 = Actual (Electronic Scale) 03 = Basket or Tote Count    05 = Tally 07 = Cumulative Sum    02 = Volume-to-Volume 04 = Captain 06 = Visually Estimated 10 = Catch Composition Log 98 = Combination (Comment) 99 = Other (Comment)		Entire Deckloading Haul Range _____ Number of Hauls _____	
		<b>MAREL SCALE FIT VALUE</b> _____			

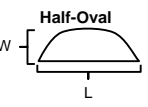
<b>CUMULATIVE SUM</b>				
*Estimation Method used to obtain species Total Samp.Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations and use '98' on front.				
SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

<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 WGT.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1								
2								
3								

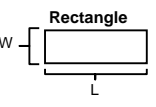
**VOLUME-TO-VOLUME**  
 CATCH PILE SHAPE AS SEEN FROM ABOVE:



Full Oval



Half-Oval



Rectangle

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.

**A1) REMAINDER VOLUME from previous haul(s)**

**Starboard**  
 \_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft ( X 0.785 ) = \_\_\_\_\_ ft³  
 Width Length Avg. Depth (if oval or half-oval) Volume

**Port**  
 \_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft ( X 0.785 ) = \_\_\_\_\_ ft³  
 Width Length Avg. Depth (if oval or half-oval) Volume

A1) TOTAL REMAINDER VOLUME (Starboard + Port) = \_\_\_\_\_ ft³

**A2) TOTAL VOLUME after current haul dumped**

**Starboard**  
 \_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft ( X 0.785 ) = \_\_\_\_\_ ft³  
 Width Length Avg. Depth (if oval or half-oval) Volume

**Port**  
 \_\_\_\_\_ ft X \_\_\_\_\_ ft X \_\_\_\_\_ ft ( X 0.785 ) = \_\_\_\_\_ ft³  
 Width Length Avg. Depth (if oval or half-oval) Volume

A2) TOTAL CATCH PILE VOLUME (Starboard + Port) = \_\_\_\_\_ ft³

A) Total Haul Vol. (A2 - A1) _____ ft³	B) Total Subsample Vol. _____ Basket(s) X 1.47 ft³ = _____ ft³ _____ Tote(s) X 2.65 ft³ = _____ ft³ _____ Other(s) X _____ ft³ = _____ ft³	C) Sample Weight Multiplier (A ÷ B) _____ >> Copy to Front >>
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**COMMENTS**

## Discard Log

This purpose of this log is to systematically capture discarding events and the associated data. This log is required for all hauls in which pumping occurs, regardless of target species or gear type observed, unless there is no catch (kept or discarded). Generally, these are high-volume fisheries in which discard information is critical to collect. Additionally, this log should be used in non-pumping fisheries if a significant discarding event occurs, but is not required on every haul. This log should be completed in addition to the Haul Log for each particular gear type.

An asterisk (\*) indicates fields which are collected on ASM trips. All fields should be collected on NEFOP and IFS trips, unless otherwise noted.

Become familiar with the following definitions:

### Definitions

**Operational Discards:** Fish that cannot be pumped, and that remain in the net at the end of pumping operations.<sup>1</sup>

**Slippage:** Unobserved catch, *i.e.*, catch that is discarded prior to being observed, sorted, sampled, and/or brought onboard the fishing vessel. Slippage can include the release of fish from a codend or seine prior to completion of pumping or the release of an entire catch or bag while the catch is still in the water.<sup>1</sup>

### Fish Pumping

Review the Catch Composition Log protocols for details on collecting basket subsamples. After the pumping process is complete, notify the captain that you need to view the codend or bunt, regardless of whether it is brought onboard the vessel or not. Comment on species remaining in the codend or bunt at the end of the pumping process, including the presence of any incidental takes that have been entangled or caught in the gear.

### Discard at Completion Of Pumping:

At the completion of the pumping process there may be some catch left in the net. Catch that cannot be suctioned by the pump is generally referred to as operational fish discards, if released by the vessel.

---

1. Based on Amendment 5 to the Atlantic Herring Fisheries Management Plan.

Document and describe the weight and species composition of the operational discards as accurately as possible on the Discard Log. Record the corresponding weight on the species section of the Haul Log as “Fish, NK”, because the identification is not verifiable. A haul is still considered observed if operational discards are present after all catch has been pumped onboard the vessel.

### Partial or Fully-Discarded Tows:

At times, there may be situations where partial or entire catch is released from the net. Reasons for release of catches may include catch that consists of non-target species, pump/gear related problems, or reaching the vessel capacity. Any haul involving partial or fully released catch is considered unobserved and termed “slippage”. The release of operational discards is **not** considered a partial or fully released haul, or slipped catch. Discards that occur after catch is brought onboard and sorted are **not** considered slipped catch.

Document and describe the weight and species composition of the released catch as accurately as possible on the Discard Log. Record the corresponding weight on the species section of the Haul Log as “Fish, NK”, because the identification is not verifiable.

All discards recorded on the Haul Log must be accounted for and described on the Discard Log, including those brought onboard and sorted prior to discarding.

### Instructions

For instructions on completing fields A–F, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

**NOTE: If no catch exists**, check CATCH = ‘No’ on the Haul Log, and do not fill out a Discard Log.

**1. DISCARDS DURING TOW?:** Record whether there were any discards during the tow by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

9 = Unknown.

**NOTE:** Check ‘Unknown’ if catch is pumped/

hauled to another vessel and you are unable to determine whether there were discards.

**\*2. SEE CONTENTS OF CODEND?:** Record whether you saw the contents of the codend/bunt when the pumping process was completed by placing an “X” next to the appropriate code:

0 = No.

1 = Yes, all contents seen on deck.

2 = Yes, all/some contents seen in water.

*NOTE:* This field should be filled out even if pumping does not occur (released catch) (*i.e.*, were you able to see the contents released from the codend?).

*Example:* After pumping, a small amount of catch remained in the net. The contents of the codend were released into the water, without coming onboard. Mark “Yes, all/some contents seen in water”.

**\*3. REASON CATCH DISCARDED?:** Record the reason why the catch was discarded on this haul by placing an “X” in the box(es) of all reason(s) that apply:

0 = Unknown. Comment required.

1 = Market.

2 = Regulations.

4 = Quality.

5 = Not brought onboard.

9 = Other, specify in COMMENTS.

If no discards exist for this tow, check ‘Not applicable’.

*NOTE:* Check off all that apply.

*NOTE:* Check ‘Unknown’ if catch is pumped/hauled to another vessel and you are unable to determine whether there were discards.

*NOTE:* If more than one reason applies, specify in the comments section the species associated with each discard reason. Record weights of all discarded catch, by disposition code and species, on the Haul Log.

*Example:* Operational discards = 100 pounds Fish NK, released from the codend as the net was being brought onboard.

*Example:* Market (non-desired species) pulled from the grate = spiny dogfish, 50 lbs.

**\*4. DISCARD CATCH ESTIMATE:** Record who estimated the weight of the discarded catch by placing an “X” next to the appropriate code:

1 = Observer.

2 = Captain.

8 = Combination (Observer and Captain).

If no discards exist for this tow, or catch is pumped/hauled to another vessel, check ‘Not applicable’.

*NOTE:* Here, “observer” refers to you (not any other observer) and “captain” refers to the captain on the vessel to which you are deployed (not the captain of any other vessel).

**5. CATCH PUMPED TO ANOTHER VESSEL?:**

Record whether any of the catch was pumped to another vessel by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

9 = Unknown.

*NOTE:* If catch was pumped to another vessel, record the name of the vessel and the captain’s estimate of the weight. If there is an observer onboard the other vessel, **do not** record the weight of pumped catch on the Haul Log. If there is not an observer onboard the other vessel, record this weight as ‘Fish, NK’ with disposition code ‘110’ on the Haul Log.

**6. OBSERVER ONBOARD OTHER VESSEL?:**

Record whether an observer was onboard the other vessel by placing an “X” next to the appropriate code:

0 = No.

1 = Yes.

9 = Unknown.

*NOTE:* If yes, include the other observer’s TRIPID and associated HAUL NUMBER. This may differ from your haul number.

**\*7. DISCARD EVENT:** Record what the discard event was by placing an “X” in the box(es) of all reasons that apply:

0 = Unknown

1 = Operational discards (fish that cannot be pumped and that remain in the net at the end of the pumping operation).

2 = Tow was partially released (portion of catch brought onboard, portion released into the water without coming onboard; slippage).

3 = Tow was fully released (none of the catch came onboard, all catch was released into the water; slippage).

4 = Discarded catch after pumping onboard (catch

was brought onboard the vessel and then discarded into the water).

*Example:* Dogfish that are pumped onboard, hand-picked at the grate, then tossed overboard.

9 = Other, specify in COMMENTS.

If no discards exist for this tow, check 'Not applicable'.

*NOTE:* Check 'Unknown' if catch is pumped/hailed to another vessel and you are unable to determine whether there were discards.

**\*8. REASONS NOT BROUGHT ONBOARD?:**

Describe any reasons why the catch could not be pumped/hailed onboard.

**\*9. CATCH COMPOSITION OF DISCARDED CATCH:** Describe the catch composition of the discarded catch and how those determinations were made. Discards that are released before coming onboard should be recorded as "Fish, NK" on the Haul Log. It is still important for you to document and describe all species seen discarded, and to record on the Haul Log any discards that can be properly identified and estimated.

*Example:* 100 pounds of fish are seen in the water.

On the Discard Log, describe these fish as "100 pounds of herring-bodied fish". On the Haul Log, record as 100 pounds of "Fish NK".

*NOTE:* Any fish that are brought onboard and then discarded should be identified as fully as possible.

**\*10. CHALLENGES WITH HAUL?:** Describe any challenges that occurred while observing this haul. This might include, but is not limited to, weather related reasons, viewing of codend or bunt, and/or gear related issues. Offer the captain a copy of the Fishermen's Comment Log, to document any issues that occurred during this haul.

**DISCARD LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPDQ 05/01/13**

OBS/ TRIP ID		A	
DATE LAND (mm/yy)		B	
PAGE #		C	
GEAR CODE D	GEAR # E	HAUL # F	REASONS NOT BROUGHT ONBOARD: Describe any reasons why the catch could not be pumped/hailed onboard. 8
Were there discards for this tow? 1 No (0) Yes (1) Unknown (9)	When the pumping/hauling process was complete were you able to see the contents of the codend/bunt? 2 No (0) Yes, all contents seen on deck (1) Yes, all/some contents seen in water (2)	Why was the catch discarded on this haul? (CHECK ALL THAT APPLY) 3 <input type="checkbox"/> Unknown (0) (comment) <input type="checkbox"/> Market (1) <input type="checkbox"/> Regulations (2) <input type="checkbox"/> Quality (4) <input type="checkbox"/> Not brought onboard (5) <input type="checkbox"/> Other (9) (comment) <input type="checkbox"/> Not applicable	Check off the discard event. (CHECK ALL THAT APPLY) 7 <input type="checkbox"/> Unknown (0) (comment) <input type="checkbox"/> Operational discards (1) <input type="checkbox"/> Tow was partially released (2) <input type="checkbox"/> Tow was fully released (3) <input type="checkbox"/> Discarded after being brought onboard (4) <input type="checkbox"/> Other (9) (comment) <input type="checkbox"/> Not applicable
Who estimated the weight of the discarded catch? 4 <input type="checkbox"/> Observer (1) <input type="checkbox"/> Captain (2) <input type="checkbox"/> Combination (8) <input type="checkbox"/> Not applicable	Was there an observer onboard the other vessel? If yes, provide the Tripid and Haul Number. 6 No (0) Yes (1) Unknown (9) TRIPID: _____ HAUL #: _____	Was any of the catch pumped to another vessel? 5 No (0) Yes (1) Unknown (9)	CHALLENGES OBSERVING THIS HAUL: Describe any challenges that occurred with observing this haul: 10
CATCH COMPOSITION OF DISCARDED CATCH: Describe the catch composition of the discarded catch and how those determinations were made. 9			

**DISCARD LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBPDQ 05/01/13**

OBS/ TRIP ID		A99029-	
DATE LAND (mm/yy)		10 / 13	
PAGE #		4 OF 4	
GEAR CODE	GEAR #	HAUL #	REASONS NOT BROUGHT ONBOARD: Describe any reasons why the catch could not be pumped/hailed onboard.
1 7 0	0 1	0 0 1	-125 pounds of fish could not be pumped from net. They were seen in the water when pump was disconnected.
Were there discards for this tow? No (0) X Yes (1) Unknown (9)	When the pumping/hauling process was complete were you able to see the contents of the codend/bunt? No (0) Yes, all contents seen on deck (1) X Yes, all/some contents seen in water (2)	Why was the catch discarded on this haul? (CHECK ALL THAT APPLY) <input type="checkbox"/> Unknown (0) (comment) <input checked="" type="checkbox"/> Market (1) <input type="checkbox"/> Regulations (2) <input type="checkbox"/> Quality (4) <input checked="" type="checkbox"/> Not brought onboard (5) <input type="checkbox"/> Other (9) (comment) <input type="checkbox"/> Not applicable	Check off the discard event. (CHECK ALL THAT APPLY) <input type="checkbox"/> Unknown (0) (comment) <input checked="" type="checkbox"/> Operational discards (1) <input type="checkbox"/> Tow was partially released (2) <input type="checkbox"/> Tow was fully released (3) <input checked="" type="checkbox"/> Discarded after being brought onboard (4) <input type="checkbox"/> Other (9) (comment) <input type="checkbox"/> Not applicable
Who estimated the weight of the discarded catch? X Observer (1) Captain (2) Combination (8) Not applicable	Was there an observer onboard the other vessel? If yes, provide the Tripid and Haul Number. No (0) X Yes (1) Unknown (9) TRIPID: B99018- HAUL #: 001	Was any of the catch pumped to another vessel? No (0) X Yes (1) Unknown (9)	CHALLENGES OBSERVING THIS HAUL: Describe any challenges that occurred with observing this haul:  ~100,000 pounds pumped to FV Susan B.
CATCH COMPOSITION OF DISCARDED CATCH: Describe the catch composition of the discarded catch and how those determinations were made.  <b>Market/discard after pumping = spiny dogfish picket at grate (17 lbs) and discarded</b>  <b>Operational discards seen floating in water - all looked to be silvery, herring-bodied fish</b>			



**DISCARD LOG  
NMFS FISHERIES OBSERVER PROGRAM  
OBPDQ 05/01/13**

OBS/ TRIP ID		
DATE LAND (mm/yy)	/ /	
PAGE #	OF	OF

GEAR CODE	GEAR #	HAUL #	Why was the catch discarded on this haul? (CHECK ALL THAT APPLY)	Who estimated the weight of the discarded catch?	Was there an observer onboard the other vessel? If yes, provide the Tripid and Haul Number.	Check off the discard event. (CHECK ALL THAT APPLY)	REASONS NOT BROUGHT ONBOARD: Describe any reasons why the catch could not be pumped/hailed onboard.
Were there discards for this tow? No (0) _____ Yes (1) _____ Unknown (9) _____	When the pumping/hauling process was complete were you able to see the contents of the codend/bunt? No (0) _____ Yes, all contents seen on deck (1) _____ Yes, all/some contents seen in water (2) _____	Observer (1) _____ Captain (2) _____ Combination (8) _____ Not applicable _____ Was any of the catch pumped to another vessel? No (0) _____ Yes (1) _____ Unknown (9) _____	Unknown (0) (comment) _____ Market (1) _____ Regulations (2) _____ Quality (4) _____ Not brought onboard (5) _____ Other (9) (comment) _____ Not applicable _____	No (0) _____ Yes (1) _____ Unknown (9) _____	Unknown (0) (comment) _____ Operational discards (1) _____ Tow was partially released (2) _____ Tow was fully released (3) _____ Discarded after being brought onboard (4) _____ Other (9) (comment) _____ Not applicable _____	TRIPID: _____ HAUL #: _____	
CATCH COMPOSITION OF DISCARDED CATCH: Describe the catch composition of the discarded catch and how those determinations were made.			CHALLENGES OBSERVING THIS HAUL: Describe any challenges that occurred with observing this haul.				

**DISCARD LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LAND (mm/yy)	<b>B</b> /
PAGE #	<b>C</b> ___ of ___

GEAR CODE <input type="text"/> <input type="text"/> <input type="text"/> <b>D</b>	GEAR # <input type="text"/> <input type="text"/> <input type="text"/> <b>E</b>	HAUL # <input type="text"/> <input type="text"/> <input type="text"/> <b>F</b>	Who estimated the weight of the discarded catch? Observer <input type="checkbox"/> Captain <input type="checkbox"/> Combination <input type="checkbox"/> <b>4</b>
--	---	---	--

**CHECK ALL THAT APPLY**

Were you able to see the contents of the codend when the catch was released? <b>2</b> No <input type="checkbox"/> Yes, all contents seen on deck <input type="checkbox"/> Yes, all/some contents seen in water <input type="checkbox"/>	Why was the catch discarded on this haul? Unknown <input type="checkbox"/> <b>3</b> Market <input type="checkbox"/> Regulations <input type="checkbox"/> Quality <input type="checkbox"/> Not brought onboard <input type="checkbox"/> Other (comment) <input type="checkbox"/>	Check off the discard event. <b>7</b> Tow was partially released <input type="checkbox"/> Tow was fully released <input type="checkbox"/> Other (comment) <input type="checkbox"/>
---	---	--

**8**  
**REASONS NOT BROUGHT ONBOARD:** Describe any reasons why the catch could not be hauled onboard.

**9**  
**CATCH COMPOSITION OF DISCARDED CATCH:** Describe the catch composition of the discarded catch and how those determinations were made.

**10**  
**CHALLENGES OBSERVING THIS HAUL:** Describe any challenges that occurred with observing this haul.

**DISCARD LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**05/01/13**

OBS/TRIP ID	A99014-
DATE LAND (mm/yy)	10 / 13
PAGE #	4 of 4

GEAR CODE <b>050</b>	GEAR # <b>02</b>	HAUL # <b>004</b>	Who estimated the weight of the discarded catch?		
			Observer <input type="checkbox"/>	Captain <input type="checkbox"/>	Combination <input type="checkbox"/>

**CHECK ALL THAT APPLY**

Were you able to see the contents of the codend when the catch was released?	Why was the catch discarded on this haul?	Check off the discard event.
No <input type="checkbox"/>	Unknown <input type="checkbox"/>	
Yes, all contents seen on deck <input type="checkbox"/>	Market <input checked="" type="checkbox"/>	Tow was partially released <input type="checkbox"/>
Yes, all/some contents seen in water <input checked="" type="checkbox"/>	Regulations <input type="checkbox"/>	Tow was fully released <input checked="" type="checkbox"/>
	Quality <input type="checkbox"/>	Other (comment) <input type="checkbox"/>
	Not brought onboard <input type="checkbox"/>	
	Other (comment) <input type="checkbox"/>	

**REASONS NOT BROUGHT ONBOARD:** Describe any reasons why the catch could not be hauled onboard.

**The codend was not brought onboard due to a large amount of spiny dogfish. All catch was released into the water.**

**CATCH COMPOSITION OF DISCARDED CATCH:** Describe the catch composition of the discarded catch and how those determinations were made.

**The majority of the catch was spiny dogfish. There were a few skates (skate, nk). I did not see any other species.**

**CHALLENGES OBSERVING THIS HAUL:** Describe any challenges that occurred with observing this haul.

**Due to the size of the bag, the captain did not want me on deck for safety reasons. I was able to go out on deck moments after the codend was released into the water.**

**DISCARD LOG**  
**NMFS FISHERIES AT-SEA MONITORING PROGRAM**  
**05/01/13**

OBS/TRIP ID	
DATE LAND (mm/yy)	/ /
PAGE #	___ of ___

GEAR CODE □□□	GEAR # □□	HAUL # □□□	Who estimated the weight of the discarded catch?		
			Observer <input type="checkbox"/>	Captain <input type="checkbox"/>	Combination <input type="checkbox"/>

**CHECK ALL THAT APPLY**

Were you able to see the contents of the codend when the catch was released?	Why was the catch discarded on this haul?	Check off the discard event.
No <input type="checkbox"/>	Unknown <input type="checkbox"/>	
Yes, all contents seen on deck <input type="checkbox"/>	Market <input type="checkbox"/>	Tow was partially released <input type="checkbox"/>
Yes, all/some contents seen in water <input type="checkbox"/>	Regulations <input type="checkbox"/>	Tow was fully released <input type="checkbox"/>
	Quality <input type="checkbox"/>	Other (comment) <input type="checkbox"/>
	Not brought onboard <input type="checkbox"/>	
	Other (comment) <input type="checkbox"/>	

REASONS NOT BROUGHT ONBOARD: Describe any reasons why the catch could not be hauled onboard.

