

NORTHEAST FISHERIES OBSERVER PROGRAM

FISHERIES OBSERVER PROGRAM MANUAL 2010



Photo: Observer measuring Skate



Photo: Observer recording data



Photo: Observer recording data

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INTRODUCTION

The Northeast Domestic Fisheries Observer Program collects, maintains and distributes data for scientific and management purposes in the northwest Atlantic Ocean. The Program is a component of the Northeast Fisheries Science Center (NEFSC) of the National Marine Fisheries Service (NMFS). In 2009, NEFOP trained and deployed approximately 80 observers, provided coverage on a variety of fisheries and completed approximately 8000 sea days.

The purpose of this guide is to provide NEFSC fisheries 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 Fisheries Observer Program Biological Sampling Manual provides summaries and tables intended to enable observers to quickly determine the correct biological sampling protocols and methods while at sea. The NEFSC Fisheries Observer Program Training Manual is a textbook for observer trainees as well as a reference for experienced observers containing in-depth instructions on procedures and protocols relating to biological data collection as well as other aspects of the job, such as safety at sea.

This manual represents a revision of the data forms, collection procedures, and protocols described in the 1996 NEFSC Observer Program Manual. All figures contained in this version are from the 1996 edition unless otherwise noted. For documentation of other changes see Documentation of changes made to the NEFSC Fisheries Observer Program Manual, 2010.

PAPER 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, Northeast Fisheries Observer Program, 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 09/30/2012.

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 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 (#52) 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 (#52), third NOTE under STEAM TIME (#30), and NOTE under TRIP COSTS heading.

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. 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 F. Observer/Trip Identifier Instructions.

Example: Observer Green, who has been assigned identifier A02, is on her second trip of the calendar year, and it is a limited fish sampling gillnet trip. The observer/trip identifier is recorded as A02002L.

NOTE: If the catch is not offloaded when the

vessel returns to the dock, and the vessel returns to sea, use the same Observer/Trip Identifier. If **any** 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.

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

Table 1. Trip extension and corresponding trip type.

NOTE: An aborted trip is defined as when the gear is not used (set, hauled, or washed) regardless of time on the water.

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. Be sure to record "Training Trip" in the COMMENTS section.

020 = Alternative Platform

101 = Pinger Tester Trips

130 = US/Canada Management Area - Non-Sector

131 = US/Canada Management Area - Sector

140 = Haddock Hook SAP Closed Area I - Sector

141 = Haddock Hook SAP Closed Area I - Non-Sector

142 = Experimental Haddock Closed Area I

143 = Experimental Haddock Cashes Ledge

144 = Experimental Haddock Western Gulf of

Maine

- 145 = Experimental Haddock Closed Area II
- 150 = Regular B-DAS Program
- 160 = Research - No Kept Fish
- 201 = Access Area Scallop, Nantucket Lightship Closed Area
- 203 = Access Area Scallop, Closed Area II
- 204 = Access Area Scallop, Hudson Canyon
- 206 = Access Area Scallop, Elephant Trunk
- 207 = Access Area Scallop, Delmarva

3. FLEET I.D. CODE: 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.

- 000 = Standard Observed Trip (i.e., trip does not fit any other code listed below)
- 002 = Common Pool - Groundfish
- 003 = Georges Bank Cod Fixed Gear Sector
- 005 = Sustainable Harvest Sector
- 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
- 046 = Limited Access Scallop
- 047 = General Category Scallop
- 049 = Processor Vessel
- 050 = Carrier Vessel
- 999 = Unknown

4. VENDOR I.D. CODE: Record the two-digit vendor identification code. This information can be obtained from the Observer Service Provider.

- 01 = AIS NMFS Funded Trip
- 02 = AIS Industry Funded Trip
- 04 = EWTS, LLC. Industry Funded Trip

NOTE: If any additional Observer Service

Providers are approved in the future, new codes will be added.

5. 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:

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

NOTE: Check all that apply.

6. AGE STRUCTURES: Record whether age structures were collected on this trip by placing an "X" in the box next to the appropriate code:

- N = No
- Y = Yes

7. 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

8. 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

9. FISHERMEN COMMENT LOG: Record whether a Fishermen 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" only if a Fishermen Comment Log is physically in the trip.

10. 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.

11. 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 reg-

istration number. This number may have up to eight characters. This is not the same as the NMFS or state fishing permit number.

Examples: USCG Documentation Number - 1234567.
State Registration Number - ME1234A or NC1234AB.

12. 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 (#11). This information must be obtained from the Captain.

13. 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 (#24), PORT LANDED (#20), or the port of registry on the vessel's stern.

14. PORT CODE: Leave this field blank.

15. 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. Record code 10 in TIME LOST REASON (#52). Record the amount of time that elapses between leaving the first dock and leaving the last dock to begin steaming to the fishing grounds in TIME LOST AMOUNT (#53).

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

16. 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. Record code 10 in TIME LOST REASON (#52). Record the amount of time that elapses between leaving the first dock and leaving the last dock to begin steaming to the fish-

ing grounds in TIME LOST AMOUNT (#53).

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

17. VESSEL NAME #2: (For pair trawl and joint venture trips only). Record the name of the vessel with which you are paired, or with which you are conducting joint venture operations. Care should be taken to record the correct spelling of the vessel's name.

18. VESSEL HULL NUMBER #2: (For pair trawl and joint venture trips only). Record the number written on the hull of the vessel with which you are paired, or with which you are conducting joint venture operations. See VESSEL HULL NUMBER #1 (#11) for further instructions on recording vessel numbers.

19. VESSEL PERMIT NUMBER #2: (For pair trawl and joint venture trips only). Record the permit number of the vessel with which you are paired, or with which you are conducting joint venture operations. This number will be different than the VESSEL HULL NUMBER #2 (#18). This information must be obtained from the Captain.

20. PORT LANDED: Record the **name** of the port, **including the state**, where the vessel offloads its catch. This may be different from the HOME PORT (#24), PORT SAILED (#13), or the port of registry on the vessel's stern.

NOTE: If the vessel sells its catch at more than one port, record the port where most of the catch is sold.

21. PORT CODE: Leave this field blank.

22. 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 02/03/01, 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 02/07/01 and arranges to sell its catch. DATE LANDED is 02/07/01.

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

23. 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/beach anchored gillnet trips, record the local time that the fishing operations have ended and all fish have been picked and sorted.

24. 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 (#13), the PORT LANDED (#20), or the port of registry on the vessel's stern.

Example: Gloucester, MA.

25. PORT CODE: Leave this field blank.

26. 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.

27. 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.

28. 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 S. Dealer List](#) for a list of dealer names and the city and state they are located in.

29. 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. Obtain this information from the Captain.

30. 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 (#52).

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 (#52) and AMOUNT (#53).

NOTE: If gear being observed is beach seine/beach anchored gillnet, 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.

31. 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.

32. 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.

33. 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.

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).

34. 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.

35. SUPPLIES: Record, to the nearest dollar, the price paid for commonly used 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.

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

36. 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.

37. 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".

38. 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.

39. 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".

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

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

GEAR INFORMATION

42. PRIMARY GEAR: Indicate the principal gear used during this trip by recording the most appropriate gear name possible, as listed in Appendix D. Gear Codes.

NOTE: Primary gear is defined as the gear used the majority of the trip.

43. GEAR CODE: **Leave this field blank.**

44. 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 D. Gear Codes.

45. GEAR CODE(S): **Leave this field blank.**

46. HAULED/USED: Indicate whether or not the type of gear(s) listed in PRIMARY GEAR (#42) and OTHER GEAR(S) (#44) was/were hauled by the vessel during this trip by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

47. NUMBER ONBOARD: Record the number of each type of fishing gear onboard the vessel at the start of the trip.

Examples: 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 nets.

Trawl - Number of nets.

Scallop - Number of dredges or nets.

Beach Anchored Gillnet - Number of nets onboard when dory left trailer to set gear.

NOTE: This field is only completed if the observer was present for set/haul.

48. NUMBER SOAKING: Record the number of each type of fishing gear the captain has soaking in the water at the beginning of this trip.

Examples: 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 nets.

Beach Anchored Gillnet - Number of nets soaking prior to observers arrival.

NOTE: This field is only completed if the observer was not present for set.

49. 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 (#42) and OTHER GEAR(S) (#44)**.

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) (#44) was (were) **not used** during this trip, record a dash in this field.

50. TARGET SPECIES: Indicate the principal species, or species group, sought with the type of gear recorded in PRIMARY GEAR (#42) and OTHER GEAR(S) (#44) 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.

Examples: Cod.

Flounder NK.

Weakfish & Croaker.

NOTE: If the gear type(s) listed in OTHER GEAR(S) (#44) was (were) **not used** during this trip, record a dash in this field.

51. SPECIES CODE: Leave this field blank.

TIME LOST

52. REASON: Indicate the reason(s) for any amount of **fishing** time the vessel loses during this trip while using the **primary** gear type, by recording the most appropriate two digit code as listed below and in Appendix H. 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.

53. AMOUNT: Record, to the nearest tenth of an hour, for each reason recorded above (#52), 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

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

55. 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.

PRIMARY SPECIES LANDED

56. SPECIES NAME: 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.

Examples: Cod.

Winter Skate (Wings).

SCALLOP TRIPS ONLY: CATCH INFORMATION

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

0 = No.

1 = Yes.

58. MIXED?: Record whether, during the trip, any scallop meats were mixed with larger or smaller scallop meats by placing an "X" next to the appropriate code:

0 = No.

1 = Yes.

NOTE: "**Mixed**" refers to the practice of mixing the catch to get a certain meat count per bag.

59. NUMBER OF BAGS: Record the **total** number of bags of shucked scallops from this trip.

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

60. 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.

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.

**VESSEL AND TRIP INFORMATION LOG
NMFS FISHERIES OBSERVER PROGRAM
OBTRP OBTRG OBTRS 01/01/10**

IN-OFFICE	DATE RECEIVED	
	EDITED BY	

OBS/TRIP ID 1	PROGRAM CODE 2	FLEET ID 3	VENDOR ID 4	INCIDENTAL TAKES 5 N B M T	AGE STRUCTURES 6 N Y	WHOLE FISH 7 N Y	FIELD DIARY 8 N Y	COMMENT LOG 9 N Y
VESSEL NAME # 1 10	VESSEL NUMBER # 1 11	VESSEL PERMIT # 1 12	PORT SAILED (CITY, STATE) 13	CODE 14	DATE SAILED 15	mm/dd/yy	TIME SAILED 24 h 16	:
VESSEL NAME # 2 17	VESSEL NUMBER # 2 18	VESSEL PERMIT # 2 19	PORT LANDED (CITY, STATE) 20	CODE 21	DATE LANDED 22	mm/dd/yy	TIME LANDED 24 h 23	:
HOME PORT (CITY,STATE) CODE 24 25	EXP. TRIP DUR 26 day(s)	CREW SIZE (INCLUDE CAPT) 27	DEALER'S NAME 28	VTR SERIAL NUMBER 29	STEAM TIME (calc) 30	.	hrs	

TRIP TYPE Single Gear 31 1	ICE USED 32	FUEL USED 33	DAMAGE/LOSS * Unknown 34	SUPPLIES * Unknown 35	FOOD Unknown 36	ICE (PER TON) Unknown 37	FUEL (PER GAL) Unknown 38	WATER Unknown 39	OIL Unknown 40	BAIT Unknown 41
Multiple Gear 2	_____ . ___ tn	_____ gal	\$ _____ . 00	\$ _____ . 00	\$ _____ . 00	\$ _____ . ___	\$ _____ . ___	\$ _____ . 00	\$ _____ . 00	\$ _____ . 00

GEAR INFORMATION (IN USE & STOWED)							TIME LOST *		
PRIMARY GEAR 42	CODE 43	USED? No 0 Yes 1	# ONBRD 47	# SOAK 48	CAPT EXP (yrs) 49	TARGET SPECIES 50	CODE(S) 51	REASON 52	AMOUNT 53
OTHER GEAR 1 44	CODE 45	USED? No 0 Yes 1	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)	_____	_____ hrs
OTHER GEAR 2 44	CODE 45	USED? No 0 Yes 1	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)	_____	_____ hrs
OTHER GEAR 3 44	CODE 45	USED? No 0 Yes 1	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)	_____	_____ hrs

# TRIP HAULS 54	# UNOBSERVED HAULS 55	PRIMARY SPECIES LANDED 56	SCALLOP TRIPS ONLY		
		SOAKED? 57	MIXED? 58	# OF BAGS 59	AVERAGE WGT/BAG 60
		No 0	No 0		_____ lb
		Yes 1	Yes 1		

COMMENTS

* Fields that require a comment

VESSEL AND TRIP INFORMATION LOG
NMFS FISHERIES OBSERVER PROGRAM
OBTRP OBTRG OBTRS 01/01/10

IN-OFFICE	DATE RECEIVED	
	EDITED BY	

OBS/TRIP ID A 7 4 1 0 1 -	PROGRAM CODE 0 0 0	FLEET ID 046	VENDOR ID 02	INCIDENTAL TAKES <input type="checkbox"/> N <input checked="" type="checkbox"/> B <input type="checkbox"/> M <input type="checkbox"/> T	AGE STRUCTURES <input type="checkbox"/> N <input checked="" type="checkbox"/> Y	WHOLE FISH <input checked="" type="checkbox"/> N <input type="checkbox"/> Y	FIELD DIARY <input type="checkbox"/> N <input checked="" type="checkbox"/> Y	COMMENT LOG <input checked="" type="checkbox"/> N <input type="checkbox"/> Y
VESSEL NAME # 1 Cormorant	VESSEL NUMBER # 1 663242	VESSEL PERMIT # 1 141859	PORT SAILED (CITY, STATE) CODE New Bedford, MA	DATE SAILED mm/dd/yy 0 1 / 1 3 / 0 9	TIME SAILED 24 h 15:30			
VESSEL NAME # 2	VESSEL NUMBER # 2	VESSEL PERMIT # 2	PORT LANDED (CITY, STATE) CODE New Bedford, MA	DATE LANDED mm/dd/yy 0 1 / 2 6 / 0 9	TIME LANDED 24 h 23:02			
HOME PORT (CITY,STATE) CODE Cape May, NJ	EXP. TRIP DUR 14 day(s)	CREW SIZE (INCLUDE CAPT) 6	DEALER'S NAME Bergie's Seafood Inc	VTR SERIAL NUMBER 10287421	STEAM TIME (calc) 12.3 hrs			

TRIP TYPE Single Gear 1 <input checked="" type="checkbox"/> Multiple Gear 2 _____	ICE USED _____ tn 25.00	FUEL USED _____ gal 6500	DAMAGE/LOSS * Unknown _____ \$ 0 .00	SUPPLIES * Unknown _____ \$ 100 .00	FOOD Unknown _____ \$ 1400 .00	ICE (PER TON) Unknown _____ \$ 45 .00	FUEL (PER GAL) Unknown _____ \$ 2 .65	WATER Unknown _____ \$ 0 .00	OIL Unknown _____ \$ 0 .00	BAIT Unknown _____ \$ 15 .00
---	--------------------------------------	---------------------------------------	---	--	---	--	--	---	---	---

GEAR INFORMATION (IN USE & STOWED)							TIME LOST *		
PRIMARY GEAR	CODE	USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)	REASON	AMOUNT
Sea Scallop Dredge		No 0 Yes 1 <input checked="" type="checkbox"/>	2	0	20	Sea Scallops		07	12.8 hrs
OTHER GEAR 1		No 0 Yes 1 _____						02	3.5 hrs
OTHER GEAR 2		No 0 Yes 1 _____							
OTHER GEAR 3		No 0 Yes 1 _____							

# TRIP HAULS 273	# UNOBSERVED HAULS 130	PRIMARY SPECIES LANDED Sea Scallops	SCALLOP TRIPS ONLY			
			SOAKED? No 0 <input checked="" type="checkbox"/> Yes 1 _____	MIXED? No 0 <input checked="" type="checkbox"/> Yes 1 _____	# OF BAGS 340	AVERAGE WGT/BAG 48 lb

Supplies are for boots, gloves and knives.

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 for a little less than 4 hours. Fixed and started fishing again.

* Fields that require a comment

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, Northeast Fisheries Observer Program, 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 09/30/2012.

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) 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 ▼

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 / 06

Observer Trip ID # A02012L

Vessel Name JO JO

USCG Doc # 1234567

Date Landed 05 / 01 / 06

JOHN SMITH
PRINT Name

JOHN SMITH
Signature

PRINT Mailing Address:
PO BOX 1234
GLOUCESTER, MA 01930

Captain
 Owner

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 # A02012L

Date Requested 05/01/06

Mail Request To:

Questions or Comments:

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

Patricia Yoos
508-495-2338

COMMON HAUL LOG DATA

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 number is the number recorded on the Vessel and Trip Information Log. Use this Observer/Trip Identifier on all forms for this trip. Use Table 1 to determine the correct trip extension. For further instructions and specific examples on completing this field refer to Appendix F. Observer/Trip Identifier Instructions.

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

Table 1.

Example: Observer Green, who has been assigned identifier A02, is on her second trip of the calendar year, and it is a limited fish sampling gillnet trip. The observer/trip identifier is recorded as A02002L.

B. DATE LANDED: Record the month and year that the vessel first arrives in port and 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 2 provides a brief summary. For specific examples, see Appendix G. Page Numbering Instructions.

NOTE: Haul Logs are a "cover" sheet for the following other logs (listed in the or-

der of order/numbering): Individual Animal Log, Length Frequency Log, Crustacean Sample Log.

Per Trip
Scallop Dredge Off-Watch Haul Log
Marine Mammal, Sea Turtle and Debris Sighting Log
Incidental Take Log
Marine Mammal Sample Log
Sea Turtle Sample Log
Per Haul
Haul Log (all)
Individual Animal Log
Length Frequency Log
Crustacean Sample Log
Catch Composition Log

Table 2.

D. GEAR CODE: Indicate the type of gear fished by recording the appropriate three digit code as listed in Appendix D. Gear Codes.

E. HAUL NUMBER: Record the haul number each time gear is hauled on this trip. Start with "1" for the first haul, and continue numbering sequentially for the following hauls.

F. 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. Discard data is collected only for incidental takes and those species that are recorded on the Individual Animal Log. 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.* **Do not record any discard information for unobserved hauls on haul logs.**

G. 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: Haul can still be unobserved.

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*.

NOTE: All examples would be unobserved hauls.

H. 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.

I. 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 Sea Bird Incidental Take Log.

J. WEATHER: Indicate the weather at the begin-

ning of the haul by recording the most appropriate two digit code listed in Appendix J. Weather Codes.

K. 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.

L. 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).

M. 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.

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

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

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

NOTE: See Appendix P. 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 E.1. Map of the Northeast Statistical Areas.

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-** .

P. 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 A. Species Names. 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.

Examples: Cod
Monkfish
Weakfish & Croaker

Q. TARGET SPECIES CODE: Leave this field blank.

R. SPECIES NAME: Record the **complete** common name of each species or debris item caught in this haul as listed in Appendix A. Species Names.

Examples: Winter skate wings
Spiny dogfish
Summer flounder
Debris, Fish Gear

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

S. SPECIES CODE: Leave this field blank.

T. CATCH DISPOSITION: Indicate whether the weight recorded in POUNDS (U) is kept or discarded by recording the appropriate alpha abbreviation:

K = Kept.
D = Discarded.

U. POUNDS: Record the dressed or round, actual or estimated haul weight for each caught species listed in SPECIES NAME (R). Record this weight in the most accurate form possible, *i.e.* if a species is gutted at sea, record a dressed weight for this species. The observer's actual weight should be recorded whenever possible.

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

NOTE: Kept is defined as brought on board

the vessel and retained for market or consumptive purposes.

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 (V). 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.

NOTE: When a **fish** is discarded by the vessel, **but retained whole by the observer**, for scientific purposes, *i.e.* species identification, record the discarded fish weight next to the correct species name, and code it 007 for FISH DISPOSITION (V).

V. FISH DISPOSITION: Indicate the disposition of each species listed in SPECIES NAME (R) by recording the most appropriate three digit code listed in Appendix B. Fish Disposition Codes.

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 the observer is on. 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.

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.

Examples: Any lobster caught in Maine in non-pot gear is discarded because "Regulations prohibit any retention (including no permit" (025). 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).

NOTE:

formation is obtained from the captain, then ESTIMATED BY CAPTAIN (04) should be recorded. 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.

WEIGHT TYPE CLASSIFICATION

NOTE: If more than one weight type classification applies to a species, separate the species onto two or more lines, and record the appropriate weights and weight type classification codes for each.

W. DRESSED OR ROUND: Indicate whether the weight recorded in POUNDS (U) 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.

X. ESTIMATION METHOD: Record the method used to estimate the catch weight of each species (including debris) by recording the appropriate number code:

01 = Actual.

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.

98 = Combination, describe in COMMENTS.

99 = Other, describe in COMMENTS.

NOTE: Actual = all fish, or shellfish, weighed with a scale.

NOTE: If the haul is unobserved but kept in

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) **hailed** 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.

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.

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 Pelagic Drift Gillnet.

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.

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.

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

Dropline: A line that connects the floats on the water's surface to the mainline/floatline. Droplines are used along the entire string to suspend the gear in the water column.

Tiedown: A line used between the floatline and the leadline as a way to create a pocket or bag of netting. It is the working height of the net.

Buoyline: A line that connects the buoy(s) or high flyer(s) at the surface 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.

INSTRUCTIONS

For instructions on completing the Header Fields **A-D**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

GEAR INFORMATION

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.

NOTE: If two or more identical gears are used, assign consecutive numbers to each gear and record all of these num-

bers on one Gillnet Gear Characteristics Log.

Example: The first uniquely configured gear is “1”, and its characteristics will be recorded on one Gillnet Gear Characteristics Log. The next two **identical** gears are “2, 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 nets 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.

5. MESH COUNT, VERTICAL: Record 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 “1/2”.

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 the NEFSC Observer Program or contractor. This information may also be obtained from the Captain. **An average should not be recorded here.** See Appendix P. 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 the NEFSC Observer Program or contractor. 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.

14. LENGTH: Record, to the nearest tenth of a foot, the average length of the tiedowns used in this gear. This information may be obtained from the Captain (See Figure 1).

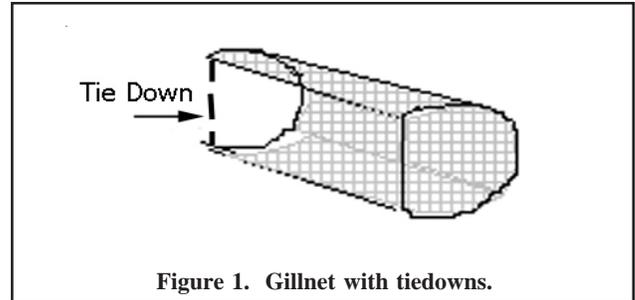


Figure 1. Gillnet with tiedowns.

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:

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

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 length of the droplines used in this gear. This length is the distance from the floats (at the water's surface) to the nets. 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.

26. TYPE(S): Indicate which type(s) of anchor(s) are used on this gear by placing and “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

An “active” marine mammal deterrent device is a device which emits sound which may be detected by a marine mammal.

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.
- 98 = Combination, record all brands in the COMMENTS.
- 99 = Other, record the brand on line 31A.

PASSIVE MARINE MAMMAL DETERRENT DEVICES

A "passive" marine mammal deterrent device is a device which may provide reflection of marine mammal echolocation signals or be detected visually. If used, describe in the COMMENTS.

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.

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.

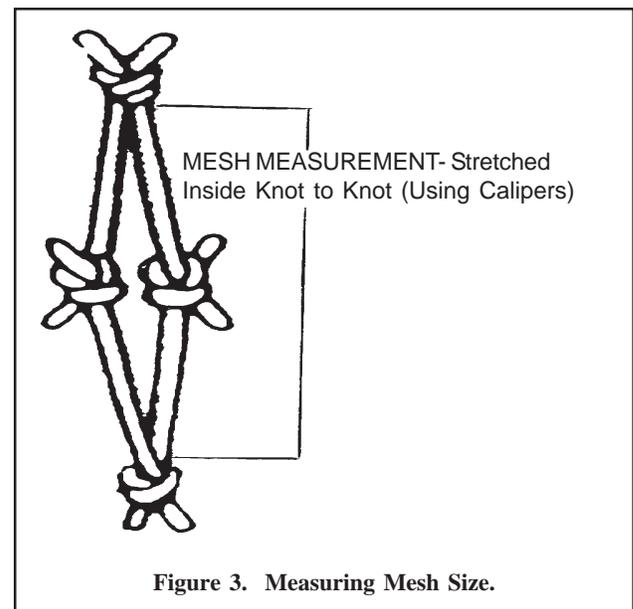


Figure 3. Measuring Mesh Size.

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 value may be obtained by measuring a stretched mesh using calipers. This measurement should be taken inside, from knot to knot, stretched in the direction in which the mesh is hung. See Figure 3 and [Appendix O. Vernier Caliper Instructions](#) for further information. This information may also 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.

# NETS	MESH SIZE in.
3	6.25
3	6.50

A (E)
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. See NUMBER OF NETS AT EACH MESH SIZE (#34) for measurement instructions. An **estimated** mesh size measurement is provided by the Captain.

NOTE: The observer should obtain **at least** one actual measurement per mesh size category, for each unique gear configuration. If the observer is unable to obtain (an) actual measurement(s), record the reason in COMMENTS.

Example: The Captain states that in a string of 10 nets, 5 are at 5 inches and 5 are at 5.25 inches. Using calipers, the observer should take at least one mesh size measurement from a net in the 5 inch mesh size section and at least one other measurement from a net in the 5.25 inch section.

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 calcu-

lated as described above, or 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

NOTE: The surface system refers to the configuration of high flyers and buoys at the surface of the water. See Figure 4.

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 K. 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 K. 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 K. 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 is selected for Buoyline Type Code (#50), otherwise dash '-' the field.

Example: The Captain states that he has 40 fathoms of sinkline line and 20 fathoms of floating line. This should be recorded 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

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.

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 4.

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 K. 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 4.

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 K. 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, *i.e.* 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 (*i.e.* surface weak link type: other = modified swivel). 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.

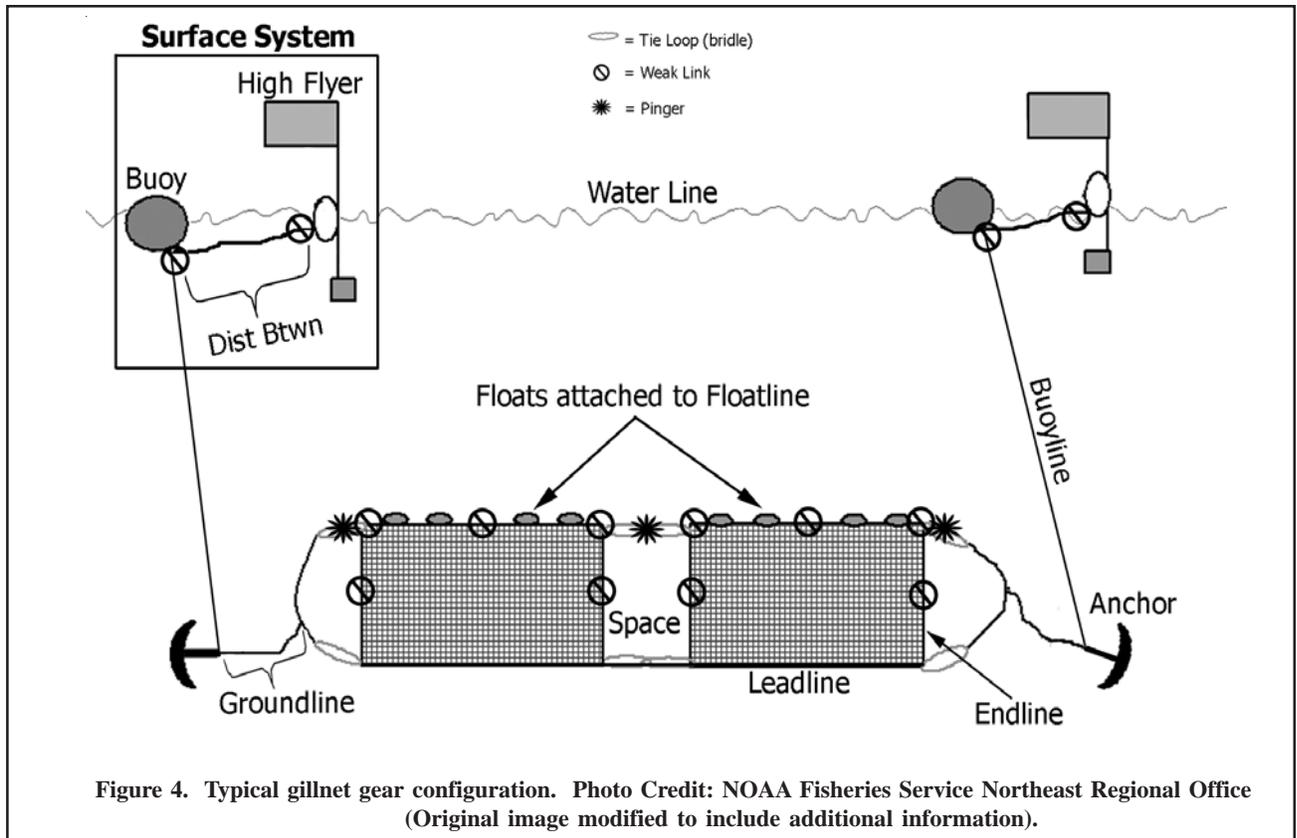


Figure 4. Typical gillnet gear configuration. Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



Figure 5. Image of marked buoy. Photo Credit: NOAA Fisheries Service Northeast Regional Office.

OBS/ TRIP ID	A
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PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

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

DIAGRAMS FOR REFERENCE ONLY

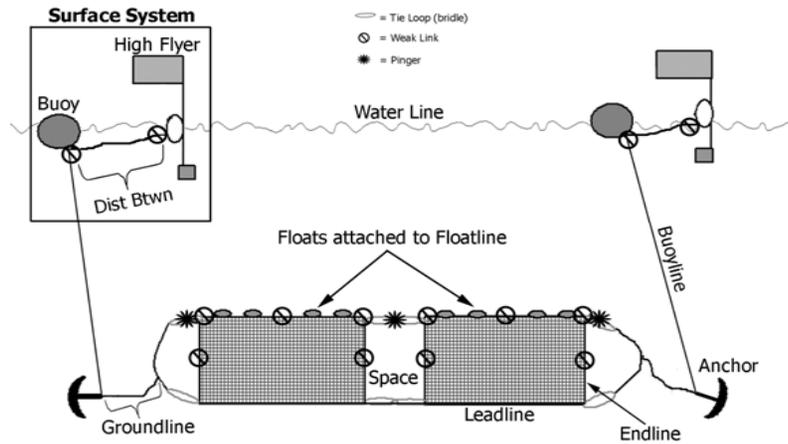
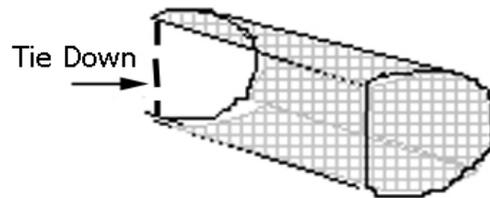


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



FOR OFFICE USE ONLY

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

DIAGRAMS FOR REFERENCE ONLY

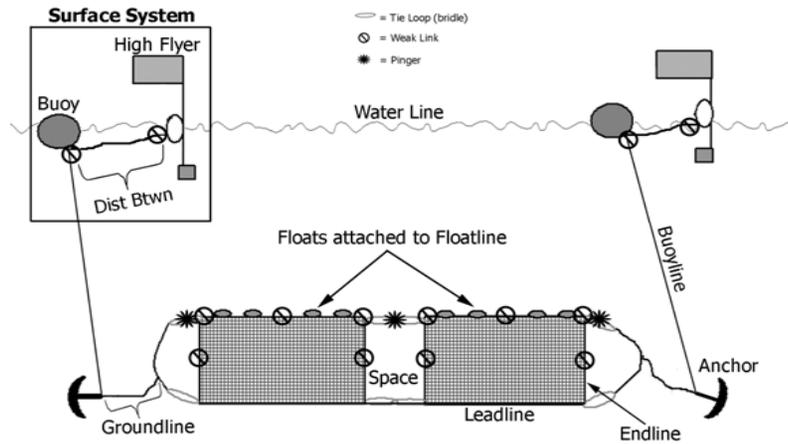
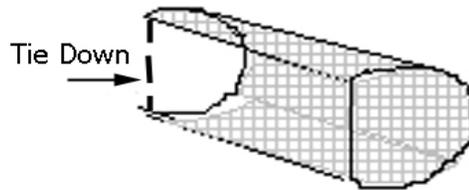


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



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**GILLNET GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM**