CATCH COMPOSITION OF DISCARDED CATCH: Describe the catch composition of the discarded catch and how those determinations were made.

CHALLENGES OBSERVING THIS HAUL: Describe any challenges that occurred with observing this haul.

## Crustacean Sample Log

This log is designed to collect biological data on the size and condition of individual lobsters and crabs. These data are used to determine crustacean mortality rates, and to assess the effects of fishing on these rates.

Complete this log on a per haul basis during deployments targeting lobsters and crabs. It should also be completed to sample lobsters and crabs caught on other deployments, as the biological sampling priorities specify, and as time permits. **Only one species may be recorded on a log**, as the information collected for lobsters and crabs differs.

When sampling lobsters, every lobster caught in a haul should be examined, and recorded as one record. If it is not possible to sample every lobster, the observer should attempt to count all of the lobsters caught, and sample as many as possible. When possible, the observer should attempt to sample all of the crustaceans in the priority order listed in [Tables 1a–1h. Length Frequency and Age Structure Sampling Priorities in the NEFSC Observer Program Biological Sampling Manual](#).

If the observer is unable to collect all of the information for every animal sampled, the priority of data collection should be the order (left to right) of the fields listed on the log. All animals sampled must have a CARAPACE LENGTH or CARAPACE WIDTH and CATCH DISPOSITION recorded.

When more than 50 animals are sampled, continue sampling on the back of the log, and number each page accordingly.

### Instructions

For instructions on completing fields **A**, **B**, **C**, **F**, **S**, and **T**, refer to the [Common Haul Log Data](#) section of the [NEFSC Observer Program Manual](#).

**1. NUMBER OF ANIMALS CAUGHT:** Record the total number of animals (of the species being sampled on this log) caught in this haul. This number may differ from the number of animals sampled if a shortage of time, or other circumstances, do not permit sampling every animal.

**2. COUNT—ACTUAL OR ESTIMATED (A/E):** Indicate whether the number recorded in NUMBER OF ANIMALS CAUGHT (#1) is an actual or estimated count by recording the appropriate letter code:

A = Actual

E = Estimated

**3. SHELL DISEASE PERCENTAGE:** Record the percentage of animals, of the species being sampled, caught in the haul that have signs of shell disease. Look for dark necrotic spots on the carapace. A characteristic necrosis forms around the eye sockets, creating “spectacles”.

*Example:* 30 lobsters are caught on this haul, 5 of which have signs of shell disease. The shell disease percentage is:

$$5 \div 30 = 0.1667, \text{ recorded as } 17\%.$$

**4. CARAPACE LENGTH/WIDTH:** Record, in whole millimeters, the carapace length (for lobsters; see Figure 1) or width (for crabs; see Figure 2) of the animal being sampled.

Figure 1: Dorsal view of lobster carapace length measurement and v-notch.

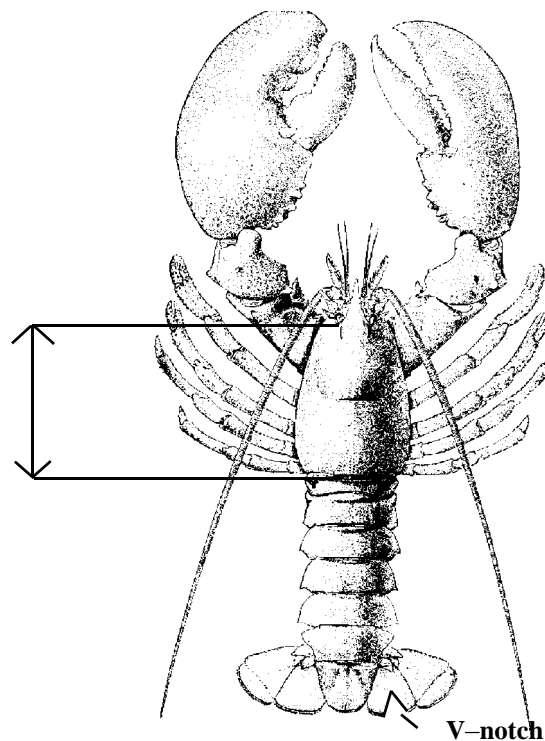
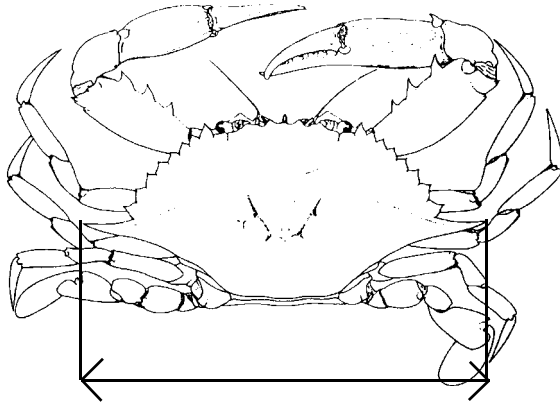


Figure 2: Dorsal view of blue crab carapace width measurement.



Use calipers for these measurements. See [Appendix E: Vernier Caliper Instructions](#) for further information.

**5. CATCH DISPOSITION:** Indicate the disposition of the animal being sampled by recording the appropriate alpha abbreviation:

K = Kept.

D = Discarded.

*NOTE:* This disposition must agree with the disposition recorded for this animal on the corresponding Haul Log.

**6. SEX:** Indicate the sex of the animal being sampled by recording the appropriate one digit code. See the [Sex Determination](#) section of the [NEFSC Observer Program Training Manual](#) for instructions on determining the sex of lobsters and crabs.

0 = Unknown.

1 = Male.

2 = Female.

**7. EGG:** Indicate whether eggs are visible underneath the back part of the abdomen of the animal being sampled by recording the appropriate one-digit code:

0 = Unknown.

1 = No. (**Used for all males.**)

2 = Yes.

*NOTE:* Egg color is light green to black (**for lobsters**) or orange to black (**for crabs**).

**\*\*\*\*\*For LOBSTERS only\*\*\*\*\***

**Leave these fields blank when sampling crabs.**

**8. V-NOTCH:** Indicate whether a v-notch exists on the lobster being sampled by recording the appropriate one-digit code:

0 = Unknown.

1 = No.

2 = Yes, old. (Uneven edges, possible infected area, smooth shell. See Figure 3b.)

3 = Yes, new. (Clean edges with distinctive V shape, cracked shell with thin black line of scar tissue along edge of wound. See Figure 3a.)

*NOTE:* A v-notch is a triangular, 1/8”–1/4” deep cut in the tail of a lobster. It is usually on the lobster’s right-hand side, and may last for 2–3 molts. See Figure 1.

*NOTE:* Other manmade mutilations can be considered v-notches, such as:

- up to 50% of the flipper cut off horizontally or obliquely with a knife
- complete removal of the flipper.

*NOTE:* Natural mutilations can be difficult to distinguish from v-notches. The wounds may not be straight edged, appearing jagged and irregular. They may also appear as a small nick or indentation on the side or edge of the flipper, or may extend to adjoining flippers. When uncertain, ask the captain.

Figure 3: Examples of new (a) and old (b) v-notches.



**9. MOLT:** Indicate the condition of the shell of the lobster being sampled by recording the appropriate one-digit code:

0 = Unknown.

1 = Soft. (Barely a shell, very fragile; does not spring back after applying lateral pressure.)

2 = Paper. (Crinkles under lateral pressure, similar to a soda can.)

3 = Hard. (Withstands lateral pressure.)

4 = Splitter. (Stage just before molt. Shell is hard and split down length of carapace.)

**10. # OF CLAWS:** Record the number of claws (0, 1, or 2) on the lobster being sampled. To be counted, claws should have a shell, regardless of size or shell condition. Do not count regenerating claws which are small, fleshy appendages (“buds”) with no shell.

### **Comments**

Record information regarding this sample or your sampling methods (*e.g.* the reason all animals caught were not sampled) below. If more room is needed, use the back of this log, making sure to write “See Back” on the front of the log. Reference each comment with its corresponding field name or animal number.

**CRUSTACEAN SAMPLE LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCRU 05/01/13**

OBS/TRIP ID	<b>A</b>
DATE LANDED mm/yy	<b>B</b> /
PAGE #	<b>C</b> <input type="checkbox"/> OF <input type="checkbox"/>
HAUL #	<b>F</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

SPECIES								ANIMALS CAUGHT						SHELL DISEASE		
NAME				CODE				NUMBER			A / E			PERCENTAGE		
<b>S</b>				<b>T</b>				<b>1</b>			<b>2</b>			<b>3</b>		
LOBSTER ONLY								LOBSTER ONLY								
CARAPACE (mm)		C D I S P	S E X	E G G	V - N O T C H	M O L T	#	CARAPACE (mm)		C D I S P	S E X	E G G	V - N O T C H	M O L T	#	
LOBSTER - LENGTH CRAB - WIDTH		(K / D)					C L A W	LOBSTER - LENGTH CRAB - WIDTH		(K / D)					C L A W	
1	4	5	6	7	8	9	10	26								
2								27								
3								28								
4								29								
5								30								
6								31								
7								32								<b>SEX CODES:</b>
8								33								0= Unknown
9								34								1=Male
10								35								2=Female
11								36								<b>EGG CODES:</b>
12								37								0=Unknown
13								38								1=No
14								39								2=Yes
15								40								<b>V-NOTCH CODES:</b>
16								41								0=Unknown
17								42								1=No
18								43								2=Yes, old
19								44								3=Yes, new
20								45								<b>MOLT CODES:</b>
21								46								0=Unknown
22								47								1=Soft
23								48								2=Paper
24								49								3=Hard
25								50								4=Splitter

**COMMENTS**



**CRUSTACEAN SAMPLE LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCRU 05/01/13**

OBS/TRIP ID	A99036-		
DATE LANDED mm/yy	05	/	13
PAGE #	3	OF	3
HAUL #	0	4	4

SPECIES								ANIMALS CAUGHT								SHELL DISEASE	
NAME								NUMBER								PERCENTAGE	
American Lobster								33								10	
LOBSTER ONLY								LOBSTER ONLY									
CARAPACE (mm)	C D I S P (K/D)	S E X	E G G	V - N O T C H	M O L T	#		CARAPACE (mm)	C D I S P (K/D)	S E X	E G G	V - N O T C H	M O L T	#			
LOBSTER - LENGTH						C L A W		LOBSTER - LENGTH						C L A W			
CRAB - WIDTH								CRAB - WIDTH									
1	117	D	2	2	1	3	2	26	120	D	2	2	1	3	2		
2	90	K	2	1	1	3	2	27	103	K	2	1	1	3	2		
3	93	K	1	1	1	3	2	28	91	K	2	1	1	3	2		
4	133	K	1	1	1	3	2	29	106	K	2	1	1	3	2		
5	124	D	2	2	1	3	2	30	102	K	1	1	1	3	0		
6	130	K	1	1	1	3	2	31	118	D	2	2	1	3	2		
7	131	D	2	2	1	3	2	32	117	D	2	2	1	3	2	SEX CODES:	
8	122	K	1	1	1	3	2	33	132	D	2	2	1	3	2	0= Unknown	
9	118	K	2	1	1	3	2	34								1=Male	
10	100	K	1	1	1	3	2	35								2=Female	
11	132	K	2	1	1	3	2	36								EGG CODES:	
12	148	K	2	1	1	3	2	37								0=Unknown	
13	134	K	1	1	1	3	2	38								1=No	
14	101	D	2	2	1	3	2	39								2=Yes	
15	102	K	2	1	1	3	2	40								V-NOTCH CODES:	
16	116	K	2	1	1	3	2	41								0=Unknown	
17	108	K	2	1	1	3	2	42								1=No	
18	105	K	1	1	1	3	2	43								2=Yes, old	
19	103	K	2	1	1	3	2	44								3=Yes, new	
20	123	K	2	1	1	3	2	45								MOLT CODES:	
21	138	K	1	1	1	3	2	46								0=Unknown	
22	99	K	1	1	1	3	2	47								1=Soft	
23	116	K	1	1	1	3	1	48								2=Paper	
24	107	K	1	1	1	3	2	49								3=Hard	
25	108	D	2	2	1	3	2	50								4=Splitter	

**COMMENTS**  
 About 10% of the lobster had a brown, spotting shell disease. Females w/eggs were discarded.

**CRUSTACEAN SAMPLE LOG**  
**NMFS FISHERIES OBSERVER PROGRAM**  
**OBCRU 05/01/13**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="text"/> OF <input type="text"/>
HAUL #	<input type="text"/>

SPECIES							ANIMALS CAUGHT							SHELL DISEASE
NAME				CODE	NUMBER				A / E	PERCENTAGE				
				LOBSTER ONLY							LOBSTER ONLY			
CARAPACE (mm)	C D I S P	S E X	E G G	V - N O T C H	M O L T	#	CARAPACE (mm)	C D I S P	S E X	E G G	V - N O T C H	M O L T	#	
LOBSTER - LENGTH CRAB - WIDTH	(K / D)					C L A W	LOBSTER - LENGTH CRAB - WIDTH	(K / D)					C L A W	
1							26							
2							27							
3							28							
4							29							
5							30							
6							31							
7							32							<b>SEX CODES:</b>
8							33							0= Unknown
9							34							1=Male
10							35							2=Female
11							36							<b>EGG CODES:</b>
12							37							0=Unknown
13							38							1=No
14							39							2=Yes
15							40							<b>V-NOTCH CODES:</b>
16							41							0=Unknown
17							42							1=No
18							43							2=Yes, old
19							44							3=Yes, new
20							45							<b>MOLT CODES:</b>
21							46							0=Unknown
22							47							1=Soft
23							48							2=Paper
24							49							3=Hard
25							50							4=Splitter
<b>COMMENTS</b>														

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="text"/> OF <input type="text"/>
HAUL #	<input type="text"/>

		LOBSTER ONLY								LOBSTER ONLY					
CARAPACE (mm)		C D I S P (K/D)	S E X	E G G	V - N O T C H	M O L T	# C L A W	CARAPACE (mm)		C D I S P (K/D)	S E X	E G G	V - N O T C H	M O L T	# C L A W
LOBSTER - LENGTH	CRAB - WIDTH							LOBSTER - LENGTH	CRAB - WIDTH						
51								76							
52								77							
53								78							
54								79							
55								80							
56								81							
57								82							
58								83							
59								84							
60								85							
61								86							
62								87							
63								88							
64								89							
65								90							
66								91							
67								92							
68								93							
69								94							
70								95							
71								96							
72								97							
73								98							
74								99							
75								100							

**SEX CODES:**

- 0= Unknown
- 1=Male
- 2=Female

**EGG CODES:**

- 0=Unknown
- 1=No
- 2=Yes

**V-NOTCH CODES:**

- 0=Unknown
- 1=No
- 2=Yes, old
- 3=Yes, new

**MOLT CODES:**

- 0=Unknown
- 1=Soft
- 2=Paper
- 3=Hard
- 4=Splitter

COMMENTS

## Appendix A: Observer/Trip Identifier Instructions

Observer /Trip Identifiers are used on every log and data item associated with a trip.

Record a three-character Observer Identifier combined with a four-character Trip Number assigned to you for each trip. Use the same Observer/Trip Identifier on all forms for a trip.

The first three characters will always remain constant, as they are unique to the observer (*e.g.*, A02, see below for complete example). The fourth, fifth and sixth characters will reflect how many trips the observer has been deployed on since the beginning of the calendar year (see below for complete example). The last character of the Observer/Trip Identifier indicates what kind of deployment the observer is on, with respect to fishery, sampling protocol, etc. Below are the possible trip extensions to the Observer/Trip Identifier:

-	A non-gillnet trip, ( <i>e.g.</i> , pelagic drift gillnet, longline, lobster pot, trawls, scallop dredge, etc.)
A	An aborted non-gillnet trip.
C	A complete fish sampling gillnet trip.
D	An aborted complete fish sampling gillnet trip.
E	A set only complete fish sampling gillnet trip.
L	A limited fish sampling gillnet trip.
M	An aborted limited fish sampling gillnet trip.
N	A set only limited fish sampling gillnet trip.

*Example:* A02003L would indicate the third trip (003) of the calendar year for observer Green, assigned identifier A02, which happens to be a gillnet trip with limited fish sampling (L).

*Example:* A07026- would indicate the twenty sixth trip (026) of the calendar year for observer White, assigned identifier A07, which happens to be a lobster pot trip (-).

*Example:* E60005D would indicate the fifth trip (005) of the calendar year for observer Brown, assigned identifier E60, which happens to be a complete fish sampling gillnet trip that was aborted (D).

## Appendix B: Page Numbering Instructions

All Logs except the Vessel and Trip Information Log are numbered. Below is a listing of each data log used in domestic observing, and the manner in which the logs should be page numbered, with examples provided.

### Vessel and Trip Information Log

These logs are not currently page numbered.

### Gear Characteristics Log

These logs are numbered on a per **trip** basis in the Gillnet, Pot/Trap, Otter Trawl, Twin Trawl, Scallop Trawl, Pair Trawl/Mid-Water Trawl fisheries. The logs have two sides, each requiring a number (if used). Do not number the second side if no comments are recorded on that side.

*Example:* A gillnet trip has 3 gears used. This would require three (3) Gear Logs to be filled out. The observer made additional comments on gear 1, requiring the use of the back side. The page numbering for gear 1 would be “1 of 4” and “2 of 4”. Gear 2 (front only) would be page “3 of 4” and gear 3 (front only) would be “4 of 4”.

### Haul Log

These logs are numbered on a per **haul** basis in all fisheries. They are the “cover” sheet for the following other logs (listed in the order of ordering/numbering):

- Individual Animal Log
- Length Frequency Log
- Crustacean Sample Log
- Catch Composition Log
- Discard Log

*Example:* A pair trawl haul required one (1) Pair And Single Mid-water Trawl Haul Log to record all of the catch. A couple of sharks were caught in this haul as well, requiring one (1) Individual Animal Log. Finfish and crustaceans were sampled, requiring two (2) Length Frequency Logs and one (1) Crustacean Sample Log. 10 Baskets were sampled on this haul requiring one (1) Catch Composition Log. Additionally, information regarding the discarding events were filled in on one (1) Discard Log. The page numbers for the Pair And Single Mid-water Trawl Haul Log would be “1 of 8”.

### Individual Animal Log

These logs are numbered on a per **haul** basis in all fisheries. They always immediately follow a corresponding Haul Log, so they may never have a page number lower than “2 of ...”.

*Example:* In the Haul Log example above, the one Individual Animal Log page number would be “2 of 8”.

*Example:* A gillnet haul required one (1) Haul Log to record all of the haul specific information and ten (10) Individual Animal Log to sample all of the pelagic species caught in this haul. The page numbers for the Individual Animal Logs would be “2 of 11”, “3 of 11”, “4 of 11”, etc.

### Length Frequency Log

These logs are numbered on a per **haul** basis. They should always follow a corresponding Haul Log and any Individual Animal Logs (if any), so they may never have a page number lower than “2 of ...”

*Example:* In the Haul Log example above, the Length Frequency Log page numbers would be “3 of 8”, and “4 of 8”.

*Example:* An otter trawl trip haul sampled eight different species of finfish, requiring three (3) Length Frequency Logs to record all of the length data. No pelagic species or crustaceans were caught in this haul. The page numbers for these logs would be “2 of 4”, “3 of 4” and “4 of 4”.

### Crustacean Sample Log

These logs are numbered on a per **haul** basis. They always follow a corresponding Haul Log and any Individual Animal Logs and/or Length Frequency Logs (if any), so they may never have a page number lower than “2 of ...”.

*Example:* In the Haul Log example above, the Crustacean Sample Log page numbers would be “5 of 8”.

*Example:* A lobster trip haul sampled 175 lobsters, requiring four (4) of these logs. No pelagic species or finfish were caught in this haul. The page numbers for these logs would be “2 of 5”, “3 of 5”, “4 of 5” and “5 of 5”.

### Catch Composition Log

These logs are numbered on a per **haul** basis. The log has two sides, each requiring a number. They always follow a corresponding Haul Log and any Individual Animal Logs (if any), Length Frequency Logs (if any) and Crustacean Sample Logs (if any) so they may never have a page number lower than “2 of ...”.

*Example:* In the Haul Log example above, the Catch Composition Log page numbers would be “6 of 8” and “7 of 8”.

*Example:* A purse seine trip haul sampled 10 baskets of fish requiring one (1) of these logs. No pelagic species were caught and no fish or crustaceans were sampled. The page numbers for these logs would be “2 of 3” and “3 of 3”.

### Discard Log

These logs are numbered on a per **haul** basis. They should follow a corresponding Haul Log and any Individual Animal Logs (if any), Length Frequency Log (if any) and Crustacean Sample Logs (if any), and Catch Composition Logs (if any) so they may never have a page number lower than “2 of ...”.

*Example:* In the Haul Log example above, the Discard Log page number would be “8 of 8”.

### Scallop Dredge, Scallop Trawl, Clam/Quahog Dredge Off-watch Haul Log

These logs are numbered on a per **trip** basis.

*Example:* A scallop trip required three (3) of these logs to record all of the off-watch periods. The page numbers would be “1 of 3”, “2 of 3”, and “3 of 3”. These logs should be included at the end of the trip.

### Protected Species Sighting Log

These logs are numbered on a per **trip** basis. Comment pages, located on the back side of the log, always directly follow and are numbered after the corresponding log page.

*Example:* A trip required forty (40) of these logs (comment pages included). The page numbers would be “1 of 40” (log), “2 of 40” (comment page), “3 of 40” (possibly another comment page or a new log), etc.

### Incidental Take Log

These logs are numbered on a per **trip** basis. The log has two sides, each requiring a number.

*Example:* A trip of 20 incidental takes require two (2) logs to record them all. The page numbers for these logs would be “1 of 4 (front)”, “2 of 4 (back)”, “3 of 4 (front)”, and “4 of 4 (back)”.

### Marine Mammal Biological Sample Log

These logs are numbered on a per **trip** basis. The log has two sides, each requiring a number.

*Example:* In the trip above of twenty incidental takes, two (2) logs are needed to record all of the information. The first animal was a bottlenose dolphin for which additional measurements were recorded on the back side of the first Marine Mammal Biological Sample Log. The page numbers would be “1 of 3” (front), “2 of 3” (back side of first page) and “3 of 3” (front side of second log).

### Sea Turtle Biological Sample Log

These logs are numbered on a per **trip** basis. The log has two sides, each requiring a number.

*Example:* A trip caught 11 sea turtles, requiring two (2) logs to record all of the information. Sketch's were drawn for five of the turtles recorded on the first page, necessitating the use of the back side of the first log. The page numbers would be recorded as “1 of 3” (front of first page), “2 of 3” (back side of first page) and “3 of 3” (front of second page).

### Fishermen's Comment Log

These logs are numbered on a per **trip** basis. The log has two sides, each requiring a number.

*Example:* A captain requests to use these logs for two different event dates. On the first log the captain uses both the front and the back. On the second log the captain only fills in the front of the log. The page numbers for these logs would be “1 of 3”, “2 of 3” and “3 of 3”. The back side of the second log would be left blank.

### Appendix C: Gear Codes- Sorted by Gear Name

353	Beam Trawl, Fish	
350	Beam Trawl, Other/NK Species	
352	Beam Trawl, Scallop	
386	Dredge, Clam, Hydraulic	
381	Dredge, Other/NK Species	
132	Dredge, Scallop, Sea	
320	Fyke Net, Other/NK Species	
105	Gillnet, Anchored-floating, Fish	anchored or fixed to substrate, fished off the bottom
116	Gillnet, Drift-floating, Fish	not anchored or fixed to substrate, fished off the bottom
115	Gillnet, Drift, Large Pelagic	
117	Gillnet, Drift-sink, Fish	not anchored or fixed to substrate, fished on the bottom
100	Gillnet, Fixed Or Anchored, Sink, Other/NK Species	anchored or fixed to substrate, fished on the bottom
102	Gillnet, Stake, Other	
020	Handline (Rod & Reel)	
021	Handline, Auto Jig	
030	Harpoon, Other/NK Species	
031	Harpoon, Swordfish	
070	Haul Seine, Beach, Common	
010	Longline, Bottom	
040	Longline, Pelagic	
200	Pot + Trap, Lobster Offshore, NK	
301	Pot + Trap, Blue Crab	
183	Pot + Trap, Conch	
300	Pot + Trap, Crab Other	
181	Pot + Trap, Fish	
186	Pot + Trap, Hagfish	
180	Pot + Trap, Other/NK Species	
142	Pound Net, Fish	
121	Purse Seine, Herring	
122	Purse Seine, Mackerel	
123	Purse Seine, Menhaden	
120	Purse Seine, Other/NK Species	
124	Purse Seine, Tuna	
360	Scottish Seine	
050	Trawl, Otter, Bottom, Fish	
057	Trawl, Otter, Bottom, Haddock Separator	
054	Trawl, Otter, Bottom, Ruhle	
052	Trawl, Otter, Bottom, Scallop	
058	Trawl, Otter, Bottom, Shrimp	
053	Trawl, Otter, Bottom, Twin	
370	Trawl, Otter, Midwater	
170	Trawl, Otter, Midwater Paired	
060	Troll Line, Other	

## Appendix D: Time Lost Reason Codes

Used on the Vessel and Trip Information Log.

00 = Unknown.

01 = Gear conflict with another vessel.

02 = Gear damage repair.

03 = Engine repair.

04 = Awaiting arrival of other vessel, *e.g.*, pair trawling or offloading.

05 = Coast Guard boarding.

06 = Medical emergency, *e.g.*, medical evacuation.

07 = Weather conditions.

08 = Marine mammal interaction.

09 = Gear loss. Include only time spent trying to retrieve the gear.

10 = Vessel leaves a dock at the start of the trip, steams to another dock(s) or port(s) to engage in an activity (*e.g.*, refueling, buying ice, picking up crew, etc.) and then steams to the fishing grounds. Record the total amount of time spent steaming to, and docked at, the other dock(s).

11 = Vessel returns to a dock after reaching the location where it will begin fishing, but before deploying the gear, OR returns to the dock before reaching the location where it will begin fishing. Record the total amount of time spent steaming out, steaming back to the dock and at the dock.

12 = Vessel returns to a dock **after completing fishing activities**, but no fish are offloaded. Vessel engages in an activity (*e.g.*, refueling, dropping off crew, etc.) and then steams to the dock where the captain intends to sell most of the catch. Record the total amount of time spent at the first dock, plus the time spent steaming to the offloading dock.

13 = Vessel returns to a dock **after beginning fishing activities**, but no fish are offloaded. Vessel then returns to the fishing grounds. Record the total amount of time spent steaming back to the dock, time spent at the dock and time spent steaming back to the grounds.

99 = Other. Please record the time lost reason in COMMENTS.



## Appendix E: Vernier Caliper Instructions

Calipers are used to collect the following measurements:

- Pot entrance ring diameter on the Lobster, Crab, and Fish Pot Gear Characteristics Log.
- Escape vent length and height on the Lobster, Crab, and Fish Pot Gear Characteristics Log.
- Inside and outside ring diameter and twine top inside mesh measurements on the Scallop Dredge Gear Characteristics Log.
- Codend and codend liner inside mesh measurements on the Twin Trawl Gear Characteristics Log and Bottom Trawl Gear Characteristics Log.
- Lobster carapace length on the Crustacean Sample Log.
- Crab carapace width on the Crustacean Sample Log.
- Net inside mesh size measurements on the Gillnet Gear Characteristics Log.
- Net and bunt inside mesh size measurements on the Beach Seine Gear/Beach Anchored Gillnet Characteristics Log.

### General Instructions

- Reference Figure 1.
- The Vernier Calipers should be used when requested in the manual instructions. Do not substitute measurements obtained from any other tool. If caliper measurements are not possible, measurements should be recorded in the COMMENT section of the corresponding log.
- The calipers are used by grasping the main beam between the palm and fingers, while pushing or pulling the slide with the thumb on the knurled thumb rest.
- The thumb should exert approximately 5 pounds of force in either direction while the measurement is read. Do not apply excessive measurement force, as this will distort the measurements.
- The slider may be clamped with the clamp screw for easier reading of the scale.
- Measurements are read at the zero mark of the slider. Use the top of the main scale to obtain measurements to the nearest millimeter.
- Do not use the fine adjustment or the vernier scale.

### Outside Measurements

- Use for scallop ring outside measurements, clam/quahog measurements and crustacean carapace measurements.
- Place item to be measured as close to the reference surface as possible, making its edges contact the outside jaws as perfectly as possible.

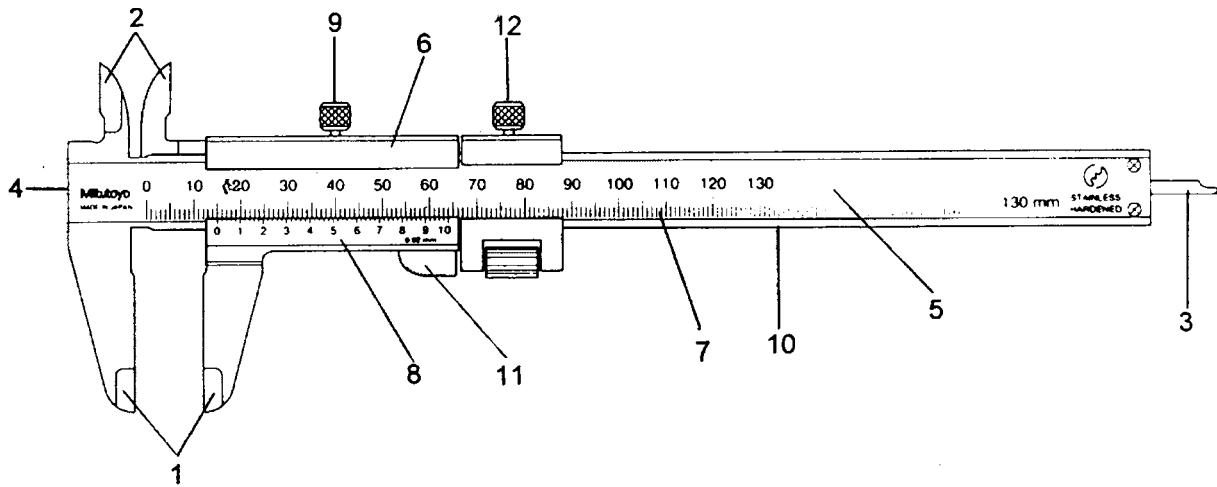
### Inside Measurements

- Use for mesh measurement, scallop ring inside measurements and lobster pot escape vent measurements.
- Place the inside jaws as deep as possible into the item to be measured, making as perfect a contact as possible.
- Measure in a straight line. Do not allow the calipers to measure at an angle.
- When measuring mesh, do not apply excessive force to stretch the mesh too much beyond its normal hanging configuration.

### Proper Vernier Caliper Maintenance

- Wipe dust and dirt from all surfaces and rinse in fresh water after each use.
- Apply WD-40 to the sliding surfaces. Lack of lubrication may cause scratching on the sliding surfaces.
- Before storage, make sure the zero lines align when the jaws are closed, with no space observed between the jaws.
- Store calipers in their plastic sheath in a safe place when not in use.

Figure 1: Vernier caliper parts.



- |                  |                                  |
|------------------|----------------------------------|
| 1. Outside jaws. | 7. Main Scale.                   |
| 2. Inside jaws.  | 8. Vernier scale- do not use.    |
| 3. Depth bar.    | 9. Clamp screw.                  |
| 4. Step surface. | 10. Reference Surface.           |
| 5. Main beam.    | 11. Knurled thumb rest.          |
| 6. Slider.       | 12. Fine adjustment- do not use. |

## Appendix F: Color Codes

Used for:

- NET COLOR on the Gillnet Gear Characteristics Log (GGG).
- NET COLOR and BUNT COLOR on the Beach Seine Gear/Beach Anchored Gillnet Characteristics Log (BSG).
- MAINLINE COLOR, GANGION COLOR and LIGHT STICK COLOR on the Longline Gear Characteristics Log (LLG, although not all colors used for each field).

Comment when appropriate, regardless of code choice.

00 = Unknown

01 = Clear

02 = White

03 = Pink

04 = Black

05 = Green

06 = Blue

07 = Multi-color<sup>a</sup>

08 = Red

09 = Orange

10 = Purple

98 = Combination<sup>b</sup>

99 = Other<sup>c</sup>

- a. “Multi-color” is defined as more than one color within one item, e.g., 1 net, 1 light-stick, etc.
- b. “Combination” is defined as more than one color within an entire **gear** item, e.g., a string. Record the colors in COMMENTS.
- c. Do not use “Other” for shade differentiations. Code these as the most appropriate color (e.g., “light blue” should be coded as 06 “Blue” but “yellow” as 99 “Other”). Record the color in COMMENTS.

## Appendix G: Shape Codes

Used for:

- ESCAPE OUTLET SHAPE on the Bottom Trawl Gear Characteristics Log (OTG).
- ESCAPE OUTLET SHAPE on the Pair and Single Mid-water Trawl Gear Characteristics Log (PRG).
- POT SHAPE and ESCAPE VENT SHAPE on the Lobster, Crab, and Fish Pot Gear Characteristics Log (PTG), although not all shapes used for each field).
- ESCAPE OUTLET SHAPE on the Scallop Trawl Gear Characteristics Log (STG).
- ESCAPE OUTLET SHAPE on the Twin Trawl Gear Characteristics Log (TTG).

00 = Unknown.	(OTG, PRG, PTG, STG, TTG)
01 = Rectangular.	(OTG, PRG, PTG, STG, TTG)
02 = Round/Oval.	(PTG)
03 = ½ Round.	(PTG)
04 = Cone.	(PTG)
05 = Trapezoid.	(OTG, PRG, PTG, STG, TTG)
06 = Square.	(OTG, PRG, PTG, STG, TTG)
07 = Diamond.	(OTG, PRG)
08 = Triangular.	(OTG, PRG)
09 = Semi-Circle.	(OTG, PRG, STG, TTG)
11 = Horizontal Cut.	(OTG, PRG, STG, TTG)
99 = Other. <sup>a</sup>	(OTG, PRG, PTG, STG, TTG)

- a. Record shape in COMMENTS.

## Appendix H: Material / Other Codes

Used on all Gear Characteristics Logs, with specific codes for each fishery.

### All Gear Characteristics Logs

0 or 00 = Unknown.

8 or 98 = Combination. Specify all types.

9 or 99 = Other. Specify in COMMENTS.

### Anchor Type:

1 = Danforth-style.

2 = Dead weight (*e.g.*, railroad tracks, mushroom weights, pile of leadline tied together).

*NOTE:* Burying anchor would be 'other'.

### Line Type:

1 = Sinking / Neutrally Buoyant.

2 = Floating.

### Weak Link Type:

1 = Rope of Appropriate Breaking Strength.

2 = Off the Shelf.

3 = Overhand Knot.

4 = Hog Rings.

### Ground Gear Type:

01 = Chain.

02 = Cable/Wire.

03 = Wrapped Cable.

04 = Rock Hopper.

05 = Roller.

06 = Rubber Cookie.

07 = Bobbin (Half Round).

08 = Plate Gear.

98 = None.

### Mainline, Gangion, and Leader Material :

1 = Monofilament nylon.

2 = Cotton (Mainline and Gangion only).

3 = Steel wire (Mainline and Leader only).

4 = Multi-strand nylon (Mainline and Gangion only).

### Net / Bunt Construction Material:

01 = Nylon.

02 = Poly.

03 = Kevlar®.

04 = Spectra®.

05 = Tenex®.

06 = Nomex®.

*NOTE:* "Multi-mono" is composed of multiple strands (usually four) of twisted or braided monofilament nylon.

### Pot Side Construction Material:

1 = Wood lathe.

2 = Plastic coated wire.

3 = Twine mesh.

4 = Plastic mesh.

### Purse Ring Material:

1 = Steel.

2 = Iron.

3 = Alloy.

### Escape Outlet Type:

1 = Panel.

2 = Opening.

3 = Single Flap.

4 = Double Flap.

### Escape Outlet Locations:

1 = Net Top.

2 = Net Bottom.

3 = Net Side.

4 = Codend Top.

5 = Codend Bottom.

### Biodegradable Panel Attachment Material:

1 = Iron hog rings.

2 = Degradable plastic.

3 = Softwood lathe.

4 = Uncoated wire.

# Appendix I: Conversion Tables

## GENERAL CONVERSIONS

Nautical Units	Mass	24 Hour Clock
1 fathom = 6 feet	1 pound = 453.59 grams	12:00 Midnight = 0000
1 fathom = 1.83 meters	1 pound = 0.45 kilograms	1:00 a.m. = 0100
1 nautical mile = 6076 feet	1 kilogram = 2.20 pounds	2:00 a.m. = 0200
1 nautical mile = 1852 meters	1 standard ton = 2000 pounds	3:00 a.m. = 0300
1 nautical mile = 1.15 statute miles	1 metric ton = 2204.60 pounds	4:00 a.m. = 0400
1 knot = 1 nautical mile/hr	1 metric ton = 1000 kilograms	5:00 a.m. = 0500
Length	Metric Units	6:00 a.m. = 0600
1 inch = 2.54 centimeters	1 meter = 100 centimeters	7:00 a.m. = 0700
1 foot = 30.48 centimeters	1 kilogram = 1000 grams	8:00 a.m. = 0800
1 foot = 0.30 meters	1 liter = 1000 milliliters	9:00 a.m. = 0900
1 yard = 3 feet	mega = 1,000,000	10:00 a.m. = 1000
1 meter = 3.28 feet	kilo = 1,000	11:00 a.m. = 1100
1 meter = 39.37 inches	deca = 10	12:00 noon = 1200
1 statute mile = 5280 feet	deci = 0.1 (tenth)	1:00 p.m. = 1300
1 statute mile = 1.61 kilometers	centi = 0.01 (hundredth)	2:00 p.m. = 1400
1 kilometer = 0.62 statute mile	milli = 0.001 (thousandth)	3:00 p.m. = 1500
Seconds to Tenths of Minutes (or Minutes to Tenths of Hours)	Circular Measure	4:00 p.m. = 1600
0-2 seconds = 0.0 minutes	60 seconds = 1 minute	5:00 p.m. = 1700
3-8 seconds = 0.1 minutes	60 minutes = 1 degree	6:00 p.m. = 1800
9-14 seconds = 0.2 minutes	90 degrees = 1 quadrant	7:00 p.m. = 1900
15-20 seconds = 0.3 minutes		8:00 p.m. = 2000
21-26 seconds = 0.4 minutes		9:00 p.m. = 2100
27-32 seconds = 0.5 minutes		10:00 p.m. = 2200
33-38 seconds = 0.6 minutes		11:00 p.m. = 2300
39-44 seconds = 0.7 minutes		
45-50 seconds = 0.8 minutes		
51-56 seconds = 0.9 minutes		
57-60 seconds = 1.0 minutes		
	Volume	
	1 liter = 1.05 quarts	
	1 liter = 0.26 gallons	
	1 gallon = 3.78 liters	

## TWINE SIZE CONVERSIONS

Gillnet Monofilament		
Size	Diameter (mm)	Old Size
3	0.28	69
4	0.33	104
6	0.40	139
7	0.45	-
8	0.47	177(208)
10	0.52	208(208L)
12	0.57	277
14	0.62	-
16	0.66	-
18	0.70	-
20	0.74	-
24	0.81	-
30	0.90	-
40	1.05	-

Pelagic Drift Gillnet Twisted Nylon			
Size	Deniers	Breaking Strength (lbs)	# Feet/lb
9	24	84	2250
12	30	105	1824
15	36	125	1550
18	48	160	1152
21	60	217	860
24	72	242	740
30	84	297	625
36	96	336	520
42	108	365	470
54	144	460	360
60	168	552	305
72	192	601	270
84	228	765	220
96	276	905	177
120	336	1090	135

**General Twine Size Codes: 000 = Unknown, 998 = Combination**

## Appendix J: Weather Codes

Used on all Haul Logs and the Protected Species Sighting Log.

- 00 = Unknown.
- 01 = Clear.
- 02 = Partly cloudy.
- 03 = Continuous layers of clouds.
- 04 = Drizzle.
- 05 = Rain.
- 06 = Showers.
- 07 = Thunderstorms.
- 08 = Rain and fog.
- 09 = Fog or thick haze.
- 10 = Snow, or rain and snow mixed.
- 11 = Blowing snow.
- 99 = Other. Describe in COMMENTS.

## Appendix K: Gear Condition Codes

Used on all Haul Logs, with specific codes for each fishery.