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

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

GEAR CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		GEAR NUMBER(S)		NUMBER OF NETS		MESH SIZE(S)			NET COLOR																
AVERAGE NET:		USED?		MEASUREMENTS		<table border="1"> <tr> <th># OF NETS</th> <th>MESH SIZE (inches)</th> <th>(circle one)</th> </tr> <tr> <td></td> <td>. ____</td> <td>A / E</td> </tr> </table> <p style="text-align: center;">OR MESH SIZE RANGE _____ - _____</p>			# OF NETS	MESH SIZE (inches)	(circle one)		. ____	A / E	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										
# OF NETS	MESH SIZE (inches)	(circle one)																							
	. ____	A / E																							
	. ____	A / E																							
	. ____	A / E																							
	. ____	A / E																							
LENGTH _____ ft	FLOATS	NO 0__	YES 1__	Dist Between _____ ft																					
HEIGHT (endline) _____ ft	TIE DOWNS	0__	1__ (all nets)	Length _____ ft																					
MESH COUNT VERTICAL _____	SPACE(S) BETWEEN NETS	0__	1__	Number _____																					
HANGING RATIO _____ / _____	DROPLINES	0__	1__	Width _____ ft																					
TWINE SIZE _____ (circle one) A / E	ADDITIONAL WGTS	0__	1__	Length _____ ft																					
FLOATLINE MATERIAL	ANCHOR(S)	0__	1__	Weight _____ lbs																					
Unknown 0__	Number _____			Type _____																					
Floating (foam core) 1__	Weight (total) _____ lbs			Unknown 0__																					
Twisted Polypropylene 2__	SECURING METHOD(S)			Danforth-style 1__																					
Other 9__	None 1__			Dead Weight 2__																					
	Ocean Bottom 2__			Combination 8__																					
	Vessel/Ocean Bottom 3__			Other 9__																					
	Vessel Only 4__																								
LEADLINE WEIGHT _____ lbs/ net	MM DETERRENT DEVICES		ACTIVE USED? 0__ 1__		Brand(s)																				
			Number _____		Unknown 00__																				
			Frequency _____ kHz		Dukane 01__																				
			PASSIVE USED? 0__ 1__		Airmar 02__																				
			Number _____		Fumunda 03__																				
					Combination 98__																				
					Other 99__																				
COMMENTS					SURFACE SYSTEM			BUOYLINE																	
					# of High Flyer(s) _____			# of Buoyline(s) _____																	
					# of Buoy(s) _____			Length (avg) _____ ft																	
					Surface Line Length (avg) _____ ft			Type Code _____																	
					Type Code _____			Percent of Type (sinking / floating) ____ / ____ %																	
					Diameter _____ / _____ in			Diameter _____ / _____ in																	
					Mark? NO 0__ YES 1__			Mark? NO 0__ YES 1__																	
					GROUNDLINE			WEAK LINKS																	
					USED? NO 0__ YES 1__			USED ON SURFACE? 0__ 1__																	
					Length (total) _____ ft			Number (total) _____																	
					Type Code _____			Type Code _____																	
					Diameter _____ / _____ in			USED ON STRING? 0__ 1__																	
								Number (total) _____																	
								Type Code _____																	

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

DIAGRAMS FOR REFERENCE ONLY

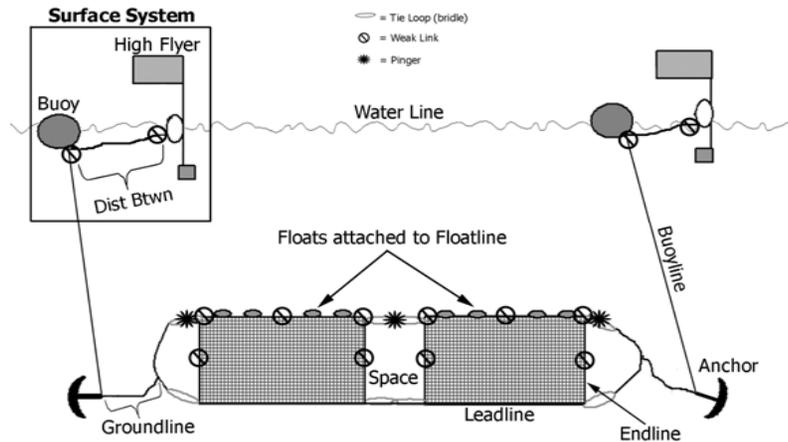
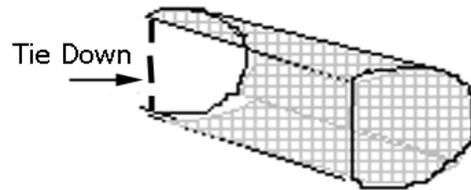


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



FOR OFFICE USE ONLY

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, weather, depths, times, positions, *etc.*).

The Species Information section of this log should be used to record catches of groundfish species, debris and shells according to the sampling protocol being followed on that particular trip.

Complete Fish Sampling Trips: 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: 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**.

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

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 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 Sea Bird Incidental Take Log. See Appendix R. 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 com-

plete 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

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-X, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

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

2. 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.

3. 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(s) to the net height.

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

SET/HAUL INFORMATION

Set Information for the next 3 fields (#'s 4, 5 and 6):

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**.

4. 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 (#6). Record the month, day, and year, based on local time, that this haul began and ended.

5. 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 (#6) 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: Record the set times of the majority of the nets in the string.

6. 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 4 and 5).

NOTE: Record estimated set times used to

calculate SOAK DURATION in COMMENTS.

7. 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 I. 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.
- 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.
- 990 = Other, specify in COMMENTS.

8. 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 P. Conversion Tables to convert it to Fahrenheit.

NOTE: Use a "ScoopMaster" thermometer to obtain this temperature.

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

NUMBER OF NETS

9. 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 Gillnet Gear Characteristics Log(s).

10. 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.

11. 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:

An "active" marine mammal deterrent device is a device which emits sound which may be detected by a marine mammal.

12. 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 in the COMMENTS.

13. 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:

A "passive" marine mammal deterrent device is a device which may provide reflection of marine mammal echolocation signals.

14. 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).

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.

15. 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.

16. 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 16A.
- 99 = Other, record the set method(s) on line 16A.

COMMENTS

Record any additional information regarding this haul, *i.e.* 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.

GILLNET HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBGGH OBHAU OBSPP 01/01/10

OBS/ TRIP ID	B02089C
DATE LAND (mm/yy)	10 / 09
PAGE #	1 OF 1

GEAR CODE 1 0 0	GEAR # 0 2	HAUL # 0 0 2	HAUL OBS? NO 0 YES 1 X	ON-EFFORT? NO 0 YES 1 X	MM WATCH? NO 0 X YES 1	CATCH? NO 0 YES 1 X	INC TAKE? NO 0 X YES 1	WEATHER CODE 03	WIND SPEED 15 kn	WIND DIRECTION 45 °	WAVE HEIGHT 5 ft	DEPTH, HAUL BEGIN BOTTOM 90 fm LEADLINE 90 fm	
SET INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				ESTIMATED SOAK DURATION	TARGET SPECIES	CODE(S)	GEAR COND CODE				
S E T	BEGIN / / : END / / :	Station 1 9960 -	Latitude / Bearing 40° 48.3	Station 2 9960 -	Longitude / Bearing 71° 26.8	72.0 hrs	Monkfish		210				
HAUL INFO						WATER TEMP	NUMBER OF NETS	IF MM DETERRENTS USED:					
H A U L	BEGIN 10 / 07 / 09 07 : 54 END 10 / 07 / 09 09 : 05	9960 - 9960 -	40° 48.3 40° 49.4	9960 - 9960 -	71° 26.8 71° 27.5	° F	SET 15 HAULED 15 LOST 0	ACTIVE PASSIVE HAULED _____ LOST _____					

COMMENTS

Captain said net was set three days ago.

Captain tailing smaller monks.

SET METHOD

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

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Monkfish (tail)		K	59	100	D	01							
Monkfish (liver)		K	12	100	D	01							
Monkfish		K	350	100	R	03							
Monkfish		D	24	012	R	01							
Winter Skate (wings)		K	35	100	D	04							
Little Skate		D	100	001	R	03							
Jonah Crab		D	50	001	R	06							
American Lobster		K	7	100	R	01							
Atlantic Cod		K	17.5	100	D	01							
Sand Dab Flounder		D	16	001	R	01							

GILLNET HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBGGH OBHAU OBSPP 01/01/10

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

GEAR CODE	GEAR #	HAUL #	HAUL OBS? NO 0 _____ YES 1 _____	ON-EFFORT? NO 0 _____ YES 1 _____	MM WATCH? NO 0 _____ YES 1 _____	CATCH? NO 0 _____ YES 1 _____	INC TAKE? NO 0 _____ YES 1 _____	WEATHER CODE	WIND SPEED _____ kn DIRECTION _____ °	WAVE HEIGHT _____ ft	DEPTH, HAUL BEGIN BOTTOM _____ fm LEADLINE _____ fm
SET INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				ESTIMATED SOAK DURATION	TARGET SPECIES	CODE(S)	GEAR COND CODE		
S E T	BEGIN / / : END / / :	Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	_____ hrs	NUMBER OF NETS	IF MM DETERRENTS USED: ACTIVE _____ PASSIVE _____			
HAUL INFO						WATER TEMP _____ ° F	SET _____	HAULED _____	LOST _____		
H A U L	BEGIN / / : END / / :	9960 -		9960 -				HAULED _____	LOST _____		
COMMENTS							SET METHOD				
							Unknown 00 _____ Visual 05 _____ Temperature 01 _____ Mixed 98 _____ Bottom Contours 02 _____ Other 99 _____ Compass/Loran 03 _____ Tide/Current 04 _____				

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE

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 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; *i.e.* 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 & Trip 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. For OBSCON reporting, in the PRIMARY and SECONDARY SPECIES WEIGHTS fields, **include total weights only for hauls that were witnessed from HAUL BEGIN to HAUL END**. If possible, obtain the total pounds landed by the fishing vessel at the dock and record them in COMMENTS.

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 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 Trawl Gear Characteristics Log for the multiple hauls. Rather, record on the 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 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.

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.

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, *i.e.* squid.

Codend Strengtheners: Any material attached to the outside of the codend bag to prevent a full codend 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.

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.

Escape Outlet: An opening in the net to facilitate escape of fish, sea turtles, marine mammals, *etc.*

Gear: A trawl, commonly referred to as "the net". This includes ground cables, headrope, footrope, floats, weights, netting and any attached equipment.

Transducer: Conveys information regarding the fishing status. Located on various parts of the fishing gear.

INSTRUCTIONS

For instructions on completing the Header Fields **A, B, C and 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 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 Trawl Gear Characteristics Log. The second gear, although identical to gear "1" must have its own separate Trawl Gear Characteristics Log with 10 random codend mesh measurements collected for that codend.

2. NET NAME: Record the common name of the net. If it does not have a common name, record comments on any characteristics (*ex*; short vertical opening, sweep gear not heavy) that help to identify the net. This information may be obtained from the Captain.

Example: Bottom Trawl.

3. NET TYPE: Record the name of the net type used. This information may be obtained from the Captain.

Examples: Two seam Flynet.
Four seam Haddock Separator Trawl.
Two seam Flatfish net.

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.

Example: Shuman.

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.

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 6 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 2.

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 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. This information may be obtained from the Captain. See Figure 1.

NOTE: The ground cable may also be referred to as a sweep in some regions.

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.

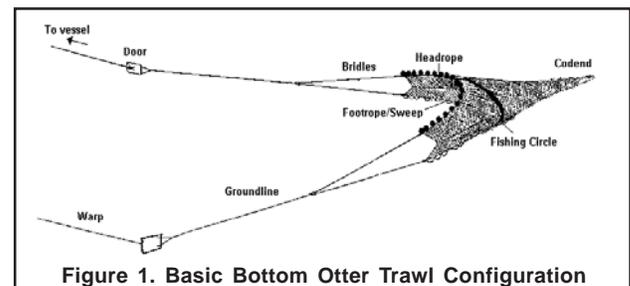


Figure 1. Basic Bottom Otter Trawl Configuration

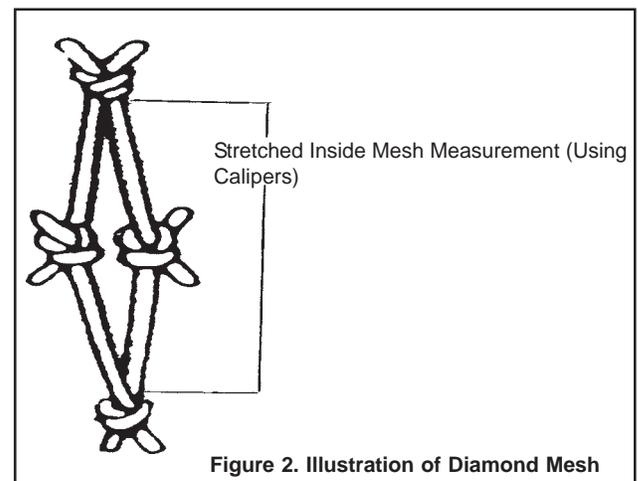


Figure 2. Illustration of Diamond Mesh

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 is also 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 Figures 1, 3 and 4):

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.

09 = 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 the LARGEST piece of gear used. 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 4.

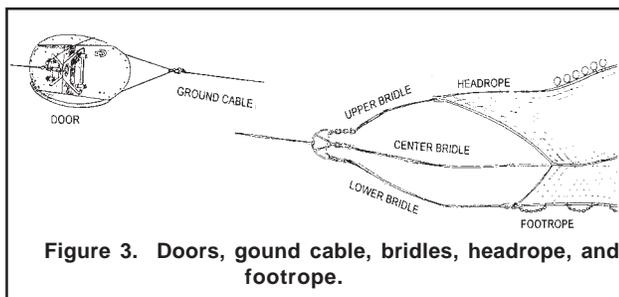


Figure 3. Doors, ground cable, bridles, headrope, and footrope.

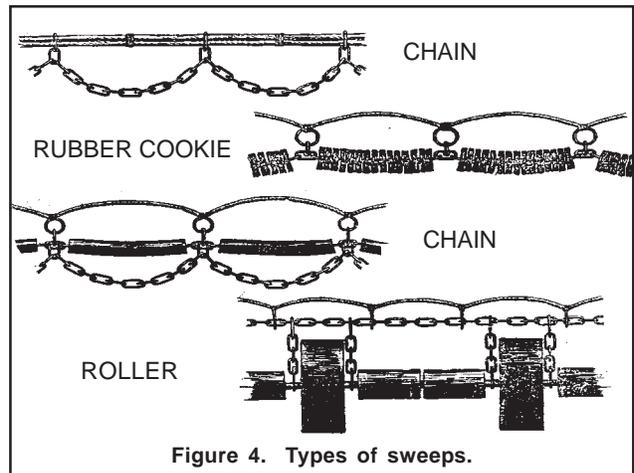


Figure 4. Types of sweeps.

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 (i.e. rollers) are of multiple sizes (i.e. 5 inch and 3 inch), measure and record the diameter of the largest one.

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 5).

2 = Square (see Figure 5).

- 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 6 for the location of the codend.

NOTE: If no liner is used on this gear, leave the liner hanging configuration blank.

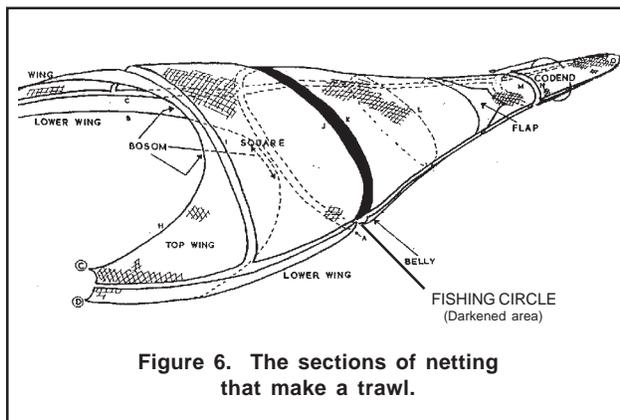
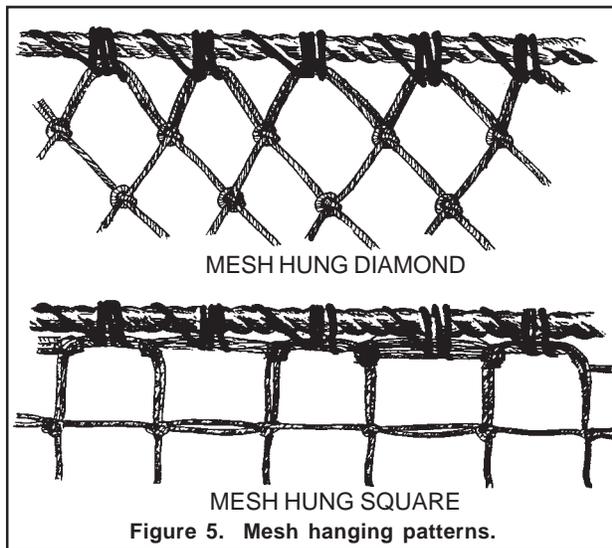


Figure 6. The sections of netting that make a trawl.

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.

28. CODEND MESH SIZE: Record, in whole millimeters, ten randomly selected meshes from the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for these measurements. See Figure 2 and Appendix O. Vernier Caliper Instructions for further information.

NOTE: These measurements are **not** bar lengths.

NOTE: Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the codend and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measurements should not be taken when the codend is frozen.

29. LINER MESH SIZE: Record, in whole millimeters, ten randomly selected meshes from the liner in the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for this measurement. See Figure 2 and Appendix O. Vernier Caliper Instructions for further information.

NOTE: The liner mesh size should be smaller than the codend mesh size.

NOTE: Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the liner and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measurements should not be taken when the liner is frozen.