### All Haul Logs

000 = Unknown.

990 = Other. Specify in COMMENTS.

### Bottom Trawl Haul Log

### Pair And Single Mid-water Trawl Haul Log

### Scallop Trawl Haul Log

### Twin Trawl Haul Log

010 = No gear damage, or very few small, scattered holes.

020 = Wings twisted or torn, not exceeding 50% of meshes.

030 = Wings twisted or torn, exceeding 50% of meshes.

040 = Square and/or bosom torn, not exceeding 50% of meshes.

050 = Square and/or bosom torn, exceeding 50% of meshes.

060 = Belly torn, not exceeding 50% of meshes.

070 = Belly torn, exceeding 50% of meshes.

080 = Codend and/or extension piece torn, not exceeding 10% of meshes.

090 = Codend and/or extension piece torn, exceeding 10% of meshes.

100 = Hang-up, causing gear to be hauled back before scheduled time; minor damage.

110 = Parted legs, sweep or head rope.

120 = Tear up exceeding gear condition of code 02, but not total net destruction.

130 = Obstruction in the gear, such as a large amount of fixed gear, boulders, etc.

140 = Crossed doors.

150 = Open codend.

160 = Major hang-up or tear-up, or loss of gear.

170 = Grate clogged with fish or debris.

### Gillnet and Beach Seine Haul Log

210 = No gear damage, or very few small, scattered holes.

220 = Small number of torn meshes, not exceeding 25% of any one net, each net may be torn slightly.

230 = Less than 50% of the nets have less than 50% of the meshes torn.

240 = 50% or more of the nets have less than 50% of the meshes torn.

250 = Less than 50% of the nets are obstructed by a large object.

260 = 50% or more of the nets are obstructed by a large object.

270 = Less than 50% of the nets have 50% or more of the meshes torn.

280 = 50% or more of the nets have 50% or more of the meshes torn.

290 = Nets in the string totally balled up.

### Pelagic Drift Gillnet Haul Log

310 = No gear damage, or very few small, scattered holes.

320 = Less than 5% of the net torn.

330 = Between 5% and 25% of the net torn.

340 = Between 25% and 50% of the net torn.

350 = Greater than 50% of the net torn.

390 = Net totally balled up.

### Lobster, Crab, and Fish Pot Haul Log

410 = No gear damage.

420 = Less than 25% of the pots have enough damage to allow the target species to be released. This damage includes loss of the escape panel.

430 = Between 25% and 50% of the pots have enough damage to allow the target species to be released.

440 = Greater than 50% of the pots have enough damage to allow the target species to be released.

450 = Less than 25% of the pots are un-fishable.

460 = Between 25% and 50% of the pots are un-fishable.

470 = Greater than 50% of the pots are un-fishable.



**Purse Seine Haul Log**

- 510 = No or insignificant gear damage.
- 520 = Minor wrap of wire around gear.
- 530 = Major wrap of wire around gear.
- 540 = Minor tear-ups of net, not exceeding total of 5% of the net.
- 550 = Tear-up exceeding code 54, but not total, net destruction.
- 580 = Total net destruction.

**Longline Haul Log**

- 610 = No gear damage, or only a few hooks missing.
- 620 = Less than 50% of gear fouled, *e.g.*, weather/oceanic conditions caused the gear to become tangled, or otherwise lowered the fishability of the gear.
- 630 = Greater than 50% of gear fouled, *e.g.*, weather/oceanic conditions caused the gear to become tangled, or otherwise lowered the fishability of the gear.
- 640 = Less than 50% of hooks missing.
- 650 = Greater than 50% of hooks missing.
- 660 = Parted off, no damage.
- 670 = Parted off, less than 50% of gear damaged.
- 680 = Gear completely damaged, or completely lost.

**Scallop Dredge Haul Log**

- 710 = No gear damage or insignificant gear damage.
- 711 = Hang-up, causing gear to be hauled back before scheduled time; minor damage.
- 712 = Chains (rock, tickler, sweep) detached.
- 713 = Twine top torn but was able to be repaired.
- 714 = Twine top torn completely and had to be replaced.
- 715 = One dredge fished on top of the other dredge (Rider on dredge).
- 716 = Hydraulic issue (*e.g.*, hose leak or blown, winch broken).
- 717 = Obstruction in the gear, such as large amount of fixed gear, boulders, etc.
- 720 = Chain bag broken, partially detached or lost.
- 730 = Several rings destroyed.
- 740 = Club stick caught in twine top, chains or chain bag. Club stick detached from chain bag.
- 750 = One dredge turned over.
- 760 = Two dredges turned over.
- 770 = Dredges crossed.
- 780 = One dredge lost or totally damaged.
- 790 = Two dredges lost or totally damaged.

**Clam/Quahog Dredge Haul Log**

- 810 = No gear damage, or insignificant gear damage.
- 820 = Dredge turned over.
- 830 = Towline fouled around hose.
- 840 = Bag split.
- 850 = Bottom of dredge fractured.
- 860 = Bent knife frame.
- 870 = Broken knife frame.
- 880 = Broken knife/blade.
- 890 = Dredge lost.

## Appendix L: Bait Codes

Used on the Lobster, Crab, and Fish Pot Haul Log and the Longline Haul Log.

### KIND

- 00 = Unknown.
- 01 = Mackerel.
- 02 = Herring.
- 03 = Squid.
- 04 = Artificial, record a dash (—) for POUNDS (#17), BAIT TYPE (#19), and BAIT CONDITION (#20).
- 05 = Redfish.
- 06 = Sardine.
- 07 = Scad.
- 08 = Skate.
- 09 = Clams.
- 10 = Fish with binders/casings.
- 11 = Eel.
- 12 = Menhaden.
- 13 = Tuna.
- 97 = Mixed, record the species mixture in COMMENTS.
- 99 = Other, record the bait kind in COMMENTS.

### TYPE

- 0 = Unknown.
- 1 = Whole.
- 2 = Cut.
- 3 = Live.
- 4 = Processed.
- 9 = Other. Record the bait type in COMMENTS.

### CONDITION

- 0 = Unknown.
- 1 = Previously frozen.
- 2 = Fresh.
- 3 = Salted.
- 6 = Frozen.
- 7 = Semi-frozen.
- 8 = Combination. Record all bait conditions in COMMENTS.
- 9 = Other. Record the bait condition in COMMENTS.

## Appendix M: Fish Disposition Codes

Used on all Haul Logs and the Individual Animal Log. Disposition codes should be decided after consultation with the captain. **Do not** assume disposition codes, even if you have recently observed on this vessel, gear, fishery, etc. At a minimum, obtain the disposition category (*e.g.*, regulations vs market) and record with the “reason not specified” for that category.

### Market

- 001 = No market, reason not specified.
- 002 = No market, too small.
- 003 = No market, too large.
- 004 = No market, quota filled.
- 005 = No market, won't keep until trip end.
- 006 = No market, but retained by vessel for alternate program.
- 007 = No market, but retained by observer for science purposes.
- 008 = No market, brought onboard only for the purpose of observer sampling.

### Regulations

- 011 = Regulations prohibit retention, reason not specified.
- 012 = Regulations prohibit retention, too small.
- 013 = Regulations prohibit retention, too large.
- 014 = Regulations prohibit retention, quota filled.
- 015 = Regulations prohibit retention, no quota in area (seasonal closure).
- 022 = Regulations prohibit retention, v-notched.
- 023 = Regulations prohibit retention, soft-shelled.
- 024 = Regulations prohibit retention, with eggs.
- 025 = Regulations prohibit any retention (including no permit).

### Quality

- 031 = Poor quality, reason not specified.
- 032 = Poor quality, due to sandflea damage.
- 033 = Poor quality, due to seal damage.
- 034 = Poor quality, due to shark damage.
- 035 = Poor quality, due to cetacean damage.
- 036 = Poor quality, due to hagfish damage.
- 037 = Poor quality, due to shell disease.
- 038 = Poor quality, due to gear damage.
- 039 = Poor quality, previously discarded fish.

### Not Brought Onboard

- 041 = Not brought onboard, reason not specified.
- 042 = Not brought onboard, gear damage prevented capture.
- 043 = Not brought onboard, fell out/off of gear.
- 044 = Not brought onboard, considered to have no market value.
- 045 = Not brought onboard, safety reason.
- 046 = Not brought onboard, mechanical failure.
- 047 = Not brought onboard, spiny dogfish clogging pump.
- 048 = Not brought onboard, vessel capacity filled.
- 049 = Not brought onboard, not enough fish to pump.

### Debris/Shells

- 053 = Debris.
  - 054 = Empty shells.
- NOTE:* All single or disarticulated bones should be given a disposition code of 053.

### Upgrading/Market Driven Selectivity

- 062 = Upgraded.
- 063 = Vessel retaining only certain size for best price due to trip quota in effect.

### Kept

- 100 = Kept.
- 110 = Kept, transferred to another vessel.
- 170 = Kept, used for bait.
- 171 = Kept, consumed by captain/crew.
- 172 = Kept, regulations prohibit discards at sea.

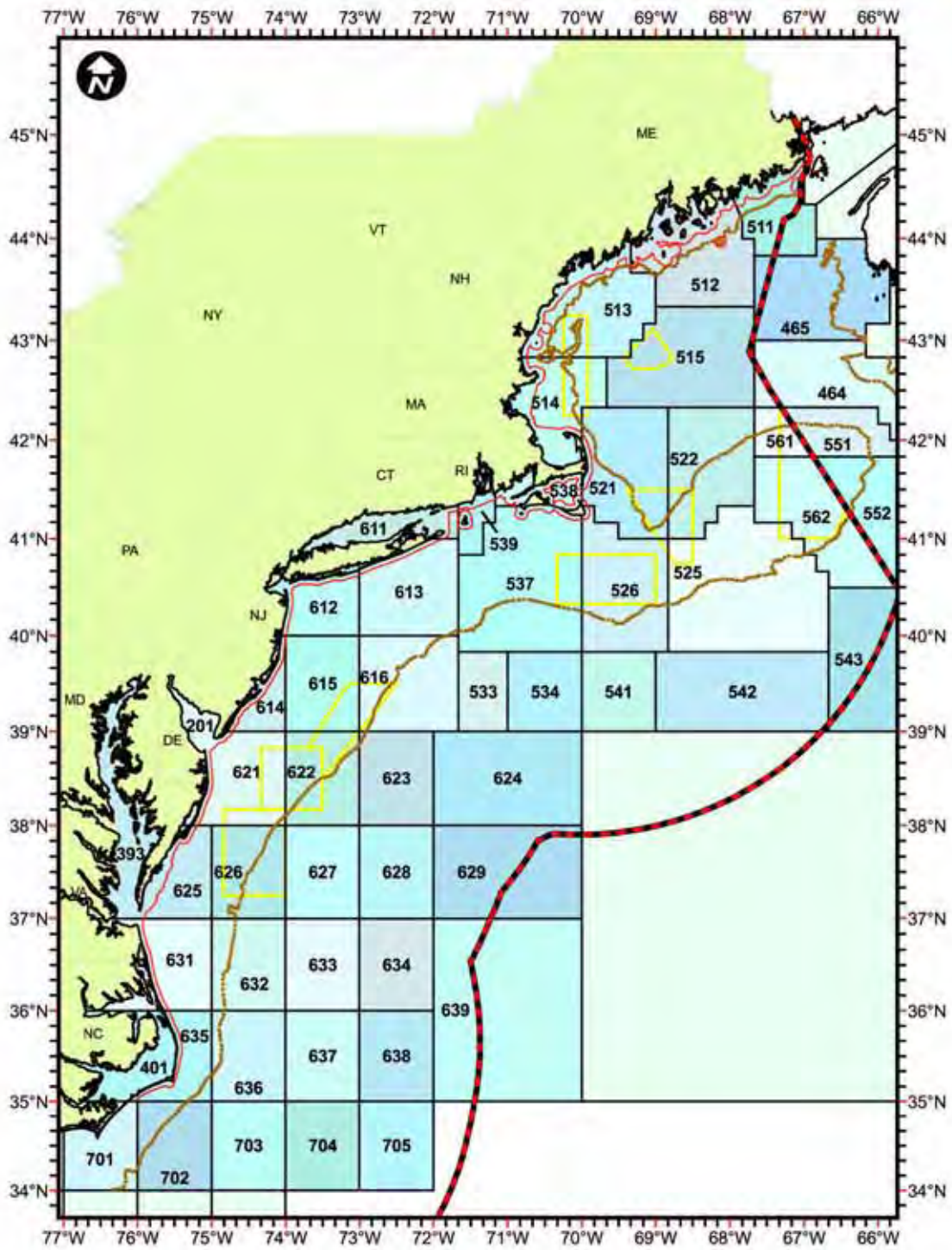
### General

- 000 = Discarded, reason unknown.
- 099 = Discarded other, record the discard reason in COMMENTS.
- 900 = Unknown.

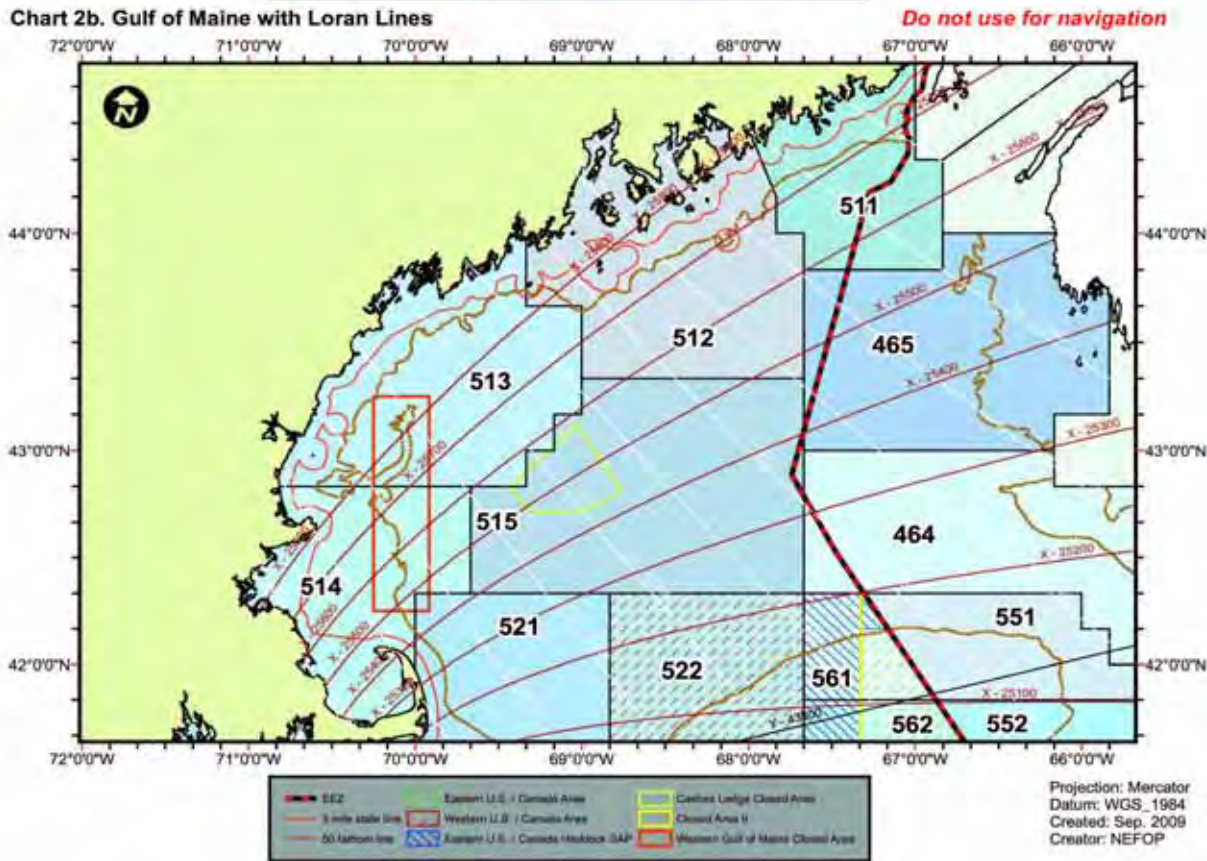
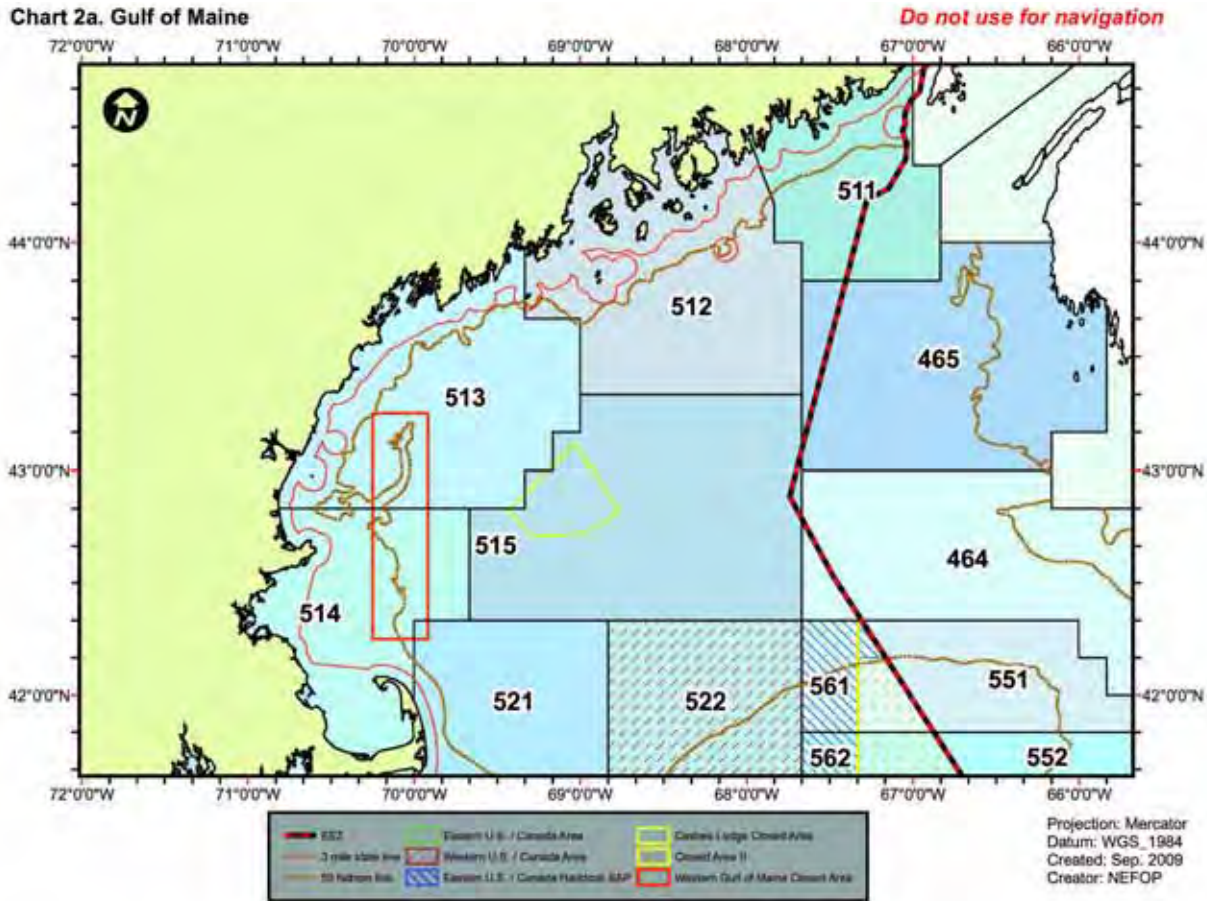
### Appendix N: Overview of the Northeast Statistical Areas