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 appro-

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 Figures 1 and 6):

- 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 placing an "X" next to the appropriate code:

- 00 = Unknown.
- 01 = Nordmore Grate (see Figure 8).
- 03 = Separator Panel.
- 04 = Guiding Device (see Figure 8).
- 05 = Raised Footrope.
- 20 = T.E.D., Unknown.
- 21 = Standard T.E.D.
- 22 = Weedless T.E.D.
- 23 = Flounder T.E.D. (see 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).

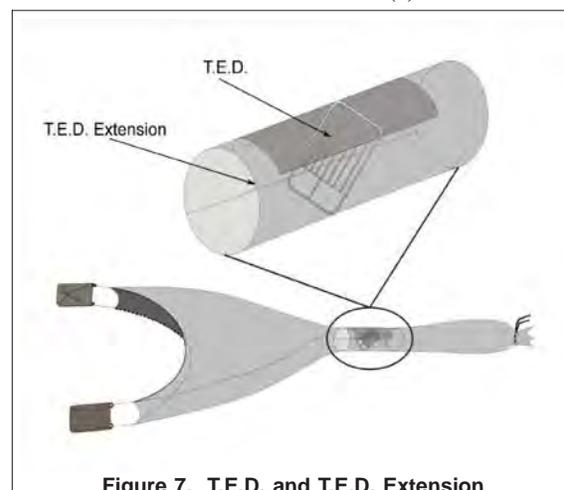


Figure 7. T.E.D. and T.E.D. Extension

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 number** is obtained using a measuring tool provided by the NEFSC Observer Program or contractor. An **estimated T.E.D. extension number** 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 recording 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 measure-

ment 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 both length and width.

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 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, *i.e.*, 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.

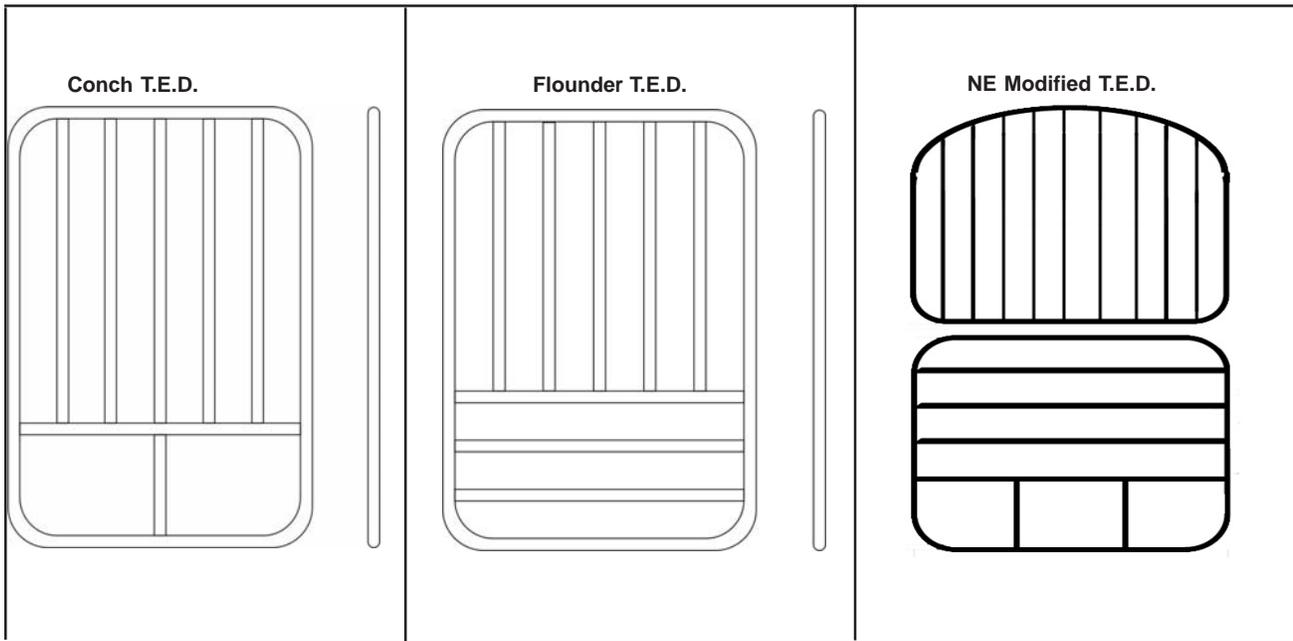
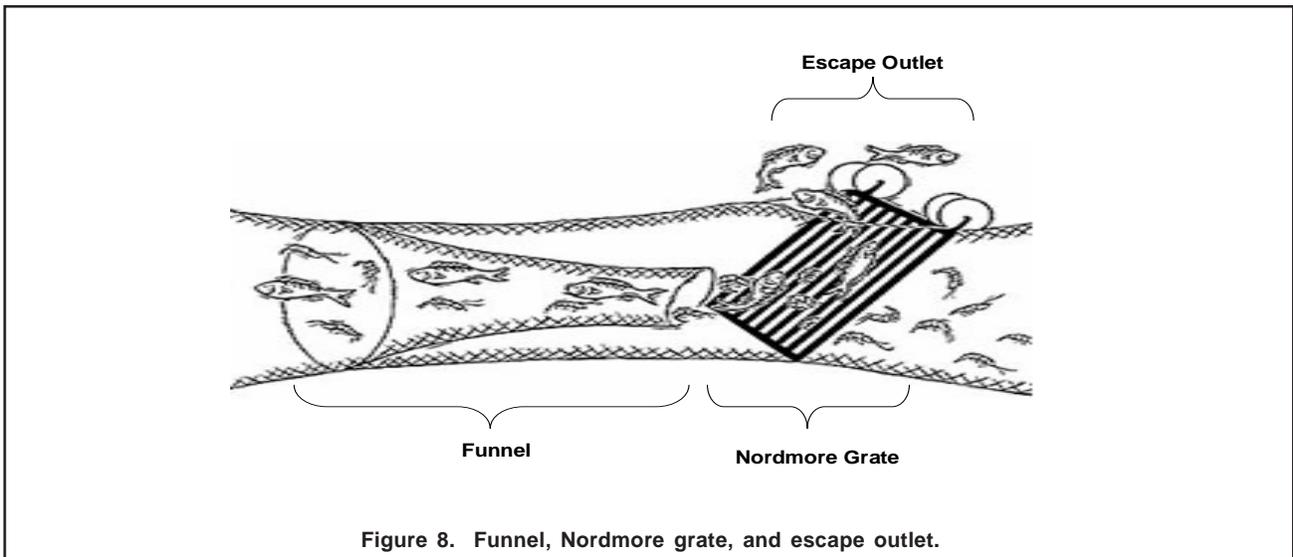


Figure 9. Examples of various T.E.D.'s.

TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBOTG 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE D <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	GEAR NUMBER 1	NET NAME 2	NET TYPE 3	NET BUILDER 4	CODEND/LINER HUNG CODEND LINER 26 Unknown 0 ___ ___ Diamond 1 ___ ___ Square 2 ___ ___ Square, wrapped 3 ___ ___ Combination 8 ___ ___	GEAR MOUNTED ELECTRONICS USED ? 30 NO 0 ___ YES 1 ___ NUMBER OF TRANSDUCERS 31 TYPE 32 Unknown 0 ___ Wired 1 ___ Wireless 2 ___ Both 3 ___	EXCLUDER/SEPARATOR DEVICE 35 USED? NO 0 ___ YES 1 ___ Type Code 36 T.E.D. EXTENSION 37 Mesh Size ___ . ___ in (circle one) A / E 38	
LINER USED? NO 0 5 YES 1 ___	CONSTRUCTION MATERIAL 8 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 15 ___ ft Footrope/Sweep 16 ___ ft Ground Cable 17 ___ fm Bridle 18 ___ fm		TWINE TYPE CODEND LINER 27 Single 1 ___ ___ Double 2 ___ ___ Single on Top/ Double on Bottom 3 ___ ___ Other 9 ___ ___	TYPE 32 Unknown 0 ___ Wired 1 ___ Wireless 2 ___ Both 3 ___	Mesh Size ___ . ___ in (circle one) A / E 38	
DOORS USED? NO 0 6 YES 1 ___	WEIGHT OF ONE DOOR 7 ___ kg		STRENGTHENER USED? 19 NO 0 ___ YES 1 ___		CODEND MESH SIZE 28 ___ mm ___ mm ___ mm ___ mm ___ mm ___ mm ___ mm ___ mm	BRAND 33 Unknown 0 ___ Furuno® 1 ___ Simrad® 2 ___ Northstar Tech 3 ___ Notus 4 ___ Marport 5 ___ Scanmar 6 ___ Combination 8 ___ Other 9 ___	ESCAPE OUTLET 39 USED? NO 0 ___ YES 1 ___ TYPE 40 Unknown 0 ___ Panel 1 ___ Opening 2 ___ Single Flap 3 ___ Double Flap 4 ___ Other 9 ___	
KITE PANEL KITE USED? 9 NO 0 ___ YES 1 ___	FISHING CIRCLE # MESHES 13 MESH SIZE 14 in		CHAFING GEAR USED? 20 NO 0 ___ YES 1 ___		LINER MESH SIZE 29 ___ mm ___ mm ___ mm ___ mm ___ mm ___ mm ___ mm ___ mm	Northstar Tech 3 ___ Notus 4 ___ Marport 5 ___ Scanmar 6 ___ Combination 8 ___ Other 9 ___	Other 9 ___	
COMMENTS		GROUND GEAR 21 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 ___ ___ ___		FLOATS 24 Number 22 Diameter 23 in		LOCATIONS 34 Unknown 0 <input type="checkbox"/> Headrope 1 <input type="checkbox"/> Wings 2 <input type="checkbox"/> Footrope 3 <input type="checkbox"/> Door 5 <input type="checkbox"/> Codend 6 <input type="checkbox"/> Other 9 <input type="checkbox"/>		40A MESH SIZE 41 in LENGTH # MESHES 42 OR 43 in WIDTH # MESHES 42 OR 43 in
		SWEEP GEAR Number 22 Diameter 23 in		FLOATS 24 Number 24 Diameter 25 in		SHAPE Type Code 44 LOCATION Type Code 45		

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="text"/> OF <input type="text"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES: 00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	ESCAPE OUTLET SHAPE CODES: 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	ESCAPE OUTLET LOCATION CODES: 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

FOR OFFICE USE ONLY

TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBOTG 01/01/10

OBS/TRIP ID	D03006-
DATE LANDED mm/yy	01 / 01
PAGE #	1 OF 1

GEAR CODE <table border="1"> <tr> <td>0</td> <td>5</td> <td>0</td> </tr> </table>		0	5	0	GEAR NUMBER <p>1</p>	NET NAME <p>Bottom Trawl</p>	NET TYPE <p>2 Seam Flatfish Net</p>	NET BUILDER <p>Northeastern Trawl Systems, Inc</p>	CODEND/LINER HUNG _____ CODEND _____ LINER _____ Unknown 0 _____ Diamond 1 _____ Square 2 <u>X</u> _____ Square, wrapped 3 _____ Combination 8 _____	GEAR MOUNTED ELECTRONICS USED? NO 0 _____ YES 1 _____ NO 0 _____ YES 1 <u>X</u> _____ NUMBER OF TRANSDUCERS <p>2</p>	EXCLUDER/SEPARATOR DEVICE USED? NO 0 <u>X</u> YES 1 _____ Type Code _____ T.E.D. EXTENSION Mesh Size _____ . _____ in (circle one) A / E
0	5	0									
LINER USED? NO 0 <u>X</u> YES 1 _____	CONSTRUCTION MATERIAL TYPE NET BODY CODEND LINER Unknown 00 _____ Nylon 01 _____ Poly 02 <u>X</u> <u>X</u> _____ Kevlar® 03 _____ Spectra® 04 _____ Tenex® 05 _____ Nomex® 06 _____ Combination 98 _____ Other 99 _____			LENGTH MEASUREMENTS Headrope <u>60</u> ft Footrope/Sweep <u>72</u> ft Ground Cable <u>30</u> fm Bridle <u>8</u> fm		TWINE TYPE CODEND LINER Single 1 _____ Double 2 <u>X</u> _____ Single on Top/ _____ Double on Bottom 3 _____ Other 9 _____		TYPE Unknown 0 _____ Wired 1 _____ Wireless 2 <u>X</u> _____ Both 3 _____	ESCAPE OUTLET USED? NO 0 _____ YES 1 <u>X</u>		
DOORS USED? NO 0 _____ YES 1 <u>X</u>	WEIGHT OF ONE DOOR <p>900 kg</p>			STRENGTHENER USED? NO 0 <u>X</u> YES 1 _____		CODEND MESH SIZE _____ mm _____ mm <u>128</u> mm <u>133</u> mm _____ mm _____ mm <u>128</u> mm <u>133</u> mm _____ mm _____ mm <u>128</u> mm <u>134</u> mm _____ mm _____ mm <u>127</u> mm <u>137</u> mm		BRAND Unknown 0 _____ Furuno® 1 _____ Simrad® 2 <u>X</u> _____ Northstar Tech 3 _____ Notus 4 _____ Marport 5 _____ Scanmar 6 _____ Combination 8 _____ Other 9 _____	TYPE Unknown 0 _____ Panel 1 <u>X</u> _____ Opening 2 _____ Single Flap 3 _____ Double Flap 4 _____ Other 9 _____		
KITE PANEL KITE USED? Number <u>3</u> NO 0 _____ Width <u>39</u> in YES 1 <u>X</u> Length <u>39</u> in		FISHING CIRCLE # MESHES <u>480</u> MESH SIZE <u>5.0</u> in		CHAFING GEAR USED? NO 0 _____ YES 1 <u>X</u>		LINER MESH SIZE _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm		LOCATION (check all that apply) Unknown 0 <input type="checkbox"/> Headrope 1 <input type="checkbox"/> Wings 2 <input type="checkbox"/> Footrope 3 <input type="checkbox"/> Door 5 <input checked="" type="checkbox"/> Codend 6 <input type="checkbox"/> Other 9 <input type="checkbox"/>	MESH SIZE <u>12</u> in LENGTH # MESHES <u>10</u> OR _____ in WIDTH # MESHES <u>60</u> OR _____ in SHAPE Type Code <u>05</u> LOCATION Type Code <u>1</u>		
COMMENTS <p>Doors are 1980 lbs each.</p>		GROUND GEAR TYPE GROUND CABLE BRIDLE/ LEG SWEEP Unknown 00 _____ Chain 01 _____ Cable / Wire 02 <u>X</u> _____ Wrapped Cable 03 _____ Rock Hopper 04 _____ Roller 05 _____ Rubber Cookie 06 _____ <u>X</u> _____ Bobbin 07 _____ Plate Gear 08 _____ None 98 _____ Other 99 _____				SWEEP GEAR Number <u>30</u> Diameter <u>16</u> in		FLOATS Number <u>15</u> Diameter <u>8</u> in		LOCATIONS _____ mm _____ mm _____ mm _____ mm	SHAPE Type Code <u>05</u> LOCATION Type Code <u>1</u>

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES:	ESCAPE OUTLET SHAPE CODES:	ESCAPE OUTLET LOCATION CODES:
	00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	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)

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OBS/TRIP ID	
DATE LANDED mm/yy	/
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ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES: 00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	ESCAPE OUTLET SHAPE CODES: 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	ESCAPE OUTLET LOCATION CODES: 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

FOR OFFICE USE ONLY

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, weather, depths, times, positions, *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 END TIME (#4) 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 (*i.e.* 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 Sea Bird Incidental Take Log. See Appendix R. 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 Trawl 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

OTTER TRAWL

Haul Begin: First component of net deployed, *i.e.* net hits the water.

Haul End: Hauling equipment put into gear.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Trawl Gear Characteristics Log(s).

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 I. 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.

3. BEGIN/END HAUL DATE: Record the month, day, and year, based on local time, that this haul began and ended.

4. 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).

5. 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.

6. TOW SPEED: Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

7. 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.

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. 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 P. Conversion Tables to convert it to Fahrenheit.

NOTE: Use a "ScoopMaster" thermometer to obtain this temperature.

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

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.

FISH PUMPING

NOTE: The following 2 fields, BEGIN/END DATE (#11) and BEGIN/END TIME (#12) should only be filled out if the fish are pumped from the codend.

11. BEGIN/END DATE: Record the month, day, and year, based on local time, that the fish pumping began and ended.

12. 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 (#13), HORIZONTAL OPENING (#14), and DOOR SPREAD (#15), should only be filled out if Gear Mounted Electronics are used.

13. 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.

14. 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.

15. 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, *i.e.* 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.