Chart 1. Overview of the Northeast Statistical Areas

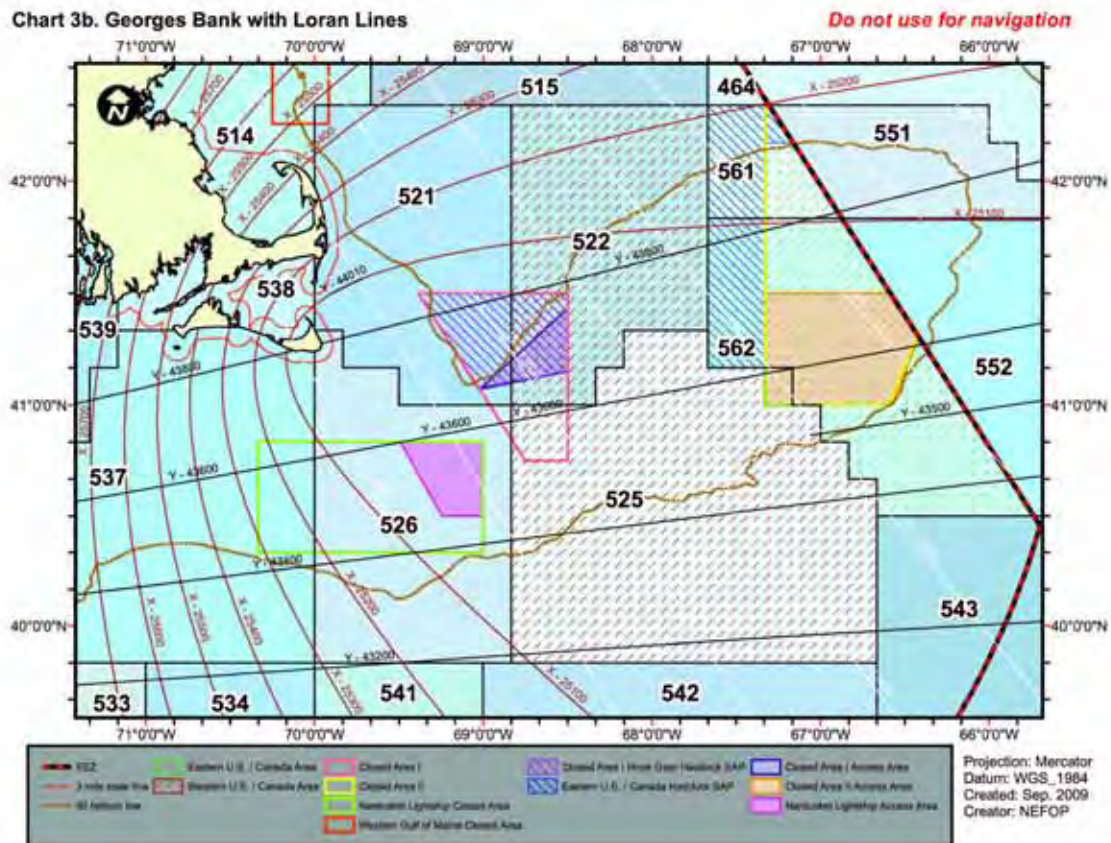
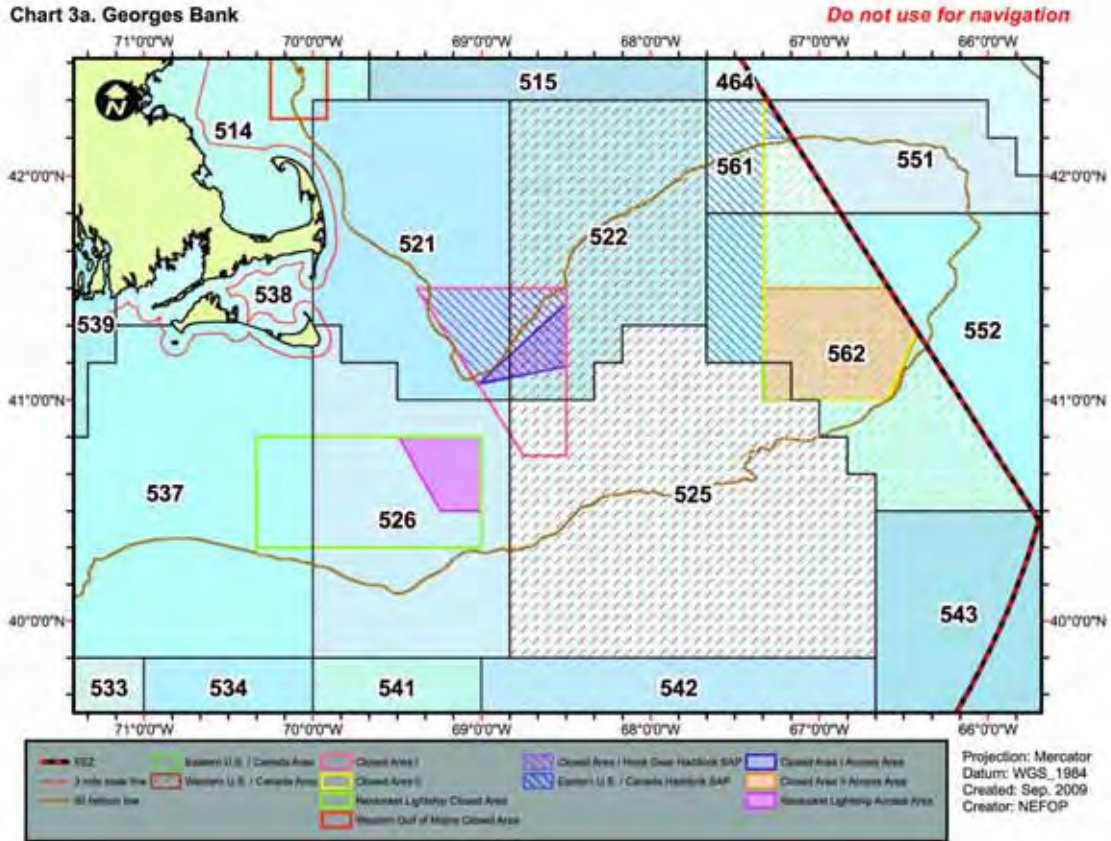
*Do not use for navigation*



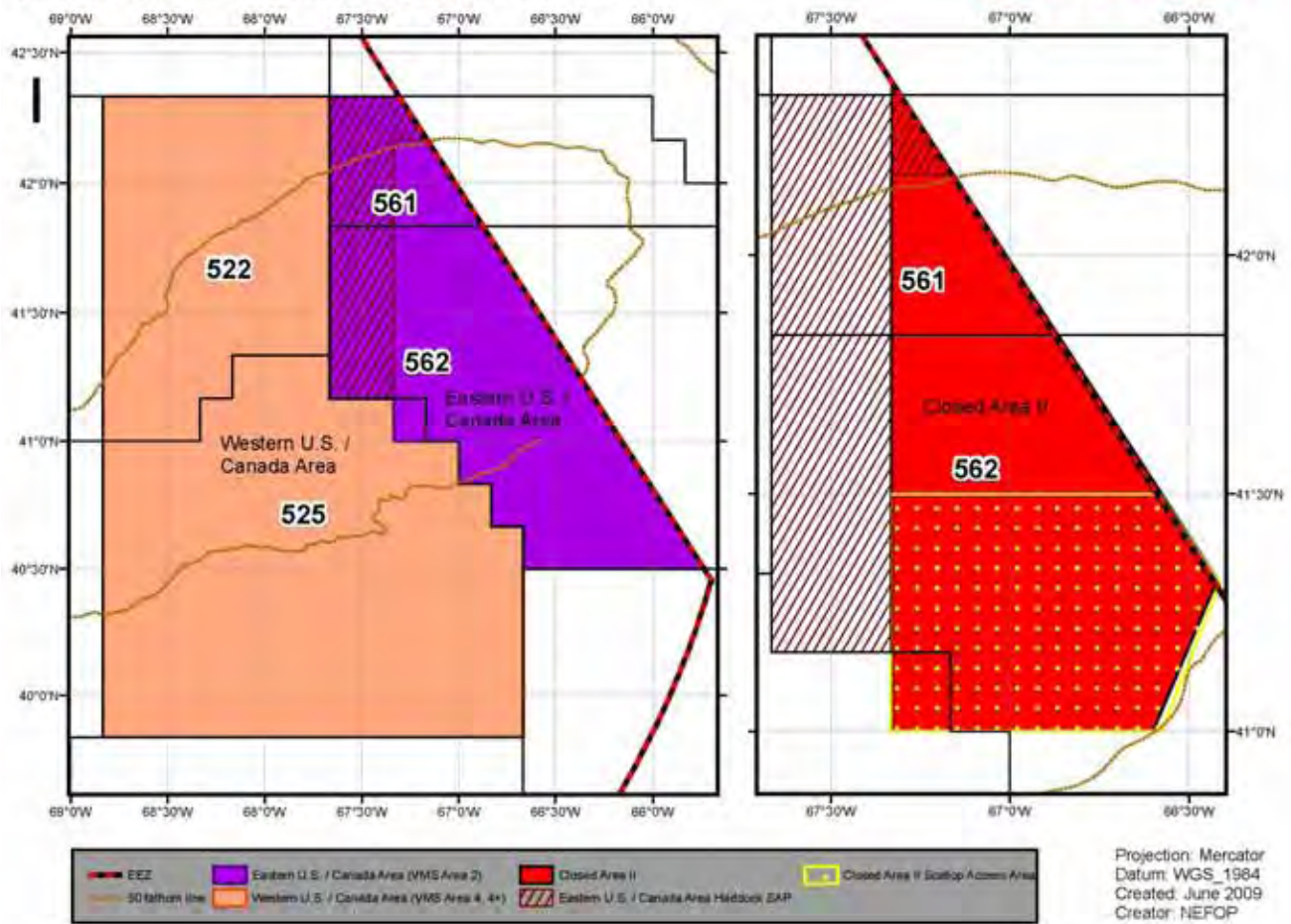
### Appendix N1: Chart Area of the Gulf of Maine



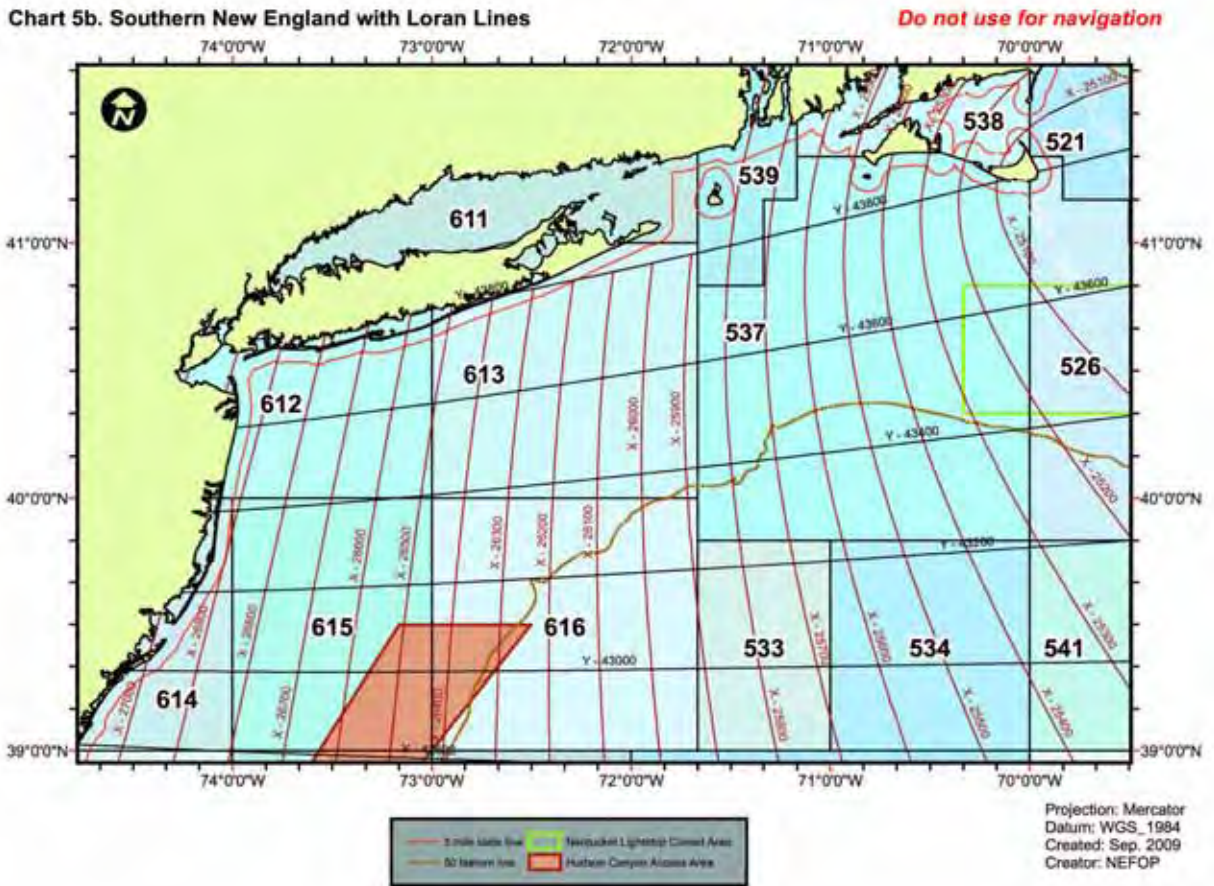
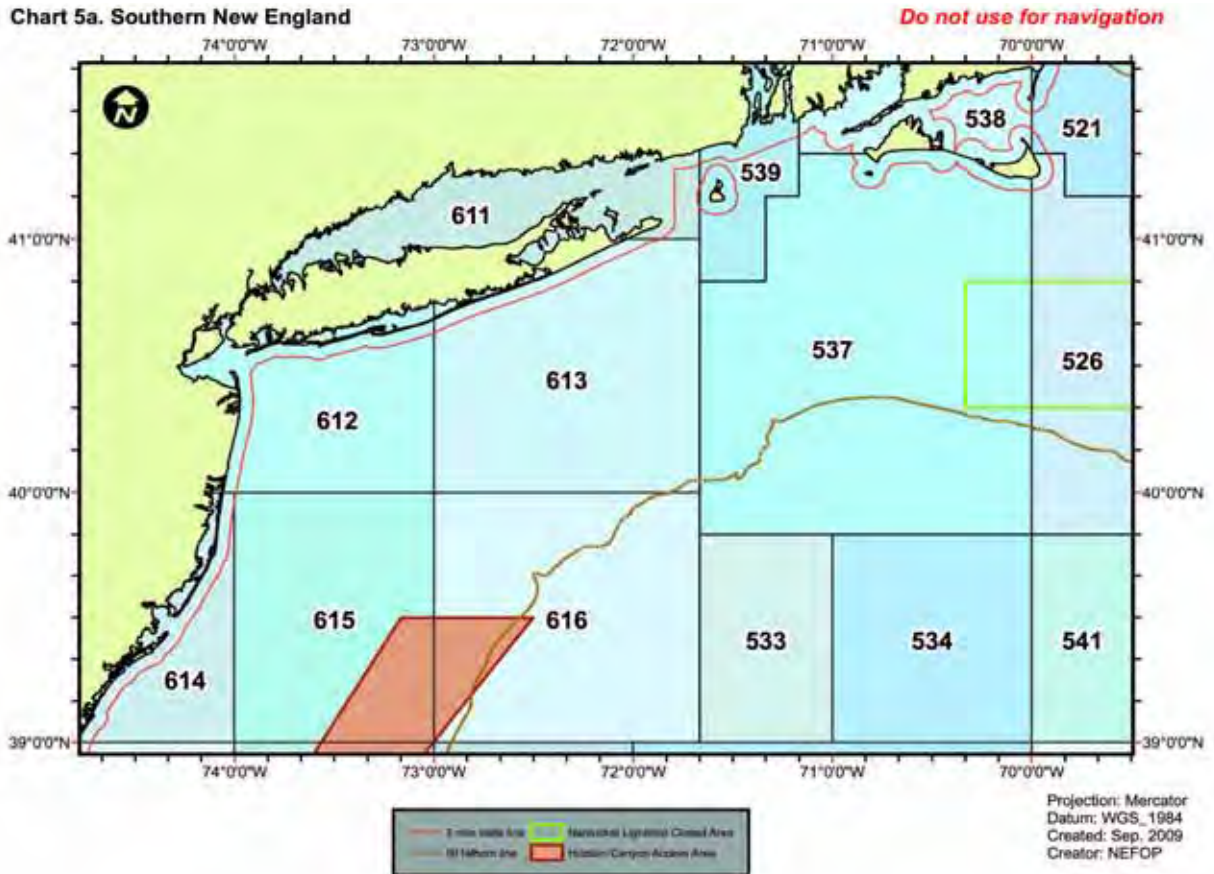
### Appendix N2: Chart Area of Georges Bank