TRAWL HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBOTH OBHAU OBSPP 01/01/10

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

GEAR CODE D	GEAR # 1	HAUL # E	HAUL OBS? NO 0 _____ YES 1 F	ON-EFFORT? NO 0 _____ YES 1 G	CATCH? NO 0 _____ YES 1 H	INC TAKE? NO 0 _____ YES 1 I	WEATHER CODE J	WIND SPEED K kn DIRECTION L °	WAVE HEIGHT M ft	DEPTH, HAUL BEGIN N fm	GEAR COND CODE 2
--------------------	-----------------	-----------------	---	--	--	---	--------------------------	---	----------------------------	----------------------------------	----------------------------

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	/ 3 /	4 :	Station 1 9960 -	Latitude / Bearing O	Station 2 9960 -	Longitude / Bearing	5	6 kn	7 fm
BEGIN FISHING	/ 8 /	:	COMMENTS				WATER TEMP	TARGET SPECIES	CODE
END HAUL	/ /	:					9960 -		9960 -

GEAR ONBOARD	/ 10 /	:	COMMENTS						VERTICAL OPENING **
FISH PUMPING									13 ft
BEGIN	/ 11 /	12 :							HORIZONTAL OPENING **
END	/ /	:	DOOR SPREAD **	15 ft					

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X							

TRAWL HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBOTH OBHAU OBSPP 01/01/10

OBS/ TRIP ID	D03006-
DATE LAND (mm/yy)	01 / 07
PAGE #	1 OF 2

GEAR CODE 0 5 0	GEAR # 0 1	HAUL # 0 2 3	HAUL OBS? NO 0 _____ YES 1 <u>X</u>	ON-EFFORT? NO 0 _____ YES 1 <u>X</u>	CATCH? NO 0 _____ YES 1 <u>X</u>	INC TAKE? NO 0 <u>X</u> YES 1 _____	WEATHER CODE 01	WIND SPEED 5 kn DIRECTION 320 °		WAVE HEIGHT 3 ft	DEPTH, HAUL BEGIN 20 fm	GEAR COND CODE 010
---------------------------	----------------------	------------------------	--	---	---	--	---------------------------	--	--	----------------------------	--------------------------------------	------------------------------

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	01 / 16 / 07	13:07	Station 1 9960 -	Latitude / Bearing 35 ° 38.3	Station 2 9960 -	Longitude / Bearing 75 ° 17.3	1	2.7 kn	75 fm

BEGIN FISHING	01 / 16 / 07	13:14					WATER TEMP 54 ° F	TARGET SPECIES Summer Flounder	CODE
END HAUL	01 / 16 / 07	15:07					9960 -	35 ° 34.2	9960 -

GEAR ONBOARD	01 / 16 / 07	15:14	COMMENTS Catch was dumped, therefore no pumping information						VERTICAL OPENING ** 7 ft						
FISH PUMPING									HORIZONTAL OPENING ** 38 ft						
BEGIN	— / — / —	— : —							** Only fill in if gear mounted electronics are used						DOOR SPREAD ** _____ ft
END	— / — / —	— : —													

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Summer Flounder		K	273	100	R	02							
Summer Flounder		D	3.4	012	R	01							
Spiny Dogfish		D	50	015	R	02							
Smooth Dogfish		D	20	001	R	02							
Clearnose Skate		D	200	001	R	02							
Seastar, Starfish, nk		D	25	001	R	02							
Sand Dab Flounder		K	1.5	100	R	01							
Shells, nk		D	4	054	R	02							
Debris, Fishing Gear		D	15	053	R	06							
Conch, nk		D	30	001	R	02							

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 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 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.

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.

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.

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.

Escape Outlet: An opening in the net to facilitate escape of fish, sea turtles, marine mammals, *etc.* See Figure 11.

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.

Wing: Sections of netting, often triangular-shaped, extending forward of the trawl mouth used to herd the catch into the net.

Gear: A trawl, commonly referred to as “the net”. This includes the headrope, footrope, floats, weights, netting and any other attached equipment.

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.

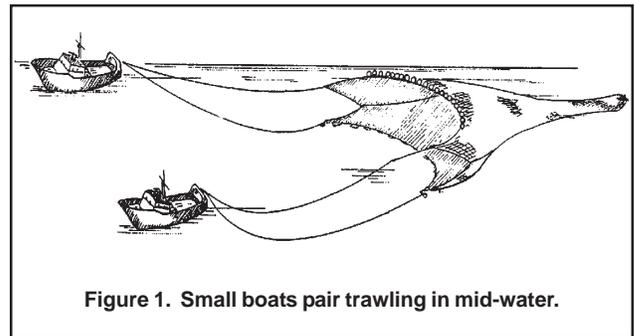


Figure 1. Small boats pair trawling in mid-water.

INSTRUCTIONS

For instructions on completing the Header fields **A, B, C and 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.

2. NET NAME: Record the common name of the net. If it does not have a common name, record comments on any characteristics (ex; short vertical opening, sweep gear not heavy) that help to identify the net. This information may be obtained from the Captain.

Examples: Semi-Pelagic Trawl

3. NET TYPE: Record the name of the net type used. This information may be obtained from the Captain.

Example: Four-seam squid trawl.

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.

Example: Swan Net Gundry.

5. YEAR NET MADE: Record the four digit year the net was made. This information may be obtained from the Captain.

Example: 2000.

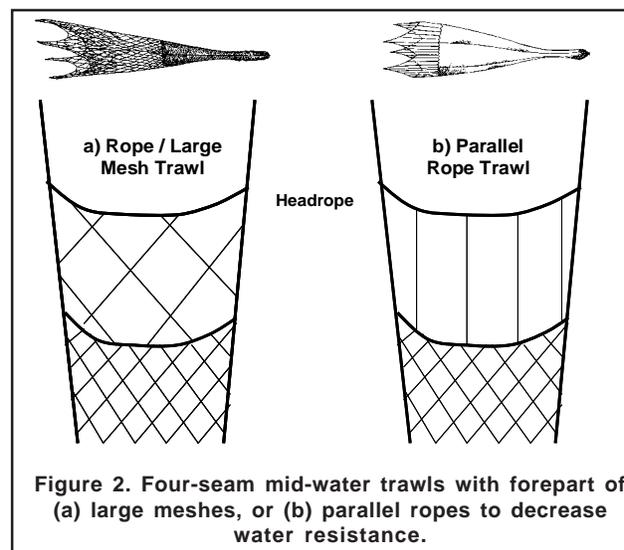
6. GEAR FISHED: Record how this gear is fished by placing an "X" next to the appropriate code:

- 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.

NET

7. CONSTRUCTION: Record the type of net construction (see Figure 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.

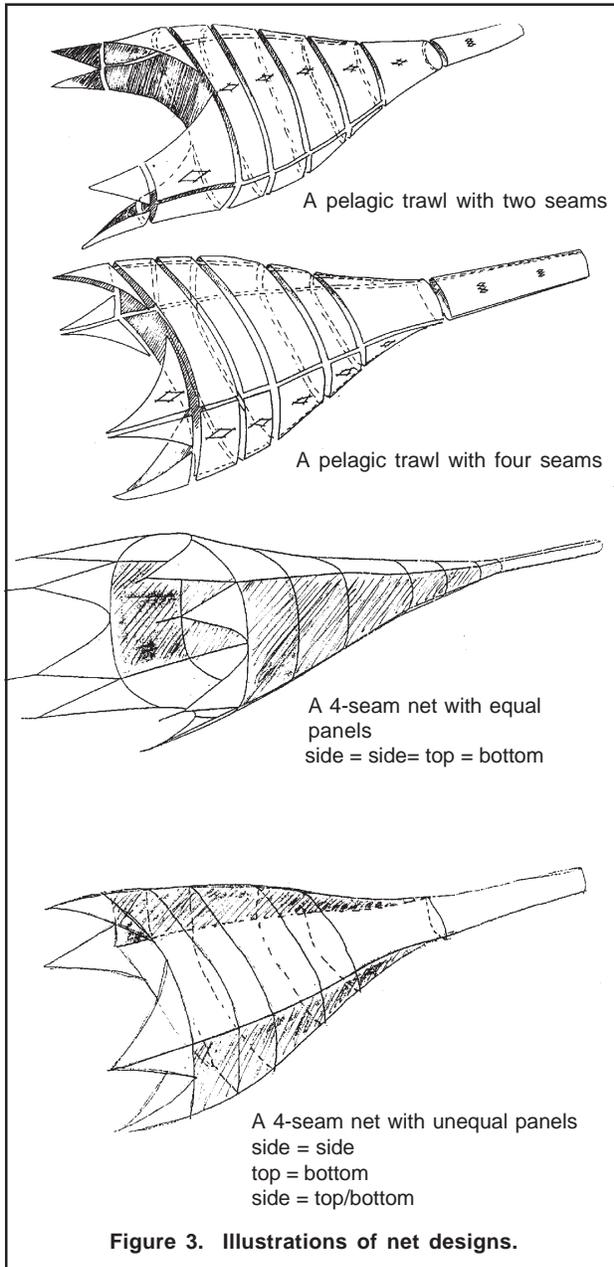


8. DESIGN: Record the construction design of this net by placing an "X" next to the appropriate code:

- 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 mea-

surement 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.

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.

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.

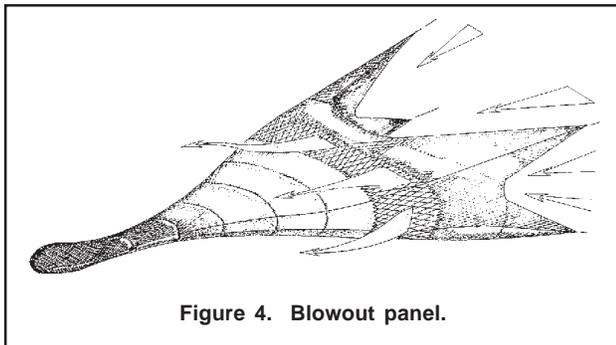


Figure 4. Blowout panel.

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.

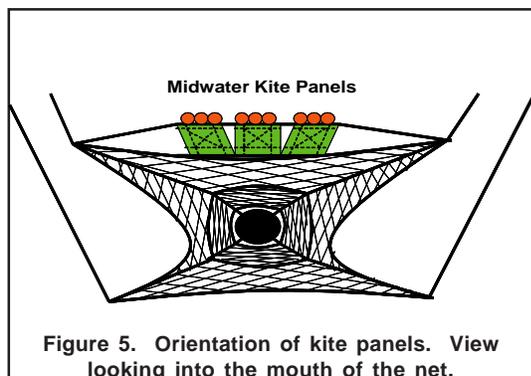


Figure 5. Orientation of kite panels. View looking into the mouth of the net.

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.

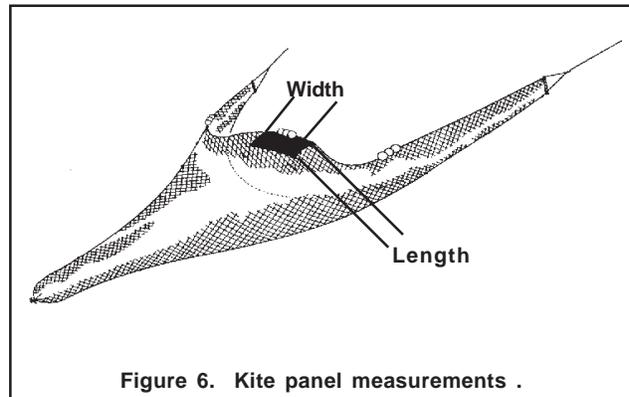


Figure 6. Kite panel measurements .

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.

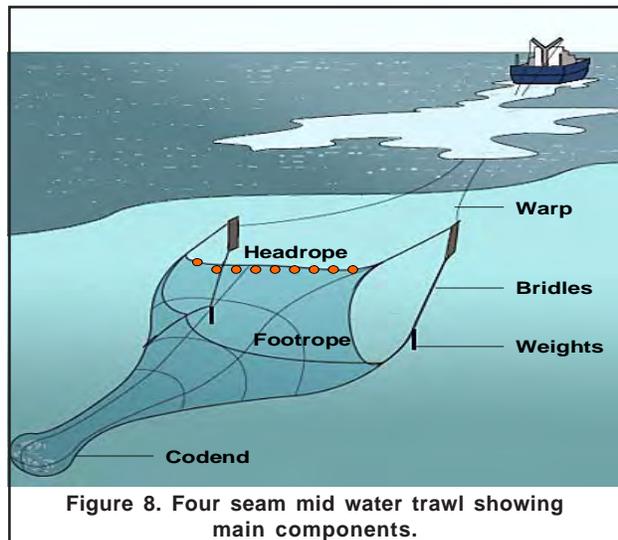
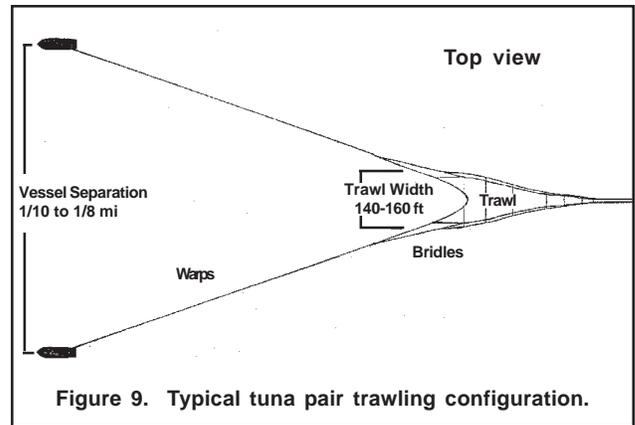
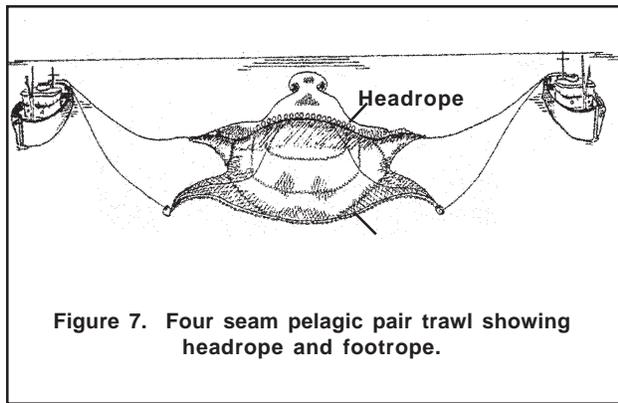
LENGTH MEASUREMENTS

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.



28. TOP BRIDLE: Record, in whole fathoms, the length of the top bridle. This information may be obtained from the Captain. See Figure 10.

29. WING BRIDLE: Record, in whole fathoms, the length of a wing bridle. 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. This information may be obtained from the Captain. See Figure 10.

		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

Figure 10. Pair trawl rigging designs showing bridles, warp and boat relations.

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 Figures 8 and 9.

32. BRIDLES PER SIDE: Record the number of wings or bridles found on **one** side (left or right) of the net. See Figures 8 and 9.

33. WARPS PER BOAT: Record the number of warps fished by each boat. See Figures 8 and 9.

NOTE: This field should only be filled in for Pair Trawl Trips. Otherwise, dash this field.

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 (inside 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.

NOTE: See Figure 2 in the Otter Trawl Gear Characteristics Log Instructions for an illustration of mesh measurement.

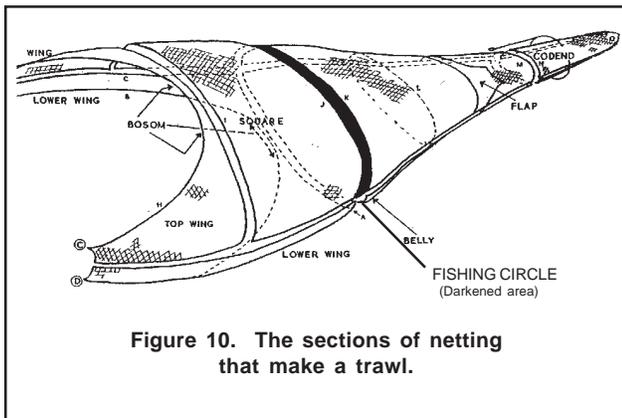


Figure 10. The sections of netting that make a trawl.

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).

NOTE: See Figure 10 for the location of the codend, and Figure 2 in the Otter 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.

40. CODEND MESH SIZE: Record, in whole mil-

limeters, ten randomly selected meshes from the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for these measurements.

NOTE: These measurements are **not** bar lengths.

NOTE: Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the codend and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measurements should not be taken when the codend is frozen.

NOTE: See Figure 2 in the Otter Trawl Gear Characteristics Log instructions for an illustration of mesh measurement. See also Appendix O. Vernier Caliper Instructions for further information.

41. LINER MESH SIZE: Record, in whole millimeters, ten randomly selected meshes from the liner in the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for this measurement.

NOTE: The liner mesh size should be smaller than the codend mesh size.

NOTE: Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the liner and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measurements should not be taken when the liner is frozen.

NOTE: See Figure 2 in the Otter Trawl Gear Characteristics Log for an illustration of mesh measurement. See also Appendix P. Vernier Caliper Instructions for further information.

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 (see Figure 11) 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 (see Figure 11).
- 03 = Separator Panel.
- 04 = Guiding Device, *i.e.* a funnel or "flap" (see Figure 10 and 11).
- 05 = Raised Footrope.
- 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 in comments.

NOTE: See Figure 9 in the Otter 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 number** is obtained using a measuring tool provided by the NEFSC Observer Program or contractor. An **estimated T.E.D. extension number** is provided by the Captain.