### Appendix N3: Chart Area for US/CAN Area and SAPs



### Appendix N4: Chart Area of Southern New England

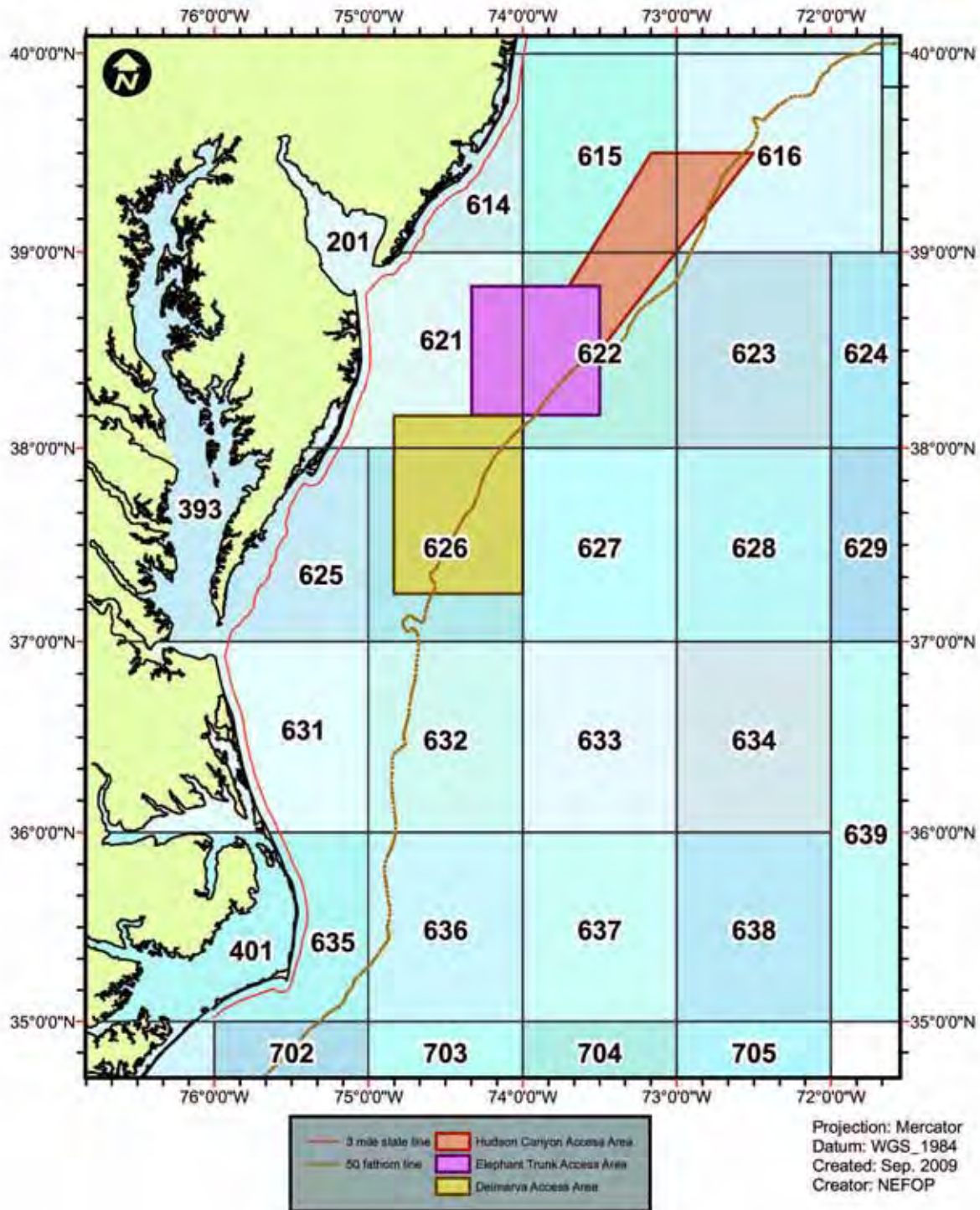




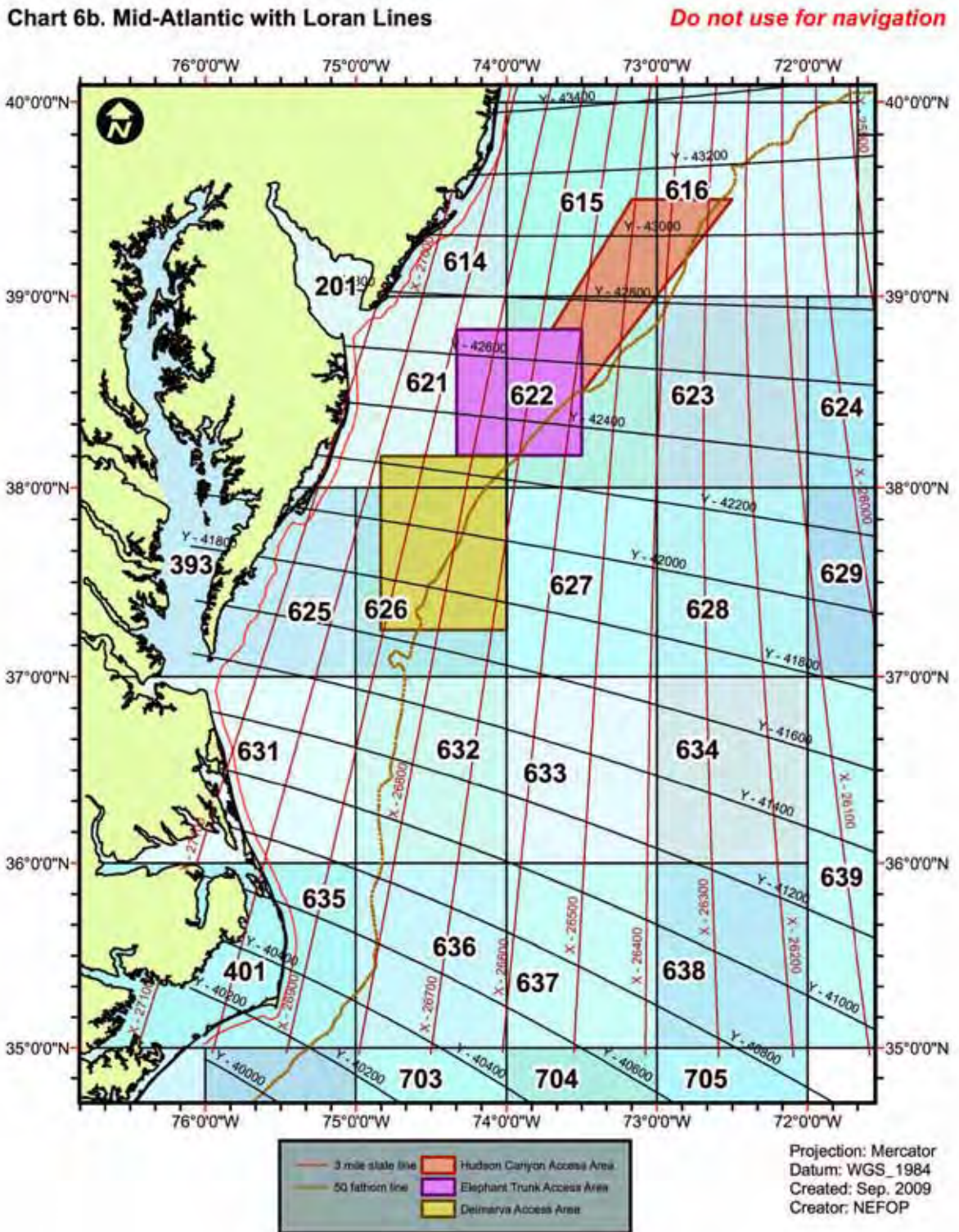
### Appendix N5: Chart Area of the Mid-Atlantic I

Chart 6a. Mid-Atlantic

*Do not use for navigation*



### Appendix N6: Chart Area of the Mid-Atlantic II



## Appendix O: Species List and Corresponding Logs

Code	Common Name	Scientific Name	Log
0010	ALEWIFE	<i>Alosa pseudoharengus</i>	SPP
6632	ALLIGATORFISH	<i>Aspidophoroides monopterygius</i>	SPP
0030	AMBERJACK, NK	<i>Seriola</i>	IAL
0060	ANCHOVY, BAY	<i>Anchoa mitchilli</i>	SPP
6860	ANCHOVY, NK	Engraulidae	SPP
6645	ANCHOVY, STRIPED	<i>Anchoa hepsetus</i>	SPP
6878	ANEMONE, NK	Anthozoa	SPP
1710	ARGENTINE, ATLANTIC	<i>Argentina silus</i>	SPP
0180	BARRACUDA, NK	Sphyraenidae	IAL
6627	BARRELFISH	<i>Hyperoglyphe perciformis</i>	SPP
4180	BASS, STRIPED	<i>Morone saxatilis</i>	SPP
6611	BATFISH, ATLANTIC	<i>Dibranchius atlanticus</i>	SPP
6610	BATFISH, NK	Ogcocephalidae	SPP
6626	BEARDFISH	<i>Polymixia lowei</i>	SPP
6100	BIRD, NK	Aves	INC
6629	BLENNY, NK (FISH)	Blenniidae	SPP
0230	BLUEFISH	<i>Pomatomus saltatrix</i>	SPP
6623	BOARFISH, DEEPBODY	<i>Antigonia capros</i>	SPP
6607	BOARFISH, NK	Caproidae	SPP
6624	BOARFISH, SHORTSPINE	<i>Antigonia combatia</i>	SPP
6883	BONE, NK		SPP
0330	BONITO, ATLANTIC	<i>Sarda sarda</i>	SPP, IAL
6101	BOOBY, BROWN	<i>Sula leucogaster</i>	INC
6102	BOOBY, MASKED	<i>Sula dactylatra</i>	INC
6136	BUFFLEHEAD	<i>Bucephala albeola</i>	INC
0511	BUTTERFISH	<i>Peprilus triacanthus</i>	SPP
3610	CAPELIN	<i>Mallotus villosus</i>	SPP
0630	CARP	<i>Cyprinus carpio</i>	SPP
7430	CLAM, BLOODARC	<i>Anadara ovalis</i>	SPP
7640	CLAM, NK	Bivalvia	SPP
7600	CLAM, RAZOR	<i>Ensis directus</i>	SPP
7630	CLAM, SOFT-SHELLED	<i>Mya arenaria</i>	SPP
7650	CLAM, STIMPSONS SURF (ARTIC)	<i>Mactromeris polynyma</i>	SPP
7690	CLAM, SURF	<i>Spisula solidissima</i>	SPP
6896	CLAPPER, CLAM		SPP
6894	CLAPPER, NK		SPP
6895	CLAPPER, SCALLOP		SPP
0570	COBIA	<i>Rachycentron canadum</i>	IAL
0818	COD, ATLANTIC	<i>Gadus morhua</i>	SPP
0812	COD, ATLANTIC CHEEKS	<i>Gadus morhua</i>	SPP
6605	CODLING, METALLIC	<i>Physiculus fulvus</i>	SPP
6885	CORAL, SOFT, NK	Alcyonacea	SPP
6880	CORAL, STONY, NK	Scleractinia	SPP
6111	CORMORANT, DBL CREST	<i>Phalacrocorax auritus</i>	INC
6112	CORMORANT, GREAT	<i>Phalacrocorax carbo</i>	INC
6113	CORMORANT, NK	<i>Phalacrocorax</i>	INC

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Log</b>
6625	CORNETFISH, BLUESPOTTED	<i>Fistularia tabacaria</i>	SPP
7000	CRAB, BLUE	<i>Callinectes sapidus</i>	SPP
7140	CRAB, CANCER, NK	<i>Cancer</i>	SPP
7100	CRAB, DEEP SEA, RED	<i>Chaceon quinquegens</i>	SPP
7101	CRAB, DEEP SEA, RED (BUTCHERED)	<i>Chaceon quinquegens</i>	SPP
7102	CRAB, DEEP SEA, RED (PARTIALLY PROCESSED)	<i>Chaceon quinquegens</i>	SPP
7080	CRAB, GREEN	<i>Carcinus maenas</i>	SPP
6868	CRAB, HERMIT, NK	Paguroidea	SPP
7240	CRAB, HORSESHOE	<i>Limulus polyphemus</i>	SPP
7110	CRAB, JONAH	<i>Cancer borealis</i>	SPP
7010	CRAB, LADY	<i>Ovalipes ocellatus</i>	SPP
6866	CRAB, NORTHERN STONE	<i>Lithodes maja</i>	SPP
7120	CRAB, ROCK	<i>Cancer irroratus</i>	SPP
7185	CRAB, SNOW	<i>Chionoecetes opilio</i>	SPP
6865	CRAB, SPECKLED, NK	<i>Arenaeus cribrarius</i>	SPP
7150	CRAB, SPIDER, NK	Majoidea	SPP
7151	CRAB, SPIDER, PORTLY	<i>Libinia emarginata</i>	SPP
7130	CRAB, TRUE, NK	Brachyura	SPP
0840	CRAPPIE, NK	<i>Pomoxis</i>	SPP
0900	CROAKER, ATLANTIC	<i>Micropogonias undulatus</i>	SPP
0930	CUNNER (YELLOW PERCH)	<i>Tautoglabrus adspersus</i>	SPP
0960	CUSK	<i>Brosme brosme</i>	SPP
6861	CUSK-EELS, NK	Ophidiidae	SPP
6640	CUTLASSFISH, ATLANTIC	<i>Trichiurus lepturus</i>	IAL
0985	DEALFISH (RIBBONFISH)	<i>Trachipterus arcticus</i>	SPP
6810	DEBRIS, FISHING GEAR		SPP
6802	DEBRIS, GLASS		SPP
6801	DEBRIS, METAL		SPP
6800	DEBRIS, NK		SPP
6830	DEBRIS, PLASTIC		SPP
6805	DEBRIS, ROCK		SPP
6820	DEBRIS, WOOD		SPP
3460	DOGFISH, CHAIN	<i>Scyliorhinus retifer</i>	SPP
3501	DOGFISH, NK	<i>Mustelus, Squalus</i>	SPP
3508	DOGFISH, NK (FINS)	<i>Mustelus, Squalus</i>	SPP
3502	DOGFISH, NK (TAILS)	<i>Mustelus, Squalus</i>	SPP
3511	DOGFISH, SMOOTH	<i>Mustelus canis</i>	SPP
3518	DOGFISH, SMOOTH (FINS)	<i>Mustelus canis</i>	SPP
3512	DOGFISH, SMOOTH (TAILS)	<i>Mustelus canis</i>	SPP
3521	DOGFISH, SPINY	<i>Squalus acanthias</i>	SPP
3522	DOGFISH, SPINY (BELLYFLAPS)	<i>Squalus acanthias</i>	SPP
3520	DOGFISH, SPINY (DRESSED)	<i>Squalus acanthias</i>	SPP
3528	DOGFISH, SPINY (FINS)	<i>Squalus acanthias</i>	SPP
3524	DOGFISH, SPINY (TAILS)	<i>Squalus acanthias</i>	SPP
6941	DOLPHIN, BOTTLENOSE	<i>Tursiops truncatus</i>	INC
6961	DOLPHIN, CLYMENE	<i>Stenella clymene</i>	INC
6940	DOLPHIN, COMMON (SADDLEBACK)	<i>Delphinus delphis</i>	INC

Code	Common Name	Scientific Name	Log
6962	DOLPHIN, FRASER'S	<i>Lagenodelphis hosei</i>	INC
6997	DOLPHIN, NK (MAMMAL)	Delphinidae	INC
6942	DOLPHIN, RISSO'S	<i>Grampus griseus</i>	INC
6957	DOLPHIN, ROUGH TOOTH	<i>Steno bredanensis</i>	INC
6944	DOLPHIN, SPINNER	<i>Stenella longirostris</i>	INC
6901	DOLPHIN, SPOTTED, ATLANTIC	<i>Stenella frontalis</i>	INC
6943	DOLPHIN, SPOTTED, NK	<i>Stenella</i>	INC
6963	DOLPHIN, SPOTTED, PANTROPICAL	<i>Stenella attenuata</i>	INC
6952	DOLPHIN, STRIPED	<i>Stenella coeruleoalba</i>	INC
6951	DOLPHIN, WHITEBEAKED	<i>Lagenorhynchus albirostris</i>	INC
6936	DOLPHIN, WHITESIDED	<i>Lagenorhynchus acutus</i>	INC
1050	DOLPHINFISH, NK (MAHI MAHI)	<i>Coryphaena</i>	IAL
1880	DORY, BUCKLER (JOHN)	<i>Zenopsis conchifera</i>	SPP
1890	DORY, NK	Zeidae	SPP
6131	DOVEKIE	<i>Alle alle</i>	INC
6609	DRAGONFISH, BOA	<i>Stomias boa</i>	SPP
1090	DRUM, BANDED	<i>Larimus fasciatus</i>	SPP
1060	DRUM, BLACK	<i>Pogonias cromis</i>	SPP
6797	DRUM, NK	Sciaenidae	SPP
1070	DRUM, RED	<i>Sciaenops ocellatus</i>	SPP
6892	ECHINODERM, NK	Echinodermata	SPP
1150	EEL, AMERICAN	<i>Anguilla rostrata</i>	SPP
1160	EEL, CONGER	<i>Conger oceanicus</i>	SPP
6862	EEL, GARDEN, NK	<i>Heteroconger</i>	SPP
1170	EEL, NK	Anguilliformes	SPP
6859	EEL, SLENDER SNIPE	<i>Nemichthys scolopaceus</i>	SPP
6875	EELGRASS	<i>Zostera marina</i>	SPP
6613	EELPOUT, NK	<i>Lycenchelys, Lycodes sp</i>	SPP
6858	EGGS, ELASMOBRANCH, NK		SPP
6856	EGGS, FISH, NK		SPP
6857	EGGS, MOLLUSCA, NK		SPP
6855	EGGS, NK		SPP
8018	EGGS, SQUID, ATLANTIC LONG-FIN	<i>Loligo pealeii</i> (eggs)	SPP
6135	EIDER, COMMON	<i>Somateria mollissima</i>	INC
3850	ESCOLAR	<i>Lepidocybium flavobrunneum</i>	IAL
6796	FILEFISH, NK	Monacanthidae	SPP
5260	FISH, NK	Osteichthyes	SPP, IAL
1240	FLOUNDER, AMERICAN PLAICE	<i>Hippoglossoides platessoides</i>	SPP
1270	FLOUNDER, FOURSPOT	<i>Hippoglossoides oblonga</i>	SPP
1290	FLOUNDER, GULFSTREAM	<i>Citharichthys arctifrons</i>	SPP
6886	FLOUNDER, LEFTEYE, NK	Bothidae	SPP
1260	FLOUNDER, NK	Pleuronectiformes	SPP
1250	FLOUNDER, WINDOWPANE (SAND DAB)	<i>Scophthalmus aquosus</i>	SPP
1300	FLOUNDER, SOUTHERN	<i>Paralichthys lethostigma</i>	SPP
1219	FLOUNDER, SUMMER (FLUKE)	<i>Paralichthys dentatus</i>	SPP
1200	FLOUNDER, WINTER (BLACKBACK)	<i>Pseudopleuronectes americanus</i>	SPP
1220	FLOUNDER, WITCH (GREY SOLE)	<i>Glyptocephalus cynoglossus</i>	SPP

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Log</b>
1230	FLOUNDER, YELLOWTAIL	<i>Limanda ferruginea</i>	SPP
6141	FRIGATEBIRD, MAGNIFICENT	<i>Fregata magnificens</i>	INC
6161	FULMAR, NORTHERN	<i>Fulmarus glacialis</i>	INC
6171	GANNET, NORTHERN	<i>Sula bassanus</i>	INC
6660	GAPER, RED EYE	<i>Chaunax stigmaeus</i>	SPP
6152	GREBE, HORNED	<i>Podiceps auritus</i>	INC
6150	GREBE, NK	Podicipedidae	INC
6153	GREBE, PIED BILLED	<i>Podilymbus podiceps</i>	INC
6154	GREBE, RED NECKED	<i>Podiceps grisegena</i>	INC
6671	GRENADIER, COMMON (MARLINSPIKE)	<i>Nezumia bairdi</i>	SPP
6672	GRENADIER, LONG-NOSED	<i>Caelorinchus caelorhincus</i>	SPP
1380	GRENADIER, NK	Macrouridae	SPP
6673	GRENADIER, ROUGHHEAD	<i>Macrourus berglax</i>	SPP
5240	GROUND FISH, NK		SPP
1410	GROUPE, NK	Epinephelinae	IAL
1414	GROUPE, SNOWY	<i>Hyporthodus niveatus</i>	IAL
1440	GRUNT, NK	Haemulidae	SPP
6181	GUILLEMOT, BLACK	<i>Cephus grylle</i>	INC
6201	GULL, BLACK-HEADED	<i>Larus ridibundus</i>	INC
6202	GULL, BONAPARTE'S	<i>Larus philadelphia</i>	INC
6203	GULL, FRANKLIN'S	<i>Larus pipixcan</i>	INC
6204	GULL, GLAUCOUS	<i>Larus hyperboreus</i>	INC
6205	GULL, GREAT BLACK-BACK	<i>Larus marinus</i>	INC
6206	GULL, HERRING	<i>Larus argentatus</i>	INC
6207	GULL, ICELAND	<i>Larus glaucoides</i>	INC
6215	GULL, IVORY	<i>Pagophila eburnea</i>	INC
6208	GULL, LAUGHING	<i>Larus autricilla</i>	INC
6209	GULL, LESSER BLACK-BACK	<i>Larus fuscus</i>	INC
6210	GULL, LITTLE	<i>Larus minutus</i>	INC
6211	GULL, MEW	<i>Larus canus</i>	INC
6200	GULL, NK	Larinae	INC
6212	GULL, RING BILLED	<i>Larus delawarensis</i>	INC
6216	GULL, ROSS'S	<i>Rhodostethia rosea</i>	INC
6213	GULL, SABINE'S	<i>Xema sabini</i>	INC
6214	GULL, THAYER'S	<i>Larus thayeri</i>	INC
6863	GUNNEL, ROCK	<i>Pholis gunnellus</i>	SPP
1477	HADDOCK	<i>Melanogrammus aeglefinus</i>	SPP
1500	HAGFISH, ATLANTIC	<i>Myxine glutinosa</i>	SPP
6604	HAKE, BLUE	<i>Antimora rostrata</i>	SPP
6603	HAKE, LONGFIN	<i>Phycis chesteri</i>	SPP
6600	HAKE, NK	<i>Urophycis, Merluccius, Phycis</i>	SPP
5080	HAKE, OFFSHORE (BLACK WHITING)	<i>Merluccius albidus</i>	SPP
5083	HAKE, OFFSHORE (BLACK WHITING) (DRESSED)	<i>Merluccius albidus</i>	SPP
1520	HAKE, RED (LING)	<i>Urophycis chuss</i>	SPP
1551	HAKE, RED/WHITE MIX	<i>Urophycis</i>	SPP
5090	HAKE, SILVER (WHITING)	<i>Merluccius bilinearis</i>	SPP
6615	HAKE, SOUTHERN	<i>Urophycis floridana</i>	SPP

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Log</b>
6602	HAKE, SPOTTED	<i>Urophycis regia</i>	SPP
1539	HAKE, WHITE	<i>Urophycis tenuis</i>	SPP
1590	HALIBUT, ATLANTIC	<i>Hippoglossus hippoglossus</i>	SPP
1580	HALIBUT, GREENLAND	<i>Reinhardtius hippoglossoides</i>	SPP
1656	HARVESTFISH	<i>Peprilus paru</i>	SPP
1685	HERRING, ATLANTIC	<i>Clupea harengus</i>	SPP
1120	HERRING, BLUEBACK	<i>Alosa aestivalis</i>	SPP
1670	HERRING, NK	Clupeidae	SPP
1660	HERRING, ROUND	<i>Etrumeus teres</i>	SPP
1280	HOGCHOCKER	<i>Trinectes maculatus</i>	SPP
1790	HOGFISH	<i>Lachnolaimus maximus</i>	SPP
6690	HOUNDFISH	<i>Tylosurus crocodilus</i>	IAL
8990	INVERTEBRATE, NK		SPP
0870	JACK, CREVALLE	<i>Caranx hippos</i>	SPP
6780	JACK, NK	Carangidae	SPP
6301	JAEGER, LONG TAILED	<i>Stercorarius longicaudus</i>	INC
6300	JAEGER, NK	Stercorariidae	INC
6302	JAEGER, PARASITIC	<i>Stercorarius parasiticus</i>	INC
6303	JAEGER, POMARINE	<i>Stercorarius pomarinus</i>	INC
6305	JAEGER, SOUTH POLAR	<i>Carharacta maccormicki</i>	INC
6871	JELLYFISH, NK	Scyphozoa	SPP
6618	KINGFISH, GULF	<i>Menticirrhus littoralis</i>	SPP
1970	KINGFISH, NK	<i>Menticirrhus</i>	SPP
6616	KINGFISH, NORTHERN	<i>Menticirrhus saxatilis</i>	SPP
6617	KINGFISH, SOUTHERN	<i>Menticirrhus americanus</i>	SPP
6311	KITTIWAKE, BLACK-LEGGED	<i>Rissa tridactyla</i>	SPP
2680	LADYFISH	<i>Elops saurus</i>	INC
6631	LAMPREY, NK	Petromyzontidae	SPP
6872	LAMPSHELL, NK	Brachiopoda	SPP
2060	LANCE, SAND, NK	<i>Ammodytes sp</i>	SPP
6774	LANCETFISH, NK	Alepisauridae	IAL
6608	LANTERNFISH, NK	Myctophidae	SPP
6787	LEATHERJACKET	<i>Oligoplites saurus</i>	SPP
6647	LIZARDFISH	Synodontidae	SPP
7270	LOBSTER, AMERICAN	<i>Homarus americanus</i>	SPP
6786	LOOKDOWN	<i>Selene vomer</i>	SPP
6322	LOON, ARCTICA	<i>Gavia arctica</i>	INC
6323	LOON, COMMON	<i>Gavia immer</i>	INC
6321	LOON, NK	Gaviidae	INC
6324	LOON, RED-THROATED	<i>Gavia stellata</i>	INC
6760	LOUVAR	<i>Luvarus imperialis</i>	IAL
2100	LUMPFISH	<i>Cyclopterus lumpus</i>	SPP
6635	LUMPSUCKER, ATLANTIC SPINY	<i>Eumicrotremus spinosus</i>	SPP
2120	MACKEREL, ATLANTIC	<i>Scomber scombrus</i>	SPP
6648	MACKEREL, BULLET	<i>Auxis rochei</i>	SPP
2150	MACKEREL, CHUB	<i>Scomber colias</i>	SPP
1320	MACKEREL, FRIGATE	<i>Auxis thazard</i>	IAL

<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Log</b>
1940	MACKEREL, KING	<i>Scomberomorus cavalla</i>	SPP, IAL
6649	MACKEREL, NK	Scombrini	SPP
6638	MACKEREL, SNAKE, NK	Gempylidae	SPP
3840	MACKEREL, SPANISH	<i>Scomberomorus maculatus</i>	SPP
6964	MANATEE, WEST INDIAN	<i>Trichechus manatus</i>	INC
6991	MARINE MAMMAL, NK	Cetacea, Pinnipedia	INC
2171	MARLIN, BLUE	<i>Makaira nigricans</i>	IAL
2181	MARLIN, NK (BILLFISHES)	Istiophoridae	IAL
2161	MARLIN, WHITE	<i>Tetrapturus albidus</i>	IAL
2210	MENHADEN, ATLANTIC	<i>Brevoortia tyrannus</i>	SPP
6103	MERGANSER, NK	Anatidae	INC
6770	MOLA, NK	Molidae	IAL
6772	MOLA, OCEAN SUNFISH	<i>Mola mola</i>	IAL
6771	MOLA, SHARPTAIL	<i>Mosturus lanceolatus</i>	IAL
6773	MOLA, SLENDER	<i>Ranzania laevis</i>	IAL
8040	MOLLUSK, NK	Mollusca	SPP
0124	MONKFISH (GOOSEFISH)	<i>Lophius americanus</i>	SPP
0127	MONKFISH (GOOSEFISH) (BELLYFLAPS)	<i>Lophius americanus</i>	SPP
0125	MONKFISH (GOOSEFISH) (CHEEKS)	<i>Lophius americanus</i>	SPP
0128	MONKFISH (GOOSEFISH) (HEAD ON, GUTTED)	<i>Lophius americanus</i>	SPP
0123	MONKFISH (GOOSEFISH) (LIVERS)	<i>Lophius americanus</i>	SPP
0120	MONKFISH (GOOSEFISH) (TAILS)	<i>Lophius americanus</i>	SPP
6785	MOONFISH, ATLANTIC	<i>Selene setapinnis</i>	SPP
2341	MULLET, NK	Mugilidae	SPP
2350	MULLET, STRIPED	<i>Mugil cephalus</i>	SPP
6636	MUMMICHOG	<i>Fundulus heteroclitus</i>	SPP
6330	MURRE, NK	<i>Uria</i>	INC
6332	MURRE, THICK-BILLED	<i>Uria lomvia</i>	INC
6331	MURRE, THIN-BILLED	<i>Uria aalge</i>	INC
7810	MUSSEL, NK	<i>Mytilus, Modiolus</i>	SPP
6966	NARWHAL	<i>Monodon monoceros</i>	INC
0190	NEEDLEFISH, ATLANTIC	<i>Strongylura marina</i>	IAL
1330	NEEDLEFISH, NK	Belonidae	IAL
6341	NODDY, BROWN	<i>Anous stolidus</i>	INC
0000	NONE (UNKNOWN IN LEGACY DATA)		SPP, IAL
2500	OCEAN POUT	<i>Zoarces americanus</i>	SPP
7860	OCTOPUS, NK	Octopoda	SPP
6639	OILFISH	<i>Ruvettus pretiosus</i>	IAL
6579	OLDSQUAW	<i>Clangula hyemalis</i>	INC
2490	OPAH	<i>Lampris guttatus</i>	IAL
7898	OYSTER, COMMON	<i>Crassostrea virginica</i>	SPP
7921	OYSTER, EUROPEAN FLAT	<i>Ostrea edulis</i>	SPP
5250	PELAGIC FISH, NK		IAL
6351	PELICAN, BROWN	<i>Pelecanus occidentalis</i>	INC
3110	PERCH, SAND	<i>Diplectrum formosum</i>	SPP
5060	PERCH, WHITE	<i>Morone americana</i>	SPP
5170	PERCH, YELLOW	<i>Perca flavescens</i>	SPP



Code	Common Name	Scientific Name	Log
7980	PERIWINKLE, COMMON	Littorinidae	SPP
6791	PERMIT	<i>Trachinotus falcatus</i>	SPP
6362	PETREL, BERMUDA	<i>Pterodroma cahow</i>	INC
6363	PETREL, BLACK-CAPPED	<i>Pterodroma hasitata</i>	INC
6364	PETREL, FEA'S	<i>Pterodroma feae</i>	INC
6361	PETREL, SOUTH TRINIDAD	<i>Pterodroma arminjoniana</i>	INC
6371	PHALAROPE, RED	<i>Phalaropus fulicarius</i>	INC
6372	PHALAROPE, RED-NECKED	<i>Phalaropus lobatus</i>	INC
2580	PIGFISH	<i>Orthopristis chrysoptera</i>	SPP
6781	PILOTFISH	<i>Naucrates ductor</i>	SPP
2670	PINFISH	<i>Lagodon rhomboides</i>	SPP
6841	PINGER, ACTIVE		IAL
6842	PINGER, PASSIVE		IAL
6621	PIPEFISH/SEAHORSE, NK	Syngnathidae	SPP
2695	POLLOCK	<i>Pollachius virens</i>	SPP
6777	POMFRET, ATLANTIC	<i>Brama brama</i>	SPP
6776	POMFRET, BIGSCALE	<i>Taractichthys longipinnis</i>	SPP
6578	POMFRET, NK	Bramidae	SPP
6788	POMPANO, AFRICAN	<i>Alectis ciliaris</i>	SPP
2720	POMPANO, FLORIDA	<i>Trachinotus carolinus</i>	SPP
6646	PORCUPINE FISH	<i>Diodon hystrix</i>	SPP
3320	PORGY, NK	Sparidae	SPP
3300	PORGY, RED	<i>Pagrus pagrus</i>	SPP
6960	PORPOISE, HARBOR	<i>Phocoena phocoena</i>	INC
6998	PORPOISE/DOLPHIN, NK	Phocoenidae, Delphinidae	INC
6379	PTERODROMA, NK	<i>Pterodroma</i>	INC
4300	PUFFER, NK	Tetraodontidae	SPP
4290	PUFFER, NORTHERN	<i>Sphoeroides maculatus</i>	SPP
6381	PUFFIN, ATLANTIC	<i>Fratercula arctica</i>	INC
7488	QUAHOG, HARD SHELL CLAM	<i>Mercenaria mercenaria, M.campechiensis</i>	SPP
7540	QUAHOG, OCEAN (BLACK CLAM)	<i>Arctica islandica</i>	SPP
3270	RAVEN, SEA	<i>Hemitripteris americanus</i>	SPP
6739	RAY, BULLNOSE	<i>Myliobatis freminvillii</i>	SPP
6741	RAY, BUTTERFLY, NK	<i>Gymnura</i>	IAL
6742	RAY, BUTTERFLY, SMOOTH	<i>Gymnura micrura</i>	IAL
6743	RAY, BUTTERFLY, SPINY	<i>Gymnura altavela</i>	IAL
6740	RAY, COWNOSE	<i>Rhinoptera bonasus</i>	SPP
6745	RAY, DEVIL	<i>Mobula hypostoma</i>	IAL
6700	RAY, EAGLE, NK	Myliobatidae	IAL
6720	RAY, MANTA, ATLANTIC	<i>Manta birostris</i>	IAL
6715	RAY, MANTA, NK	Mobulidae	IAL
6753	RAY, NK	Rajiformes	IAL
6730	RAY, TORPEDO	<i>Torpedo nobiliana</i>	IAL
6391	RAZORBILL	<i>Alca torda</i>	INC
2400	REDFISH, NK (OCEAN PERCH)	<i>Sebastes</i>	SPP
6750	REMORA, NK	Echeneidae	SPP
6644	RIBBONFISH, NK	Trachipteridae	SPP

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6643	RIBBONFISH, POLKA-DOT	<i>Desmodema polystictum</i>	SPP
6642	RIBBONFISH, SCALLOPED	<i>Zu cristatus</i>	SPP
6606	ROCKLING, FOURBEARD	<i>Enchelyopus cimbrius</i>	SPP
6876	ROCKWEED, NK	<i>Fucus</i>	SPP
2420	ROSEFISH, BLACK BELLY	<i>Helicolenus dactylopterus</i>	SPP
6778	ROUGHY, BIG	<i>Gephyroberyx darwinii</i>	SPP
6779	ROUGHY, NK	Trachichthyidae	SPP
2130	RUNNER, BLUE	<i>Caranx crysos</i>	SPP
6630	SAILFISH	<i>Istiophorus platypterus</i>	IAL
3050	SALMON, ATLANTIC	<i>Salmo salar</i>	IAL
3080	SALMON, CHINOOK	<i>Oncorhynchus tshawytscha</i>	IAL
3070	SALMON, COHO	<i>oncorhynchus kisutch</i>	IAL
3090	SALMON, NK	<i>Oncorhynchus</i>	IAL
3060	SALMON, PINK	<i>Oncorhynchus gorbuscha</i>	IAL
6874	SAND DOLLAR	<i>Echinarachnius parma</i>	SPP
3196	SAURY, ATLANTIC	<i>Scomberesox saurus</i>	SPP
6784	SCAD, BIGEYE	<i>Selar crumenophthalmus</i>	SPP
6782	SCAD, MACKEREL	<i>Decapterus macarellus</i>	SPP
3310	SCAD, ROUGH	<i>Trachurus lathami</i>	SPP
7990	SCALLOP, BAY	<i>Argopecten irradians</i>	SPP
7970	SCALLOP, CALICO	<i>Argopecten gibbus</i>	SPP
7950	SCALLOP, ICELANDIC	<i>Chlamys islandica</i>	SPP
7960	SCALLOP, NK	Pectinidae	SPP
8009	SCALLOP, SEA	<i>Placopecten magellanicus</i>	SPP
6612	SCORPIONFISH, NK	Scorpaenidae	SPP
6521	SCOTER, BLACK	<i>Melanitta nigra</i>	INC
6520	SCOTER, NK	<i>Melanitta</i>	INC
6523	SCOTER, SURF	<i>Melanitta perspicillata</i>	INC
6522	SCOTER, WHITE-WINGED	<i>Melanitta deglandi</i>	INC
6678	SCULPIN, LONGHORN	<i>Myoxocephalus octodecemspinosus</i>	SPP
3260	SCULPIN, NK	Cottidae	SPP
3295	SCUP	<i>Stenotomus chrysops</i>	SPP
3350	SEA BASS, BLACK	<i>Centropristis striata</i>	SPP
3330	SEA BASS, NK	Serranidae	SPP
8060	SEA CUCUMBER, NK	Holothuroidea	SPP
6873	SEA PANSY	<i>Renilla reniformis</i>	SPP
6884	SEA PEN, NK	Pennatulacea	SPP
6869	SEA POTATO	<i>Leathesia difformis</i>	SPP
3430	SEA ROBIN, ARMORED	<i>Peristedion miniatum</i>	SPP
3410	SEA ROBIN, NK	Triglidae	SPP
3400	SEA ROBIN, NORTHERN	<i>Prionotus carolinus</i>	SPP
3420	SEA ROBIN, STRIPED	<i>Prionotus evolans</i>	SPP
6879	SEA SQUIRT, NK	Ascidacea	SPP
8050	SEA URCHIN, NK	<i>Strongylocentrotus</i>	SPP
6984	SEAL, BEARDED	<i>Erignathus barbatus</i>	INC
6996	SEAL, GRAY	<i>Halichoerus grypus</i>	INC
6995	SEAL, HARBOR	<i>Phoca vitulina concolor</i>	INC

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6981	SEAL, HARP	<i>Phoca groenlandica</i>	INC
6982	SEAL, HOODED	<i>Cystophora cristata</i>	INC
6985	SEAL, LARGA (SPOTTED)	<i>Phoca largha</i>	INC
6994	SEAL, NK	Phocidae	INC
6986	SEAL, RIBBON	<i>Phoca fasciata</i>	INC
6983	SEAL, RINGED	<i>Phoca hispida</i>	INC
3340	SEATROUT, NK (WEAKFISHES)	<i>Cynoscion</i>	SPP
3450	SEATROUT, SPOTTED	<i>Cynoscion nebulosus</i>	SPP
8171	SEAWEED, NK	Phaeophyta	SPP
3474	SHAD, AMERICAN	<i>Alosa sapidissima</i>	SPP
1340	SHAD, GIZZARD	<i>Dorosoma cepedianum</i>	SPP
1730	SHAD, HICKORY	<i>Alosa mediocris</i>	SPP
6864	SHANNY, NK	Stichaeidae	SPP
4771	SHARK, ATLANTIC ANGEL	<i>Squatina dumeril</i>	IAL
4941	SHARK, ATLANTIC SHARPNOSE	<i>Rhizoprionodon terraenovae</i>	IAL
4940	SHARK, ATLANTIC SHARPNOSE (DRESSED)	<i>Rhizoprionodon terraenovae</i>	IAL
4948	SHARK, ATLANTIC SHARPNOSE (FINS)	<i>Rhizoprionodon terraenovae</i>	SPP
4961	SHARK, BASKING	<i>Cetorhinus maximus</i>	IAL
4960	SHARK, BASKING (DRESSED)	<i>Cetorhinus maximus</i>	IAL
4968	SHARK, BASKING (FINS)	<i>Cetorhinus maximus</i>	SPP
4831	SHARK, BIGNOSE	<i>Carcharhinus altimus</i>	IAL
4830	SHARK, BIGNOSE (DRESSED)	<i>Carcharhinus altimus</i>	IAL
4838	SHARK, BIGNOSE (FINS)	<i>Carcharhinus altimus</i>	SPP
4871	SHARK, BLACK TIP	<i>Carcharhinus limbatus</i>	IAL
4870	SHARK, BLACK TIP (DRESSED)	<i>Carcharhinus limbatus</i>	IAL
4878	SHARK, BLACK TIP (FINS)	<i>Carcharhinus limbatus</i>	SPP
5030	SHARK, BLACKNOSE	<i>Carcharhinus acronotus</i>	IAL
4931	SHARK, BLUE (BLUE DOG)	<i>Prionace glauca</i>	IAL
4930	SHARK, BLUE (BLUE DOG) (DRESSED)	<i>Prionace glauca</i>	IAL
4938	SHARK, BLUE (BLUE DOG) (FINS)	<i>Prionace glauca</i>	SPP
6758	SHARK, BLUNTNOSSE SIXGILL	<i>Hexanchus griseus</i>	IAL
4760	SHARK, BONNETHEAD	<i>Sphyrna tiburo</i>	IAL
4891	SHARK, BULL	<i>Carcharhinus leucas</i>	IAL
4890	SHARK, BULL (DRESSED)	<i>Carcharhinus leucas</i>	IAL
4898	SHARK, BULL (FINS)	<i>Carcharhinus leucas</i>	SPP
4971	SHARK, CARCHARHINID, NK	<i>Carcharhinus</i>	IAL
4970	SHARK, CARCHARHINID, NK (DRESSED)	<i>Carcharhinus</i>	SPP
4978	SHARK, CARCHARHINID, NK (FINS)	<i>Carcharhinus</i>	SPP
4841	SHARK, DUSKY	<i>Carcharhinus obscurus</i>	IAL
4840	SHARK, DUSKY (DRESSED)	<i>Carcharhinus obscurus</i>	IAL
4848	SHARK, DUSKY (FINS)	<i>Carcharhinus obscurus</i>	SPP
4990	SHARK, FINETOOTH	<i>Carcharhinus isodon</i>	IAL
4750	SHARK, GREENLAND	<i>Somniosus microcephalus</i>	IAL
3860	SHARK, HAMMERHEAD, GREAT	<i>Sphyrna mokarran</i>	IAL
4951	SHARK, HAMMERHEAD, NK	Sphyrnidae	IAL
4950	SHARK, HAMMERHEAD, NK (DRESSED)	Sphyrnidae	IAL
4958	SHARK, HAMMERHEAD, NK (FINS)	Sphyrnidae	SPP

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4781	SHARK, HAMMERHEAD, SCALLOPED	<i>Sphyrna lewini</i>	IAL
4780	SHARK, HAMMERHEAD, SCALLOPED (DRESSED)	<i>Sphyrna lewini</i>	IAL
4788	SHARK, HAMMERHEAD, SCALLOPED (FINS)	<i>Sphyrna lewini</i>	SPP
4791	SHARK, HAMMERHEAD, SMOOTH	<i>Sphyrna zygaena</i>	IAL
4790	SHARK, HAMMERHEAD, SMOOTH (DRESSED)	<i>Sphyrna zygaena</i>	IAL
4798	SHARK, HAMMERHEAD, SMOOTH (FINS)	<i>Sphyrna zygaena</i>	SPP
4921	SHARK, LEMON	<i>Negaprion brevirostris</i>	IAL
4920	SHARK, LEMON (DRESSED)	<i>Negaprion brevirostris</i>	IAL
4928	SHARK, LEMON (FINS)	<i>Negaprion brevirostris</i>	SPP
3581	SHARK, MAKO, LONGFIN	<i>Isurus paucus</i>	IAL
3580	SHARK, MAKO, LONGFIN (DRESSED)	<i>Isurus paucus</i>	IAL
3588	SHARK, MAKO, LONGFIN (FINS)	<i>Isurus paucus</i>	SPP
3571	SHARK, MAKO, NK	<i>Isurus</i>	IAL
3572	SHARK, MAKO, NK (CHUNKS)	<i>Isurus</i>	SPP
3570	SHARK, MAKO, NK (DRESSED)	<i>Isurus</i>	IAL
3578	SHARK, MAKO, NK (FINS)	<i>Isurus</i>	SPP
3551	SHARK, MAKO, SHORTFIN	<i>Isurus oxyrinchus</i>	IAL
3550	SHARK, MAKO, SHORTFIN (DRESSED)	<i>Isurus oxyrinchus</i>	IAL
3558	SHARK, MAKO, SHORTFIN (FINS)	<i>Isurus oxyrinchus</i>	SPP
4861	SHARK, NIGHT	<i>Carcharhinus signatus</i>	IAL
4860	SHARK, NIGHT (DRESSED)	<i>Carcharhinus signatus</i>	IAL
4868	SHARK, NIGHT (FINS)	<i>Carcharhinus signatus</i>	SPP
3591	SHARK, NK	Chondrichthyes	IAL
3592	SHARK, NK (CHUNKS)	Chondrichthyes	SPP
3590	SHARK, NK (DRESSED)	Chondrichthyes	IAL
3597	SHARK, NK (FINS, DRIED)	Chondrichthyes	SPP
3598	SHARK, NK (FINS, FRESH/FROZEN)	Chondrichthyes	SPP
3481	SHARK, NURSE	<i>Ginglymostoma cirratum</i>	IAL
3488	SHARK, NURSE (FINS)	<i>Ginglymostoma cirratum</i>	SPP
4901	SHARK, OCEANIC WHITETIP	<i>Carcharhinus longimanus</i>	IAL
4900	SHARK, OCEANIC WHITETIP (DRESSED)	<i>Carcharhinus longimanus</i>	IAL
4908	SHARK, OCEANIC WHITETIP (FINS)	<i>Carcharhinus longimanus</i>	SPP
4981	SHARK, PELAGIC, NK		IAL
4980	SHARK, PELAGIC, NK (DRESSED)		IAL
4988	SHARK, PELAGIC, NK (FINS)		SPP
4811	SHARK, PORBEAGLE (MACKEREL SHARK)	<i>Lamna nasus</i>	IAL
4810	SHARK, PORBEAGLE (MACKEREL SHARK) (DRESSED)	<i>Lamna nasus</i>	IAL
4818	SHARK, PORBEAGLE (MACKEREL SHARK) (FINS)	<i>Lamna nasus</i>	SPP
3491	SHARK, SAND TIGER	<i>Odontaspis taurus</i>	IAL
3498	SHARK, SAND TIGER (FINS)	<i>Odontaspis taurus</i>	SPP
4821	SHARK, SANDBAR (BROWN SHARK)	<i>Carcharhinus plumbeus</i>	IAL
4820	SHARK, SANDBAR (BROWN SHARK) (DRESSED)	<i>Carcharhinus plumbeus</i>	IAL
4828	SHARK, SANDBAR (BROWN SHARK) (FINS)	<i>Carcharhinus plumbeus</i>	SPP
6756	SHARK, SEVENGILL SHARPNOSE	<i>Heptranchias perlo</i>	IAL
4851	SHARK, SILKY	<i>Carcharhinus falciformis</i>	IAL
4850	SHARK, SILKY (DRESSED)	<i>Carcharhinus falciformis</i>	IAL