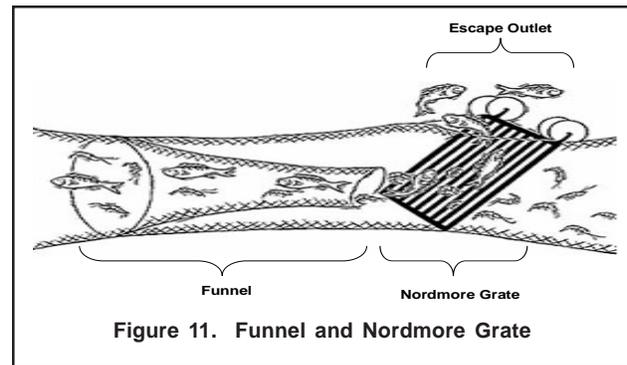


Figure 11. Funnel and Nordmore Grate

ESCAPE OUTLET

51. USED?: Record whether an escape outlet is used on this gear by placing an "X" next to the appropriate code (see Figure 11):

- 0 = No.
- 1 = Yes.

52. ESCAPE OUTLET TYPE: Record the type of escape outlet used on this gear by recording 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, 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 both length and width.

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, *i.e.*, 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.

PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPRG 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE	D	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	YEAR NET MADE	CODEND/LINER	GEAR MOUNTED	EXCLUDER/SEPARATOR DEVICE
<input type="text"/>		1	2	3	4	5	HUNG 38 CODEND LINER	ELECTRONICS	47
GEAR FISHED	6	CONSTRUCTION MATERIAL			LENGTH MEASUREMENTS		Unknown 0 Diamond 1 Square 2 Square, wrapped 3 Combination 8	USED ? 42 NO 0 YES 1	USED? NO 0 YES 1 Type Code 48
Unknown	0	TYPE	NET BODY	CODEND	LINER	Headrope 26 ft			
Pelagic	1	Unknown	00			Footrope/Sweep 27 ft			
Semi-Pelagic	2	Nylon	01			Top Bridle 28 fm			
Bottom	3	Poly	02			Wing Bridle 29 fm			
Other	9	Kevlar®	03			Bottom Bridle 30 fm			
6A		Spectra®	04			BRIDLES NUMBER			
		Tenex®	05			BRIDLES/WARP 31			
		Nomex®	06			BRIDLES/SIDE 32			
NET		Combination	98			WARPS/BOAT* 33			
CONSTRUCTION	7	Other	99			FISHING CIRCLE			
Unknown	0					# MESHES 34			
Rope/Large Mesh	1					MESH SIZE 35 in			
Parallel Rope Trawl	2					STRENGTHENER USED? 36			
Other	9					NO 0 YES 1			
7A		BUOYANCY/RELEASE DEVICES				CHAFING GEAR USED? 37			
DESIGN	8	USED?	NO	YES		NO 0 YES 1			
Unknown	0	FLOATS	18	0	1				
2 Seam	1	BLOWOUT	19	0	1				
4 Seam, Equal Panels	2	KITE	20	0	1				
4 Seam, Unequal Panels	3	KITE PANEL							
Other	9	Number	21						
8A		Length	22 in						
		Width	23 in						
MESH SIZE		FLOATS	24		25				
Minimum	9 in	Number			Diameter				
Maximum	10 in								
LINER USED?	11	COMMENTS							
NO	0								
YES	1								
DOORS	12								
USED? NO 0 YES 1									
WEIGHT	13 kg								
WEIGHTS	14								
USED? NO 0 YES 1									
WEIGHT	15 kg								
Actual	1 16								
Estimated	2								
		* Fill in only on pair trawl trips.							
							CODEND MESH SIZE	45	TYPE 52
							40	BRAND	Unknown 0
							mm mm	Unknown	0 Panel 1
							mm mm	Furuno®	1 Opening 2
							mm mm	Simrad®	2 Single Flap 3
							mm mm	Northstar Tech	3 Double Flap 4
							mm mm	Notus	4 Other 9
							mm mm	Marport	5
							mm mm	Scanmar	6 52A
							mm mm	Combination	8
							mm mm	Other	9
								45A	MESH SIZE 53 in
							LINER MESH SIZE	LOCATION 46	LENGTH
							41	(check all that apply)	# MESHES 54 OR 55 in
							mm mm	Unknown	0 <input type="checkbox"/>
							mm mm	Headrope	1 <input type="checkbox"/>
							mm mm	Wings	2 <input type="checkbox"/>
							mm mm	Footrope	3 <input type="checkbox"/>
							mm mm	Door	5 <input type="checkbox"/>
							mm mm	Codend	6 <input type="checkbox"/>
							mm mm	Other	9 <input type="checkbox"/>
									SHAPE Type Code 56
									LOCATION Type Code 57

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES:	ESCAPE OUTLET SHAPE CODES:	ESCAPE OUTLET LOCATION CODES:
	00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	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)

FOR OFFICE USE ONLY

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="text"/> OF <input type="text"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES: 00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	ESCAPE OUTLET SHAPE CODES: 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	ESCAPE OUTLET LOCATION CODES: 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

FOR OFFICE USE ONLY

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES:	ESCAPE OUTLET SHAPE CODES:	ESCAPE OUTLET LOCATION CODES:
	00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	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)
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, weather, depths, times, positions, *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 END TIME (#4) 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 (*i.e.* 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), and/or Catch Composition 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 Sea Bird Incidental Take Log. See Appendix R. 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. Please review the Discard Log protocols and the Catch Composition Log protocols before deploying. In the **pair trawl fishery**, if only one of the two vessels has an observer onboard, the observer should be recording the catch for both vessels (Disposition 110 should be used for the part of the catch that is pumped/transferred to other vessel). If both vessels have an observer onboard, the observer onboard the vessel where the catch is pumped onto should be observing and recording all of the catch. The observer onboard the other vessel should comment that "catch was loaded onto the other vessel" and leave the species section BLANK.

If catch is discarded before coming onboard, the haul should be marked as unobserved and all visually observed discards should be noted in the species sec-

tion of the haul log. Be sure to **clearly** document the situation in the comments section.

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 (1) and HAUL NUMBER (E).

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 - Observer on vessel that deployed net.

Haul Begin: First component of net deployed, *i.e.* net hits the water and cable (wire) begins to be paid out.

Haul End: Net retrieved to the surface, *i.e.* legs retrieved and aboard both vessels.

PAIR TRAWL FISHERY - Observer NOT on vessel that deployed net.

Haul Begin: When the warp (towing cable) is passed to their vessel.

Haul End: Net retrieved to the surface, *i.e.* legs retrieved and aboard both vessels.

NOTE: In the pair trawl fishery the cables (wires) and net are usually hauled back alternating between vessels throughout the trip. The observer is expected to observe all the hauls occurring on the vessel to which he/she is deployed.

SINGLE MID-WATER TRAWL FISHERY

Haul Begin: First component of net deployed, *i.e.* net hits the water and cable (wire) begins to be paid out.

Haul End: When the hauling equipment is put into gear.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Pair and Single Mid-Water Trawl Gear Characteristics Log(s).

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 I. 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.

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.

Single Mid-Water Trawl Fishery:

Haul begin is when the net is deployed, *i.e.* when the net hits the water and the cable begins to be paid out. Haul End is when the hauling equipment is put into gear.

Pair Trawl Fishery:

Observer on vessel that deployed net - Haul Begin is when the net is deployed, *i.e.* when the net hits the water and the cable begins to be paid out. Haul End is when the net is retrieved to the surface, *i.e.* when the legs are retrieved and aboard both vessels.

Observer NOT on vessel that deployed net - Haul Begin is when the warp (towing cable) is passed to their vessel. Haul End is when the net is retrieved to the surface, *i.e.* when the legs are retrieved and aboard both vessels.

5. 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.

6. TOW SPEED: Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

7. 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.

8. 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 P. Conversion Tables to convert it to Fahrenheit.

NOTE: Use a "ScoopMaster" thermometer to obtain this temperature.

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

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.

FISH PUMPING

For vessels that are pumping fish onboard, subsamples must be collected prior to the fish entering the fish hold. 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. Observers must obtain samples from each of the chutes that lead to the fish holds on those vessels with multiple chutes. Please review the Catch Composition Log protocols for details on sampling.

After the pumping process is completed, the observer should notify the captain that the codend needs to be viewed by the observer regardless of whether it is brought onboard the vessel or not. This will allow the observer the opportunity to comment on species remaining in the codend at the end of the pumping process and to observe for the presence of any marine mammals that have been entangled or caught in the gear. **Refer to the Discard Log for more details on recording information on discards.**

DISCARD AT COMPLETION OF PUMPING:

At the completion of the pumping process occasionally there may be some catch left in the net. This catch is generally referred to as operational discards. Observers should be documenting the weight of this discard by species, as accurately as possible. Record this weight on the species section of the Haul Log as "Fish, nk" if accurate speciation of the catch is not possible. If there are discards on this haul, be sure to fill out the Discard Log.

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 or pump or gear related problems.

Any catch that is discarded, regardless of the weight or reason, must be recorded in the species section of the Haul Log as "Fish, nk" if the observer cannot accurately speciate the catch. If the catch is identified the observer must document methods for identifying the fish to species. **Refer to the Discard Log for more details on recording information on discards.**

11. BEGIN/END DATE: Record the month, day, and year, based on local time, that the fish pumping began and ended.

12. 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 (#13), HORIZONTAL OPENING (#14), and DOOR SPREAD (#15), should only be filled out if Gear Mounted Electronics are used.

13. 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.

14. 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.

15. 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.

16. 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.

17. 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).

NOTE: This should only be filled out for pair trawl trips.

OBSERVERD VS. UNOBSERVED HAUL

The NEFOP's traditional definition of an observed haul is one where all of the catch is recorded, regardless if it is kept or discarded, whereby an unobserved haul is defined as one where complete discard information from the haul is not collected. In the Pair and Single Mid-Water Trawl fisheries, the primary objective of the observer is to observe every haul and to record all catch that comes up in the net. The traditional definition of an "observed" haul also has as associated meaning that the observer was on duty and fulfilled their duties to the most complete ability. An "observed" haul on mid-water trips represents that the observer was on that particular vessel where the fish were being hauled back to (in the case of paired fishing), and they were alert and aware of the potential of discarding during the haul. If all catch was pumped aboard the vessel that the observer is on, then the haul is observed. If the entire or partial catches are discarded at sea or pumped to another vessel (i.e. not pumped), the haul becomes unobserved.

NOTE: Traditionally, the NEFOP does not allow discards to be recorded on unobserved hauls. However, in the mid-water fisheries, the observer can record discards on hauls that are unobserved, even if the discards may not have been 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.

Below are some scenarios/examples of how to determine whether a haul is observed or unobserved.

Scenario 1: The codend comes next to the vessel but is still submerged in water and all catch is pumped onboard. The captain lifts the net out of the water for the observer to view anything that may be remaining in the codend. Should the haul be considered observed or unobserved? What catch should be recorded?

Answer: The haul should be observed and all pumped catch (both kept and discarded), along with all of the catch observed in the codend, regardless if it is released, should be recorded on the Pair and Single Mid-Water Trawl Haul Log. If the observer is unsure of what species remained in the codend, "Fish, nk" should be recorded with the corresponding estimated weight. If any speciation of the catch occurred, document in the CATCH COMPOSITION OF DISCARDED CATCH comments section (#10) of the Discard Log.

Scenario 2: The codend is hauled back and the catch is immediately released back in the water before any pumping begins. Should the haul be considered observed or unobserved? What catch should be recorded?

Answer: The haul should be unobserved and a comment regarding the situation should be recorded on the Pair and Single Mid-Water Trawl Haul Log. A discard estimate, provided by the Captain, of the catch that was released from the codend should be recorded in the species section of the Pair and Single Mid-Water Haul Log as "Fish, nk" with the corresponding amount that was released from the codend. If any speciation of the catch occurred, document in the CATCH COMPOSITION OF DISCARDED CATCH comments section (#10) of the Discard Log.

Scenario 3: The codend is hauled back and the pumping process begins. After part of the catch is pumped, the pump breaks and eventually the captain releases the rest of the catch back into the water. Should the haul be considered observed or unobserved? What catch should be recorded?

Answer: The haul should be unobserved and a comment regarding the situation should be recorded on the Pair and Single Mid-Water Trawl Haul Log. The catch that was pumped should be recorded as kept on the Haul log. If the observer was not able to retain 10 baskets of a subsample in order to extrapolate the catch, then they should use however many baskets they were able to collect weights on to extrapolate the kept portion of the catch. A discard estimate, provided by the Captain, of the catch that was released from the codend should be recorded on the Pair and Single Mid-Water Trawl Haul Log as "Fish, nk" with the corresponding amount that was released from the codend. If any speciation of the catch occurred, document in the CATCH COMPOSITION OF DISCARDED CATCH comments section (#10) of the Discard Log.

COMMENTS

Record any additional information regarding this haul, *i.e.* 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.

PAIR and SINGLE MID-WATER TRAWL HAUL LOG

NMFS FISHERIES OBSERVER PROGRAM

OBPRH OBHAU OBSPP 01/01/10

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

GEAR CODE D <input type="text"/>	GEAR # 1 <input type="text"/>	HAUL # E <input type="text"/>	HAUL OBS? NO 0 F YES 1 _____	ON-EFFORT? NO 0 G YES 1 _____	CATCH? NO 0 H YES 1 _____	INC TAKE? NO 0 I YES 1 _____	WEATHER CODE J	WIND SPEED K _____ kn DIRECTION L _____ °		WAVE HEIGHT M _____ ft	DEPTH, HAUL BEGIN N _____ fm	GEAR COND CODE 2
HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				NUMBER OF TURNS 5	TOW SPEED 6 _____ kn	WIRE OUT 7 _____ fm	WATER TEMP 8 _____ ° F		
BEGIN HAUL	/ 3 /	4 :	Station 1 9960 -	Latitude / Bearing O	Station 2 9960 -	Longitude / Bearing	TARGET SPECIES CODE P _____ Q _____					
BEGIN FISHING	/ 9 /	:					DEPTH RANGE, HEADROPE 16 _____ fm					
END HAUL	/ /	:					DISTANCE BETWEEN BOATS * 17 _____ ft					
GEAR ONBOARD	/ 10 /	:	9960 -		9960 -		FISH PUMPING					
BEGIN	/ 11 /	12 :	VERTICAL OPENING 13 _____ ft		HORIZONTAL OPENING 14 _____ ft		DOOR SPREAD 15 _____ ft					
END	/ /	:										

COMMENTS

*Only fill in for pair trawl trips
**Only fill in if gear mounted electronics are usec

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X							

PAIR and SINGLE MID-WATER TRAWL HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPRH OBHAU OBSPP 01/01/10

OBS/ TRIP ID	E03012-
DATE LAND (mm/yy)	10 / 09
PAGE #	1 OF 1

GEAR CODE 1 7 0	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 02	WIND SPEED 10 kn DIRECTION 225 °		WAVE HEIGHT 2 ft	DEPTH, HAUL BEGIN 48 fm	GEAR COND CODE 010
HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				NUMBER OF TURNS	TOW SPEED	WIRE OUT	WATER TEMP		
BEGIN HAUL	10 / 11 / 09	23 : 28	Station 1 9960 -	Latitude / Bearing 43° 37.4		Station 2 9960 -	Longitude / Bearing 69° 42.7		2	4.1 kn	210 fm	55.2 ° F
BEGIN FISHING	10 / 11 / 09	23 : 32	TARGET SPECIES CODE Atlantic Herring									
END HAUL	10 / 12 / 09	05 : 04	DEPTH RANGE, HEADROPE 22 _____ 28 fm									
GEAR ONBOARD	10 / 12 / 09	_____	9960 -	43° 34.6		9960 -	69° 43.2		DISTANCE BETWEEN BOATS * 200 _____ 300 ft			
FISH PUMPING			VERTICAL ** OPENING	HORIZONTAL ** OPENING		DOOR SPREAD **						
BEGIN	10 / 12 / 09	07 : 45										
END	10 / 12 / 09	09 : 14										

COMMENTS

Haddock pulled out by observer and weighed. Spiny dogfish estimated as tally, crew tossed over before I could weigh them.
 See Discard Log about details about Fish, NK.

*Only fill in for pair trawl trips
 **Only fill in if gear mounted electronics are used

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Atlantic Herring		K	295,000	100	R	10							
Spiny Dogfish		D	150	001	R	05							
Haddock		K	100	172	R	01							
Fish, NK		D	1,000	049	R	04							
Atlantic Mackerel		K	2,750	100	R	10							

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) **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 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 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.

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, *i.e.* squid.

Codend Strengtheners: Any material attached to the outside of the codend bag to prevent a full codend 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.

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.

Escape Outlet: An opening in the net to facilitate escape of fish, sea turtles, marine mammals, *etc.*

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.

Transducer: Conveys information regarding the fishing status. Located on various parts of the fishing gear.

INSTRUCTIONS

For instructions on completing the Header Fields **A, B, C and 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 Log](#). 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.