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4858	SHARK, SILKY (FINS)	<i>Carcharhinus falciformis</i>	SPP
6755	SHARK, SMALLTOOH SAND TIGER	<i>Odontaspis ferox</i>	IAL
4881	SHARK, SPINNER	<i>Carcharhinus brevipinna</i>	IAL
4880	SHARK, SPINNER (DRESSED)	<i>Carcharhinus brevipinna</i>	IAL
4888	SHARK, SPINNER (FINS)	<i>Carcharhinus brevipinna</i>	SPP
3531	SHARK, THRESHER	<i>Alopias vulpinus</i>	IAL
3530	SHARK, THRESHER (DRESSED)	<i>Alopias vulpinus</i>	IAL
3538	SHARK, THRESHER (FINS)	<i>Alopias vulpinus</i>	SPP
3541	SHARK, THRESHER, BIGEYE	<i>Alopias superciliosus</i>	IAL
3540	SHARK, THRESHER, BIGEYE (DRESSED)	<i>Alopias superciliosus</i>	IAL
3548	SHARK, THRESHER, BIGEYE (FINS)	<i>Alopias superciliosus</i>	SPP
4911	SHARK, TIGER	<i>Galeocerdo cuvier</i>	IAL
4910	SHARK, TIGER (DRESSED)	<i>Galeocerdo cuvier</i>	IAL
4918	SHARK, TIGER (FINS)	<i>Galeocerdo cuvier</i>	SPP
4801	SHARK, WHITE	<i>Carcharodon carcharias</i>	IAL
4800	SHARK, WHITE (DRESSED)	<i>Carcharodon carcharias</i>	IAL
4808	SHARK, WHITE (FINS)	<i>Carcharodon carcharias</i>	SPP
6401	SHEARWATER, AUDUBON'S	<i>Puffinus lherminieri</i>	INC
6407	SHEARWATER, CORY'S	<i>Puffinus diomedea</i>	INC
6402	SHEARWATER, GREATER	<i>Puffinus gravis</i>	INC
6403	SHEARWATER, LITTLE	<i>Puffinus assimilis</i>	INC
6405	SHEARWATER, MANX	<i>Puffinus puffinus</i>	INC
6400	SHEARWATER, NK	<i>Puffinus</i>	INC
6406	SHEARWATER, SOOTY	<i>Puffinus griseus</i>	INC
3560	SHEEPSHEAD	<i>Archosargus probatocephalus</i>	SPP
6882	SHELL, NK		SPP
6897	SHELL, SCALLOP		SPP
6893	SHELLFISH, NK	Mollusca, Crustacea, Echinodermata	SPP
7370	SHRIMP, MANTIS	Stomatopoda	SPP
7350	SHRIMP, NK	Caridea	SPP
7360	SHRIMP, PANDALID, NK (NORTHERN)	<i>Pandalus</i>	SPP
7380	SHRIMP, PENAEID, NK (SOUTHERN)	Penaeidae	SPP
7330	SHRIMP, ROYAL RED	<i>Pleoticus robustus</i>	SPP
7340	SHRIMP, SCARLET	<i>Aristaeopsis edwardsiana</i>	SPP
6881	SHRIMP, SHORE, NK	<i>Palaemonetes</i>	SPP
3620	SILVERSIDE, ATLANTIC	<i>Menidia menidia</i>	SPP
3630	SILVERSIDE, NK	Atherinidae	SPP
3680	SKATE, BARNDOR	<i>Dipturus laevis</i>	SPP
3681	SKATE, BARNDOR (WINGS)	<i>Dipturus laevis</i>	SPP
3720	SKATE, CLEARNOSE	<i>Raja eglanteria</i>	SPP
3721	SKATE, CLEARNOSE (WINGS)	<i>Raja eglanteria</i>	SPP
3660	SKATE, LITTLE	<i>Leucoraja erinacea</i>	SPP
3661	SKATE, LITTLE (WINGS)	<i>Leucoraja erinacea</i>	SPP
3730	SKATE, LITTLE/WINTER, NK	<i>Leucoraja</i>	SPP
3731	SKATE, LITTLE/WINTER, NK (WINGS)	<i>Leucoraja</i>	SPP
3650	SKATE, NK	Rajidae	SPP
3651	SKATE, NK (WINGS)	Rajidae	SPP

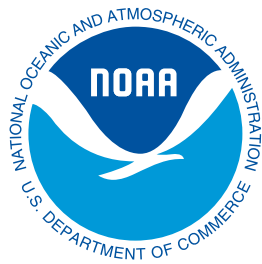
<b>Code</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Log</b>
3640	SKATE, ROSETTE	<i>Leucoraja garmani</i>	SPP
3641	SKATE, ROSETTE (WINGS)	<i>Leucoraja garmani</i>	SPP
3690	SKATE, SMOOTH	<i>Malacoraja senta</i>	SPP
3691	SKATE, SMOOTH (WINGS)	<i>Malacoraja senta</i>	SPP
3700	SKATE, THORNY	<i>Amblyraja radiata</i>	SPP
3701	SKATE, THORNY (WINGS)	<i>Amblyraja radiata</i>	SPP
3670	SKATE, WINTER (BIG)	<i>Leucoraja ocellata</i>	SPP
3671	SKATE, WINTER (BIG) (WINGS)	<i>Leucoraja ocellata</i>	SPP
6411	SKIMMER, BLACK	<i>Rynchops niger</i>	INC
6304	SKUA, GREAT	<i>Catharacta skua</i>	INC
3710	SMELT, RAINBOW	<i>Osmerus mordax</i>	SPP
6870	SNAIL, MOONHELL, NK	Naticidae	SPP
6877	SNAIL, NK	Gastropoda	SPP
6628	SNAKEBLENNY	<i>Lumpenus lampretæformis</i>	SPP
3754	SNAPPER, DOG	<i>Lutjanus jocu</i>	SPP
3360	SNAPPER, NK	Lutjanidae	SPP
3764	SNAPPER, RED	<i>Lutjanus campechanus</i>	SPP
3740	SNAPPER, VERMILLION	<i>Rhomboplites aurorubens</i>	SPP
6633	SNIPEFISH, LONGSPINE	<i>Macroramphosus scolopax</i>	SPP
6622	SNIPEFISH, NK	Centriscidae	SPP
6634	SNIPEFISH, SLENDER	<i>Macroramphosus gracilis</i>	SPP
3810	SPADEFISH	<i>Chaetodipterus faber</i>	SPP
6641	SPEARFISH, LONGBILL	<i>Tetrapturus pfluegeri</i>	IAL
6867	SPONGE, NK	Porifera	SPP
4060	SPOT	<i>Leiostomus xanthurus</i>	SPP
8010	SQUID, ATLANTIC LONG-FIN	<i>Doryteuthis pealeii</i>	SPP
8030	SQUID, NK	Teuthida	SPP
8020	SQUID, SHORT-FIN	<i>Illex illecebrosus</i>	SPP
0240	SQUIRELFISH, NK	Holocentridae	SPP
6891	STARFISH, BRITTLE, NK	Ophiuroidea	SPP
8280	STARFISH, SEASTAR, NK	Asteroidea	SPP
6620	STARGAZER, NK	Uranoscopidae	SPP
0310	STARGAZER, NORTHERN	<i>Astroscopus guttatus</i>	SPP
6712	STINGRAY, ATLANTIC	<i>Dasyatis sabina</i>	IAL
6711	STINGRAY, BLUNTNOSE	<i>Dasyatis say</i>	IAL
6705	STINGRAY, NK	Dasyatidae	IAL
6775	STINGRAY, PELAGIC	<i>Pteroplatytrygon violacea</i>	IAL
6710	STINGRAY, ROUGHTAIL	<i>Dasyatis centroura</i>	IAL
6713	STINGRAY, SOUTHERN	<i>Dasyatis americana</i>	IAL
6853	STOMACH CONTENTS, EMPTY		SPP
6852	STOMACH CONTENTS, FISH, NK		SPP
6851	STOMACH CONTENTS, INVERTEBRATE, NK		SPP
6850	STOMACH CONTENTS, NK		SPP
6431	STORM PETREL, BAND-RUMPED	<i>Oceanodroma castro</i>	INC
6432	STORM PETREL, LEACH'S	<i>Oceanodroma leucorhoa</i>	INC
6430	STORM PETREL, NK	Hydrobatidae	INC
6433	STORM PETREL, WHITE-FACED	<i>Pelagodroma marina</i>	INC

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6434	STORM PETREL, WILSON	<i>Oceanites oceanicus</i>	INC
4200	STURGEON, ATLANTIC	<i>Acipenser oxyrinchus</i>	IAL
4211	STURGEON, NK	Acipenseridae	IAL
4220	STURGEON, SHORT-NOSE	<i>Acipenser brevirostrum</i>	IAL
4230	SUCKER, FRESHWATER, NK	Catostomidae	SPP
4260	SUNFISH, FRESHWATER, NK	Centrarchidae	SPP
4328	SWORDFISH	<i>Xiphias gladius</i>	IAL
4320	SWORDFISH (GUTTED)	<i>Xiphias gladius</i>	IAL
4327	SWORDFISH (CHUNKS)	<i>Xiphias gladius</i>	IAL
4350	TARPON	<i>Megalops atlanticus</i>	IAL
4380	TAUTOG (BLACKFISH)	<i>Tautoga onitis</i>	SPP
6501	TERN, ARCTIC	<i>Sterna paradisaea</i>	INC
6513	TERN, BLACK	<i>Chlidonias niger</i>	INC
6502	TERN, BRIDLED	<i>Sterna anaethetus</i>	INC
6503	TERN, CASPIAN	<i>Sterna caspia</i>	INC
6504	TERN, COMMIC	<i>Sterna hirundo, S. paradisaea</i>	INC
6505	TERN, COMMON	<i>Sterna hirundo</i>	INC
6506	TERN, FORSTER'S	<i>Sterna forsteri</i>	INC
6507	TERN, GULL-BILLED	<i>Gelochelidon nilotica</i>	INC
6508	TERN, LITTLE	<i>Sterna albifrons</i>	INC
6500	TERN, NK	Sterninae	INC
6509	TERN, ROSEATE	<i>Sterna dougallii</i>	INC
6510	TERN, ROYAL	<i>Sterna maxima</i>	INC
6511	TERN, SANDWICH	<i>Sterna sandvicensis</i>	INC
6512	TERN, SOOTY	<i>Sterna fuscata</i>	INC
4440	TILEFISH, BLUELINE	<i>Caulolatilus microps</i>	SPP
4460	TILEFISH, GOLDEN	<i>Lopholatilus chamaeleonticeps</i>	SPP
4470	TILEFISH, NK	Malacanthidae	SPP
6637	TOADFISH, NK	Batrachoididae	SPP
4510	TOADFISH, OYSTER	<i>Opsanus tau</i>	SPP
4530	TOMCOD, ATLANTIC	<i>Microgadus tomcod</i>	SPP
4560	TRIGGERFISH, NK	Balistidae	SPP
4590	TRIPLETAIL	<i>Lobotes surinamensis</i>	IAL
6443	TROPICBIRD, NK	<i>Phaethon</i>	INC
6442	TROPICBIRD, RED-BILLED	<i>Phaethon aethereus</i>	INC
6441	TROPICBIRD, WHITE-TAILED	<i>Phaethon lepturus</i>	INC
4150	TROUT, STEELHEAD	<i>Oncorhynchus mykiss</i>	IAL
4701	TUNA, ALBACORE	<i>Thunnus alalunga</i>	IAL
4702	TUNA, ALBACORE (CHUNKS)	<i>Thunnus alalunga</i>	SPP
4700	TUNA, ALBACORE (DRESSED)	<i>Thunnus alalunga</i>	IAL
4691	TUNA, BIG EYE	<i>Thunnus obesus</i>	IAL
4692	TUNA, BIG EYE (CHUNKS)	<i>Thunnus obesus</i>	SPP
4690	TUNA, BIG EYE (DRESSED)	<i>Thunnus obesus</i>	IAL
4641	TUNA, BLACKFIN	<i>Thunnus atlanticus</i>	IAL
4642	TUNA, BLACKFIN (CHUNKS)	<i>Thunnus atlanticus</i>	SPP
4640	TUNA, BLACKFIN (DRESSED)	<i>Thunnus atlanticus</i>	IAL
4670	TUNA, BLUEFIN	<i>Thunnus thynnus</i>	IAL

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4676	TUNA, BLUEFIN (CHUNKS)	<i>Thunnus thynnus</i>	SPP
4675	TUNA, BLUEFIN (DRESSED)	<i>Thunnus thynnus</i>	IAL
4657	TUNA, NK	Thunnini	IAL
4658	TUNA, NK (CHUNKS)	Thunnini	SPP
4656	TUNA, NK (DRESSED)	Thunnini	IAL
4661	TUNA, SKIPJACK	<i>Katsuwonus pelamis</i>	SPP, IAL
4662	TUNA, SKIPJACK (CHUNKS)	<i>Katsuwonus pelamis</i>	SPP
4660	TUNA, SKIPJACK (DRESSED)	<i>Katsuwonus pelamis</i>	IAL
4711	TUNA, YELLOWFIN	<i>Thunnus albacares</i>	IAL
4712	TUNA, YELLOWFIN (CHUNKS)	<i>Thunnus albacares</i>	SPP
4710	TUNA, YELLOWFIN (DRESSED)	<i>Thunnus albacares</i>	IAL
4681	TUNNY, LITTLE (FALSE ALBACORE)	<i>Euthynnus alletteratus</i>	SPP, IAL
4682	TUNNY, LITTLE (FALSE ALBACORE) (CHUNKS)	<i>Euthynnus alletteratus</i>	SPP
4680	TUNNY, LITTLE (FALSE ALBACORE) (DRESSED)	<i>Euthynnus alletteratus</i>	IAL
8090	TURTLE, GREEN	<i>Chelonia mydas</i>	INC
8140	TURTLE, HAWKSBILL	<i>Eretmochelys imbricata</i>	INC
8100	TURTLE, KEMP'S RIDLEY	<i>Lepidochelys kempii</i>	INC
8120	TURTLE, LEATHERBACK	<i>Dermochelys coriacea</i>	INC
8130	TURTLE, LOGGERHEAD	<i>Caretta caretta</i>	INC
8160	TURTLE, NK	Testudines	INC
8161	TURTLE, NK, HARD-SHELL	Cheloniidae	INC
8180	TURTLE, OLIVE RIDLEY	<i>Lepidochelys olivacea</i>	INC
8110	TURTLE, SLIDER, POND	<i>Trachemys scripta</i>	IAL
8150	TURTLE, SNAPPER	<i>Chelydra serpentina</i>	IAL
8081	TURTLE, TERRAPIN	<i>Malaclemys terrapin</i>	IAL
6854	UNKNOWN LIVING MATTER		SPP
4720	WAHOO	<i>Acanthocybium solandri</i>	IAL
6965	WALRUS	<i>Odobenus rosmarus</i>	INC
3446	WEAKFISH (SQUETEAGUE)	<i>Cynoscion regalis</i>	SPP
6993	WHALE, BALEEN, NK	Mysticeti	INC
6958	WHALE, BELUGA	<i>Delphinapterus leucas</i>	INC
6911	WHALE, BEAKED, BOTTLENOSE	<i>Hyperoodon ampullatus</i>	INC
6954	WHALE, BEAKED, CUVIER'S	<i>Ziphius cavirostris</i>	INC
6908	WHALE, BEAKED, DENSE	<i>Mesoplodon densirostris</i>	INC
6907	WHALE, BEAKED, GERVAIS'	<i>Mesoplodon europaeus</i>	INC
6953	WHALE, BEAKED, NK	<i>Mesoplodon</i>	INC
6909	WHALE, BEAKED, SOWERBY'S	<i>Mesoplodon bidens</i>	INC
6910	WHALE, BEAKED, TRUE'S	<i>Mesoplodon mirus</i>	INC
6947	WHALE, BLUE	<i>Balaenoptera musculus</i>	INC
6988	WHALE, BRYDE'S	<i>Balaenoptera edeni</i>	INC
6905	WHALE, DWARF SPERM	<i>Kogia simus</i>	INC
6930	WHALE, FALSE KILLER	<i>Pseudorca crassidens</i>	INC
6929	WHALE, FIN/SEI	<i>Balaenoptera physalus</i> , <i>B. borealis</i>	INC
6931	WHALE, FINBACK	<i>Balaenoptera physalus</i>	INC
6933	WHALE, HUMPBACK	<i>Megaptera novaeangliae</i>	INC
6950	WHALE, KILLER	<i>Orcinus orca</i>	INC
6987	WHALE, MELON-HEADED	<i>Peponocephala electra</i>	INC



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6945	WHALE, MINKE	<i>Balaenoptera acutorostrata</i>	INC
6999	WHALE, NK (CETACEAN, NK)	Cetacea	INC
6904	WHALE, PILOT, LONG-FIN	<i>Globicephala melaena</i>	INC
6992	WHALE, PILOT, NK	<i>Globicephala</i>	INC
6903	WHALE, PILOT, SHORT-FIN	<i>Globicephala macrorhynchus</i>	INC
6955	WHALE, PYGMY KILLER	<i>Feresa attenuata</i>	INC
6956	WHALE, PYGMY SPERM	<i>Kogia breviceps</i>	INC
6946	WHALE, RIGHT, NORTHERN	<i>Eubalaena glacialis</i>	INC
6932	WHALE, SEI	<i>Balaenoptera borealis</i>	INC
6948	WHALE, SPERM	<i>Physeter macrocephalus</i>	INC
6980	WHALE, TOOTHED, NK	Odontoceti	INC
7760	WHELK, CHANNELED (SMOOTH)	<i>Busycotypus canaliculatus</i>	SPP
7750	WHELK, CONCH	Strombidae	SPP
7770	WHELK, KNOBBED	<i>Busycon carica</i>	SPP
7780	WHELK, LIGHTNING	<i>Busycon sinistrum</i>	SPP
7740	WHELK, NK	Buccinidae	IAL
5120	WOLFFISH, ATLANTIC	<i>Anarhichas lupus</i>	SPP
6681	WOLFFISH, NORTHERN	<i>Anarhichas denticulatus</i>	SPP
8230	WORM, BLOOD	<i>Glycera dibranchiata</i>	SPP
8250	WORM, NK	Nereis	SPP
5130	WRECKFISH	<i>Polyprion americanus</i>	IAL
6790	WRYMOUTH	<i>Cryptacanthodes maculatus</i>	SPP



*revised 05/01/13*