NET

2. NET NAME: Record the common name of the net. If it does not have a common name, record comments on any characteristics (ex; short vertical opening, sweep gear not heavy) that help to identify the net. This information may be obtained from the Captain.

Example: Bottom Trawl.

3. NET TYPE: Record the name of the net type used. This information may be obtained from the Captain.

4. NET BUILDER: Record the name of the company or individual who made this net. This information may be obtained from the Captain.

NOTE: If built by the Captain or crew record "custom" built in this field.

Examples: Shuman.
Noreastern Trawl Systems Inc.

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.

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 Figures 1 and 2.

- 0 = No.
- 1 = Yes.



Figure 1. Example of nets connected.

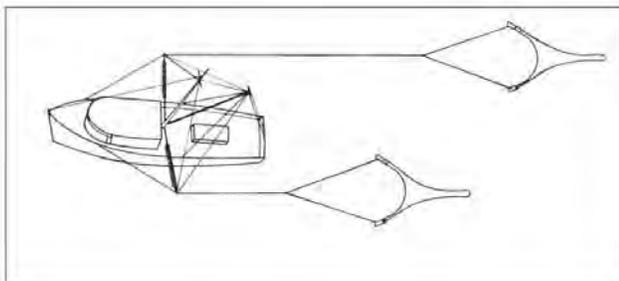


Figure 2. Example of nets not connected.

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.

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. This information may be obtained from the Captain. See Figure 3.

NOTE: The ground cable may also be referred to as a sweep in some regions.

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.

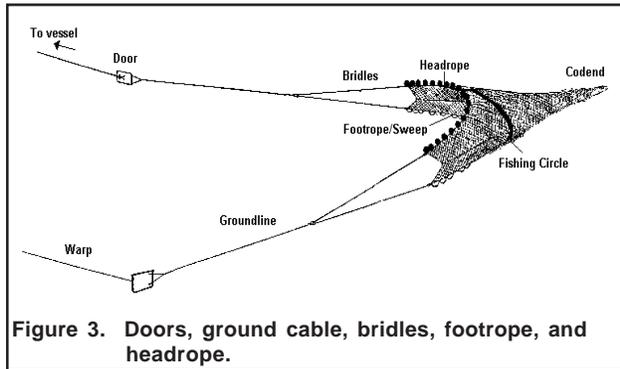


Figure 3. Doors, ground cable, bridles, footrope, and headrope.

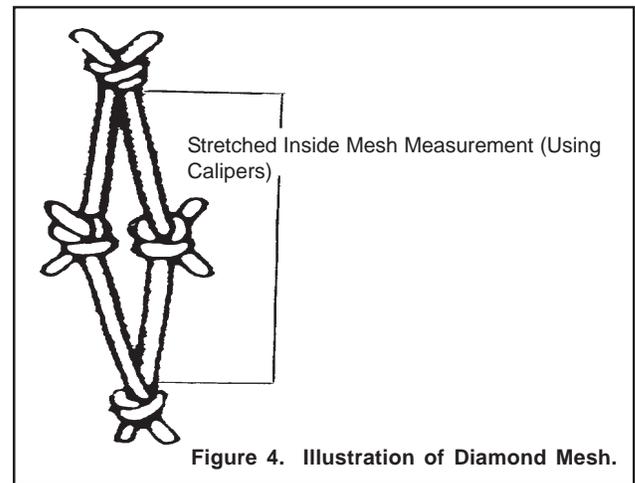


Figure 4. Illustration of Diamond Mesh.

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 is also 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.

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 Figures 3, 5 and 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 the LARGEST piece of gear used. 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.

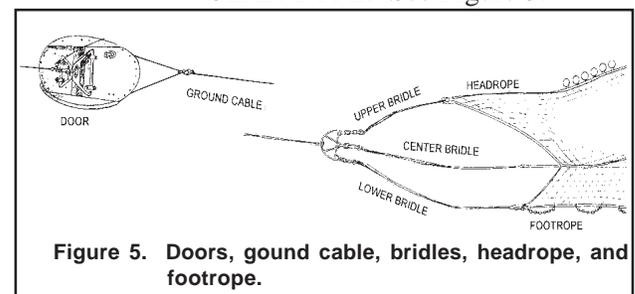


Figure 5. Doors, ground cable, bridles, headrope, and footrope.

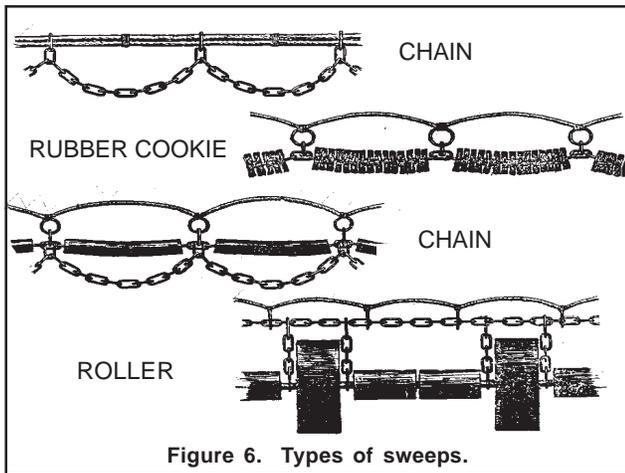


Figure 6. Types of sweeps.

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 (i.e. rollers) are of multiple sizes (i.e. 5 inch and 3 inch), measure and record the diameter of the largest one.

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.

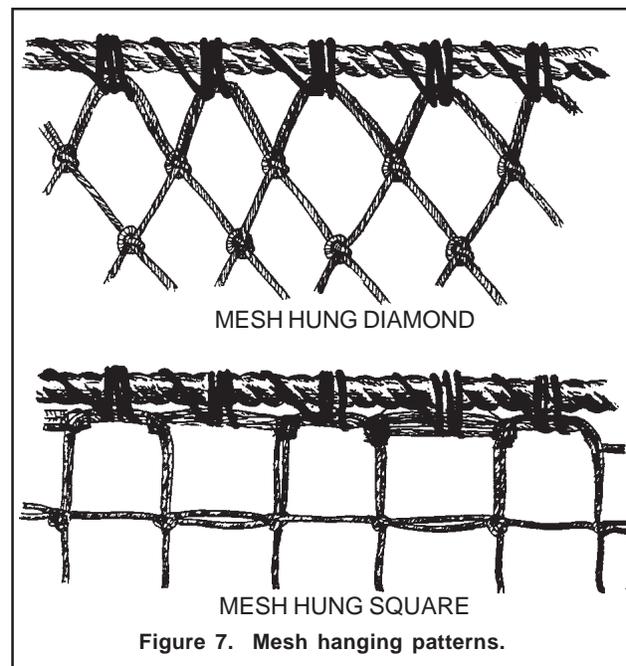


Figure 7. Mesh hanging patterns.

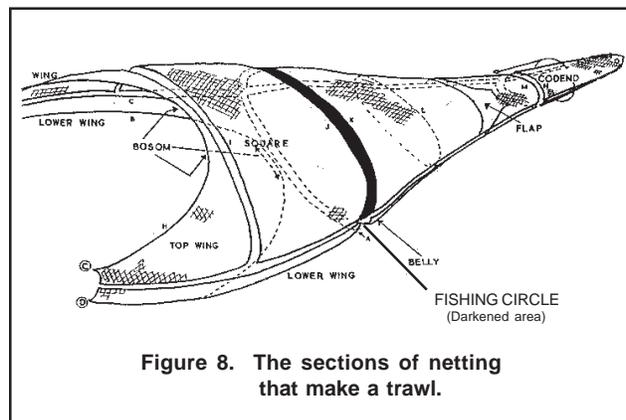


Figure 8. The sections of netting that make a trawl.

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.

30. CODEND MESH SIZE: Record, in whole millimeters, ten randomly selected meshes from the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for these measurements. See Figure 4 and [Appendix O. Vernier Caliper Instructions](#) for further information.

NOTE: These measurements are **not** bar lengths.

NOTE: Select a portion of the net that is relatively free from mends. Count at least 5 meshes up from the terminus of the codend and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measurements should not be taken when the codend is frozen.

31. LINER MESH SIZE: Record, in whole millimeters, ten randomly selected meshes from the liner in the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for this measurement. See Figure 4 and [Appendix O. Vernier Caliper Instructions](#) for further information.

NOTE: The liner mesh size should be smaller than the codend mesh size.

NOTE: Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the liner and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measure-

ments should not be taken when the liner is frozen.

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 Figures 3 and 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 placing an "X" next to the appropriate 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.
- 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.

NOTE: See Figure 9 in the Otter 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 twine size number** is obtained using a twine size measuring tool provided by the NEFSC Observer Program or contractor. An **estimated twine size number** 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 recording 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 both length and width.
- NOTE:** If the outlet shape is trapezoid, record the number of meshes that are in the longer length and the wider width.

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.

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, *i.e.*, unusual arrangements of the gear, type of net, *etc.*

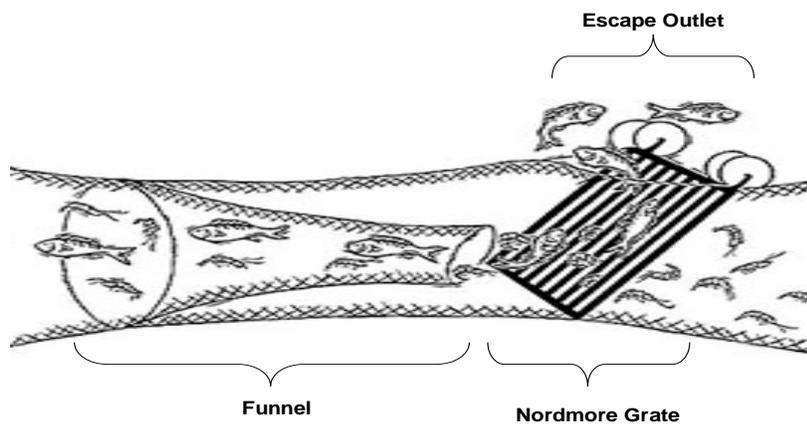


Figure 9. Funnel, Nordmore grate, and escape outlet.

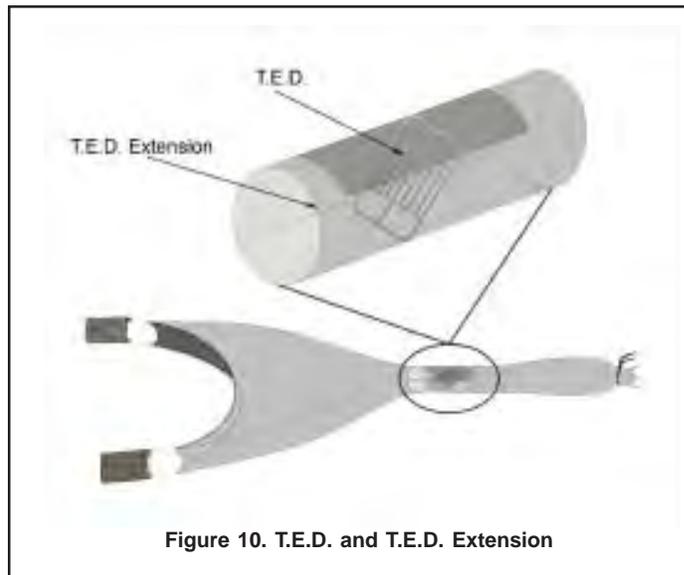


Figure 10. T.E.D. and T.E.D. Extension

TWIN TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBTTG 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> D	GEAR NUMBER 1	NET NAME 2	NET TYPE 3	NET BUILDER 4	CODEND/LINER HUNG 28 CODEND LINER	GEAR MOUNTED ELECTRONICS	EXCLUDER/SEPARATOR DEVICE 37	
NET LOCATION Port 1 Starboard 2 Other 9	CONSTRUCTION MATERIAL 9 TYPE NET BODY CODEND LINER		LENGTH MEASUREMENTS		Unknown 0 Diamond 1 Square 2 Square, wrapped 3 Combination 8	USED ? 32 NO 0 YES 1	USED? NO 0 YES 1 Type Code 38	
DOORS USED? 6 NO 0 YES 1	Poly 02 Kevlar® 03 Spectra® 04 Tenex® 05 Nomex® 06 Combination 98 Other 99		Footrope/Sweep 16 ft Ground Cable 17 fm Bridle 18 fm		TWINE TYPE CODEND LINER 29 Single 1 Double 2 Single on Top/ Double on Bottom 3 Other 9	NUMBER OF TRANSDUCERS 33	T.E.D. EXTENSION 39 Mesh Size . in (circle one) A / E 40	
WEIGHT OF ONE DOOR 7 kg	STRENGTHENER USED? 19 NO 0 YES 1 CHAFING GEAR USED? 20 NO 0 YES 1		9A		CODEND MESH SIZE 30 mm mm mm mm mm mm mm mm mm mm mm mm	TYPE 34 Unknown 0 Wired 1 Wireless 2 Both 3	ESCAPE OUTLET 41 USED? NO 0 YES 1	
LINER USED? 8 NO 0 YES 1	NETS CONNECTED? 10 NO 0 YES 1	KITE PANEL 11 KITE USED? Number 12 Width 13 in Length 14 in		FISHING CIRCLE # MESHES 21 MESH SIZE 22 in	CODEND MESH SIZE 30 mm mm mm mm mm mm mm mm	BRAND 35 Unknown 0 Furuno® 1 Simrad® 2 Northstar Tech 3 Notus 4 Marport 5 Scanmar 6 Combination 8 Other 9	TYPE 42 Unknown 0 Panel 1 Opening 2 Single Flap 3 Double Flap 4 Other 9	
COMMENTS		GROUND GEAR 23 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		23A		LINER MESH SIZE 31 mm mm mm mm mm mm mm mm	35A LOCATION 36 (check all that apply) Unknown 0 <input type="checkbox"/> Headrope 1 <input type="checkbox"/> Wings 2 <input type="checkbox"/> Footrope 3 <input type="checkbox"/> Door 5 <input type="checkbox"/> Codend 6 <input type="checkbox"/> Other 9 <input type="checkbox"/>	MESH SIZE 43 in LENGTH # MESHES 44 OR 45 in WIDTH # MESHES 44 OR 45 in
		SWEEP GEAR Number 24 Diameter 25 in		FLOATS Number 26 Diameter 27 in		36A	SHAPE Type Code 46 LOCATION Type Code 47	

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DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES: 00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	ESCAPE OUTLET SHAPE CODES: 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	ESCAPE OUTLET LOCATION CODES: 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

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TWIN TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBTTG 01/01/10

OBS/TRIP ID	C01052-
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PAGE #	1 OF 1

GEAR CODE 0 5 3		GEAR NUMBER 01	NET NAME Bottom Trawl	NET TYPE 2-Seam Shrimp Trawl	NET BUILDER Shuman	CODEND/LINER HUNG CODEND LINER			GEAR MOUNTED ELECTRONICS		EXCLUDER/SEPARATOR DEVICE		
NET LOCATION Port 1 X Starboard 2 Other 9		CONSTRUCTION MATERIAL TYPE NET BODY CODEND LINER			LENGTH MEASUREMENTS			Unknown 0 Diamond 1 X Square 2 Square, wrapped 3 Combination 8		USED ? NO 0 YES 1 X		USED? NO 0 X YES 1	
DOORS USED? NO 0 YES 1 X		Poly 02 X X Kevlar® 03 Spectra® 04 Tenex® 05 Nomex® 06 Combination 98 Other 99			Headrope 100 ft Footrope/Sweep 170 ft Ground Cable 55 fm Bridle 50 fm			TWINE TYPE CODEND LINER		NUMBER OF TRANSDUCERS 2		Type Code _____ T.E.D. EXTENSION	
WEIGHT OF ONE DOOR 270 kg		STRENGTHENER USED? NO 0 X YES 1			CHAFING GEAR USED? NO 0 YES 1 X			Single 1 Double 2 X Single on Top/ Double on Bottom 3 Other 9		TYPE Unknown 0 Wired 1 Wireless 2 X Both 3		Mesh Size _____ in (circle one) A / E	
LINER USED? NO 0 X YES 1		NETS CONNECTED? NO 0 YES 1 X		KITE PANEL KITE USED? Number 3 Width 39 in Length 39 in		FISHING CIRCLE # MESHES 600 MESH SIZE 5.0 in		CODEND MESH SIZE 54 mm 60 mm 62 mm 61 mm 58 mm 60 mm 57 mm 57 mm 59 mm 62 mm		BRAND Unknown 0 Furuno® 1 Simrad® 2 X Northstar Tech 3 Notus 4 Marport 5 Scanmar 6 Combination 8 Other 9		TYPE Unknown 0 Panel 1 Opening 2 Single Flap 3 Double Flap 4 Other 9	
COMMENTS		GROUND GEAR TYPE GROUND CABLE BRIDLE/ LEG SWEEP				LINER MESH SIZE _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm		LOCATION (check all that apply) Unknown 0 <input type="checkbox"/> Headrope 1 <input type="checkbox"/> Wings 2 <input type="checkbox"/> Footrope 3 <input type="checkbox"/> Door 5 X <input type="checkbox"/> Codend 6 <input type="checkbox"/> Other 9 <input type="checkbox"/>		MESH SIZE _____ in LENGTH # MESHES _____ OR _____ in WIDTH # MESHES _____ OR _____ in SHAPE Type Code _____ LOCATION Type Code _____			
		SWEEP GEAR Number 120 Diameter 18 in		FLOATS Number 70 Diameter 8 in									

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ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES: 00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	ESCAPE OUTLET SHAPE CODES: 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	ESCAPE OUTLET LOCATION CODES: 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

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TWIN TRAWL GEAR CHARACTERISTICS LOG
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OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	CODEND/LINER HUNG CODEND LINER		GEAR MOUNTED ELECTRONICS		EXCLUDER/SEPARATOR DEVICE		
NET LOCATION Port 1 _____ Starboard 2 _____ Other 9 _____		CONSTRUCTION MATERIAL TYPE NET BODY CODEND LINER			LENGTH MEASUREMENTS Headrope _____ ft Footrope/Sweep _____ ft Ground Cable _____ fm Bridle _____ fm			Unknown 0 _____ Diamond 1 _____ Square 2 _____ Square, wrapped 3 _____ Combination 8 _____		USED? NO 0 _____ YES 1 _____ Type Code _____		
DOORS USED? NO 0 _____ YES 1 _____		Poly 02 _____ Kevlar® 03 _____ Spectra® 04 _____ Tenex® 05 _____ Nomex® 06 _____ Combination 98 _____ Other 99 _____			STRENGTHENER USED? NO 0 _____ YES 1 _____ CHAFING GEAR USED? NO 0 _____ YES 1 _____			TWINE TYPE CODEND LINER Single 1 _____ Double 2 _____ Single on Top/ 3 _____ Double on Bottom 3 _____ Other 9 _____		NUMBER OF TRANSDUCERS _____ T.E.D. EXTENSION Mesh Size _____ in (circle one) A / E		
WEIGHT OF ONE DOOR _____ kg		LINER USED? NO 0 _____ YES 1 _____		NETS CONNECTED? NO 0 _____ YES 1 _____		KITE PANEL KITE USED? NO 0 _____ Width _____ in YES 1 _____ Length _____ in		FISHING CIRCLE # MESHES _____ MESH SIZE _____ in		ESCAPE OUTLET USED? NO 0 _____ YES 1 _____		
COMMENTS		GROUND GEAR TYPE GROUND CABLE BRIDLE/ LEG SWEEP			CODEND MESH SIZE _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm		BRAND Unknown 0 _____ Furuno® 1 _____ Simrad® 2 _____ Northstar Tech 3 _____ Notus 4 _____ Marport 5 _____ Scanmar 6 _____ Combination 8 _____ Other 9 _____		TYPE Unknown 0 _____ Panel 1 _____ Opening 2 _____ Single Flap 3 _____ Double Flap 4 _____ Other 9 _____		MESH SIZE _____ in LENGTH # MESHES _____ OR _____ in WIDTH # MESHES _____ OR _____ in SHAPE Type Code _____ LOCATION Type Code _____	
		SWEEP GEAR Number _____ Diameter _____ in			FLOATS Number _____ Diameter _____ in		LINER MESH SIZE _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm		LOCATION (check all that apply) Unknown 0 <input type="checkbox"/> Headrope 1 <input type="checkbox"/> Wings 2 <input type="checkbox"/> Footrope 3 <input type="checkbox"/> Door 5 <input type="checkbox"/> Codend 6 <input type="checkbox"/> Other 9 <input type="checkbox"/>			

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES: 00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	ESCAPE OUTLET SHAPE CODES: 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	ESCAPE OUTLET LOCATION CODES: 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

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, weather, depths, times, positions, *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 END TIME (#4) 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 (*i.e.* 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 Sea Bird Incidental Take Log. See Appendix R. 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 (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 net deployed, *i.e.* net hits the water.

Haul End: Hauling equipment put into gear.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Twin Trawl Gear Characteristics Log(s).

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 I. 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.

3. BEGIN/END HAUL DATE: Record the month, day, and year, based on local time, that this haul began and ended.

4. 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).

5. 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.

6. TOW SPEED: Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

7. 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.

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 P. Conversion Tables to convert it to Fahrenheit.

NOTE: Use a “ScoopMaster” thermometer to obtain this temperature.

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

9. 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: **Both nets should be observed during on-watch hauls.**

NOTE: If only one net is observed for weather or safety related reasons, record only the catch data from this net in the Species Information section.

10. 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).

11. 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.

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.

COMMENTS

Record any additional information regarding this haul, *i.e.* 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 01/01/10

OBS/ TRIP ID	D03006-
DATE LAND (mm/yy)	01 / 06
PAGE #	1 OF 2

GEAR CODE 0 5 3	GEAR # 0 1	HAUL # 0 0 7	HAUL OBS? NO 0 YES 1 X	ON-EFFORT? NO 0 YES 1 X	CATCH? NO 0 YES 1 X	INC TAKE? NO 0 X YES 1	WEATHER CODE 02	WIND SPEED 15 kn DIRECTION 320 °	WAVE HEIGHT 4 ft	DEPTH, HAUL BEGIN 35 fm	GEAR COND CODE 010
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				NUMBER OF TURNS	TOW SPEED	WIRE OUT	WATER TEMP	
BEGIN HAUL	03 / 08 / 06	21:52	Station 1 9960 -	Latitude / Bearing 40 ° 00.3	Station 2 9960 -	Longitude / Bearing 71 ° 18.2	0	2.7 kn	120 fm	43.0 F	
BEGIN FISHING	03 / 08 / 06	22:01					TARGET SPECIES	CODE	NET OBSERVED		
END HAUL	03 / 09 / 06	01:16	9960 -	40 ° 12.1	9960 -	71 ° 16.5	Atlantic Longfin Squid		Port 1	Starboard 2	Both 3 X
GEAR ONBOARD	03 / 09 / 06	01:32								VERTICAL OPENING	**

COMMENTS

Barndoor Skate and Monkfish taken out of pile before volume obtained, therefore actual weights obtained.

**Only fill in if gear mounted electronics are used

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Atlantic Longfin Squid		K	720	100	R	02							
Silver Hake		K	455	100	R	02							
Monkfish		K	82	100	R	01							
Spiny Dogfish		D	55	001	R	02							
Barndoor Skate		D	22	001	R	01							
Redfish, nk		D	2	001	R	06							
Jonah Crab		D	8	001	R	06							
Seastar, Starfish, nk		D	2	001	R	06							
Conch, nk		D	5	001	R	06							

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) **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 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.

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, *i.e.* squid.

Codend Strengthenener: Any material attached to the outside of the codend bag to prevent a full codend 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.

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.

Escape Outlet: An opening in the net to facilitate escape of fish, sea turtles, marine mammals, *etc.*

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.

Transducer: Conveys information regarding the fishing status. Located on various parts of the fishing gear.

INSTRUCTIONS

For instructions on completing the Header Fields **A, B, C and 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 Log](#). 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.

NET

2. NET NAME: Record the common name of the net. If it does not have a common name, record comments on any characteristics (ex; short vertical opening, sweep gear not heavy) that help to identify the net. This information may be obtained from the Captain.

Example: Bottom Trawl.

3. NET TYPE: Record the name of the net type used. This information may be obtained from the Captain.

4. NET BUILDER: Record the name of the company or individual who made this net. This information may be obtained from the Captain.

NOTE: If built by the Captain or crew record "custom" built in this field.

Examples: Shuman.

Noreastern Trawl Systems Inc.

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 Figures 1 and 2.

- 0 = No.
- 1 = Yes.

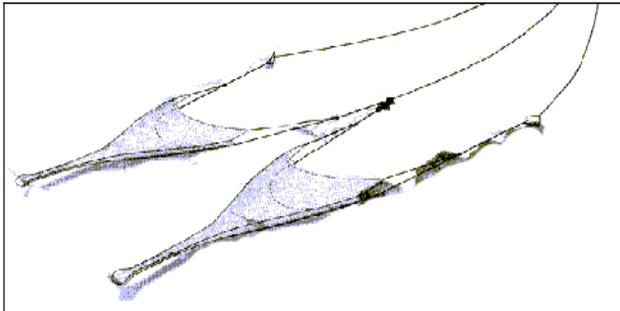


Figure 1. Example of nets connected.

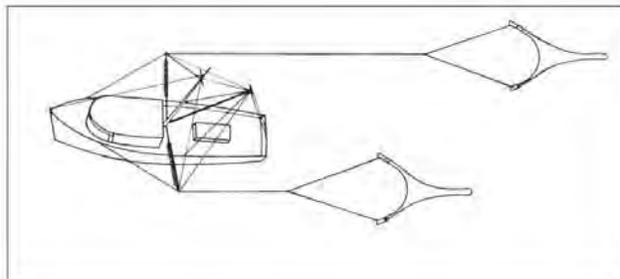


Figure 2. Example of nets not connected.

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.

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.

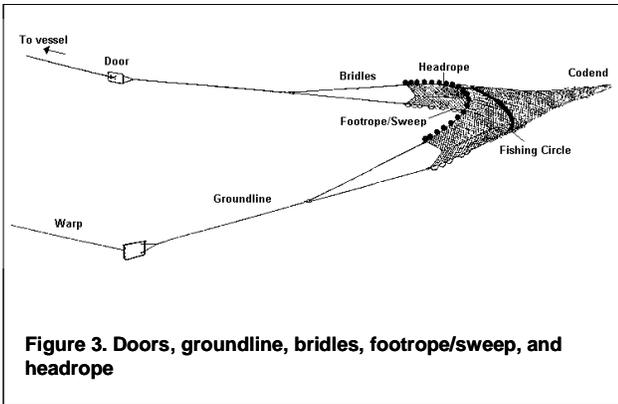
NOTE: The footrope may also be referred to as a fishing line in some regions.

17. GROUND CABLE: Record, in whole fathoms, the length of the wire connecting the bridles and the back strap. This information may be obtained from the Captain. See Figure 3.

NOTE: The ground cable may also be referred to as a sweep in some regions.

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.



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:

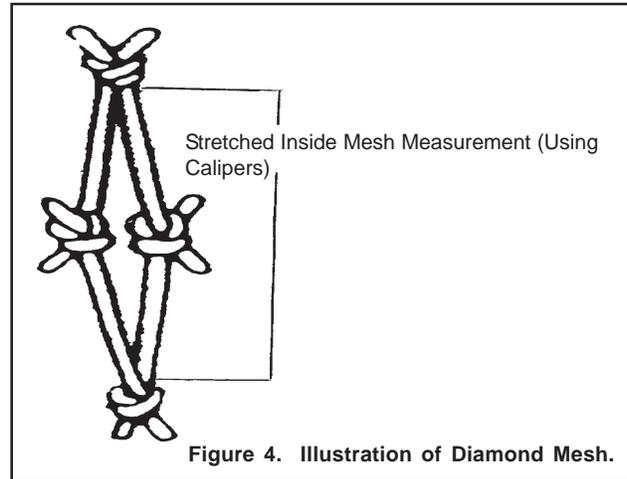
- 0 = No.
- 1 = Yes.

NOTE: A codend in which the meshes are "wrapped" is considered to have chafing gear. A codend with a strengthening bag is also 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.



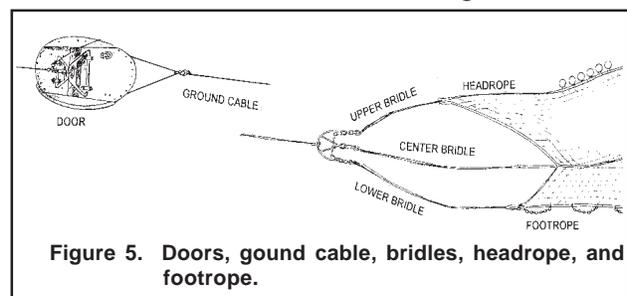
GROUND GEAR

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 Figures 3, 5 and 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 the LARGEST piece of gear used. 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.



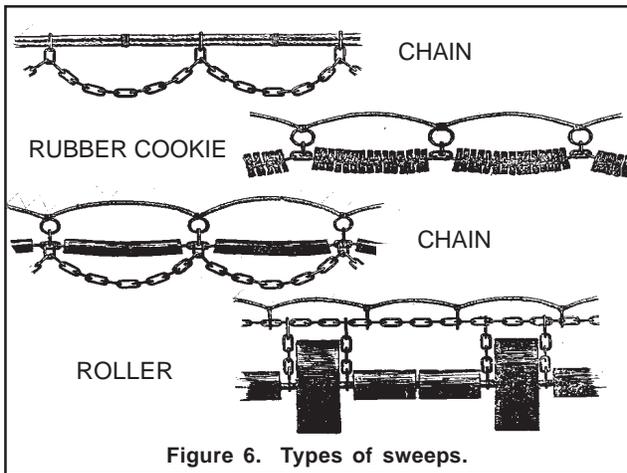


Figure 6. Types of sweeps.

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 (i.e. rollers) are of multiple sizes (i.e. 5 inch and 3 inch), measure and record the diameter of the largest one.

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.

25. 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.

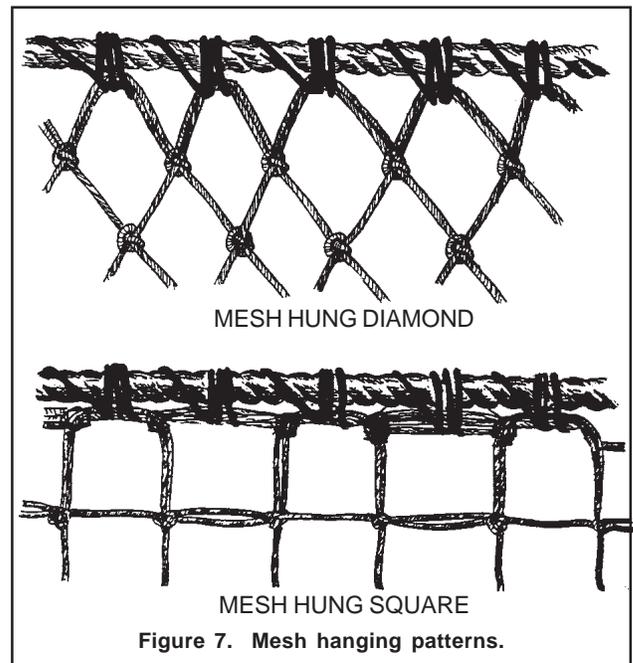


Figure 7. Mesh hanging patterns.

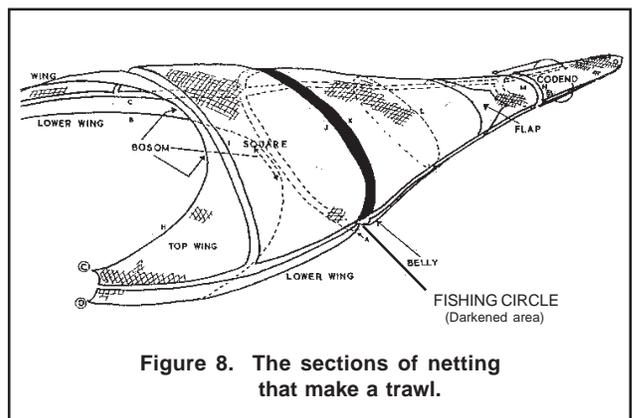


Figure 8. The sections of netting that make a trawl.

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.

30. CODEND MESH SIZE: Record, in whole millimeters, ten randomly selected meshes from the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for these measurements. See Figure 4 and [Appendix O. Vernier Caliper Instructions](#) for further information.

NOTE: These measurements are **not** bar lengths.

NOTE: Select a portion of the net that is relatively free from mends. Count at least 5 meshes up from the terminus of the codend and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measurements should not be taken when the codend is frozen.

31. LINER MESH SIZE: Record, in whole millimeters, ten randomly selected meshes from the liner in the codend. These measurements should be stretched inside knot to knot taken in the direction in which the mesh is hung. Use calipers for this measurement. See Figure 4 and [Appendix O. Vernier Caliper Instructions](#) for further information.

NOTE: The liner mesh size should be smaller than the codend mesh size.

NOTE: Select a portion of the net that is relatively free of mends. Count at least 5 meshes up from the terminus of the liner and 5 meshes in from the side seam. Take measurements while the net is empty and wet. To ensure the net is "wet" or "soaked," it is preferably measured after being fished or used for at least one haul. Measurements should not be taken when the

liner is frozen.

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 Figures 3 and 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 placing an "X" next to the appropriate 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.
- 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.

NOTE: See Figure 9 in the Otter 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 size number** is obtained using a standard measuring tool provided by the NEFSC Observer Program or contractor. An **estimated T.E.D. extension number** 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 recording 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 both length and width.

NOTE: If the outlet shape is trapezoid, record the number of meshes that are in the longer length and the wider width.

COMMENTS

Record any additional information about this gear, *i.e.*, 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.

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.

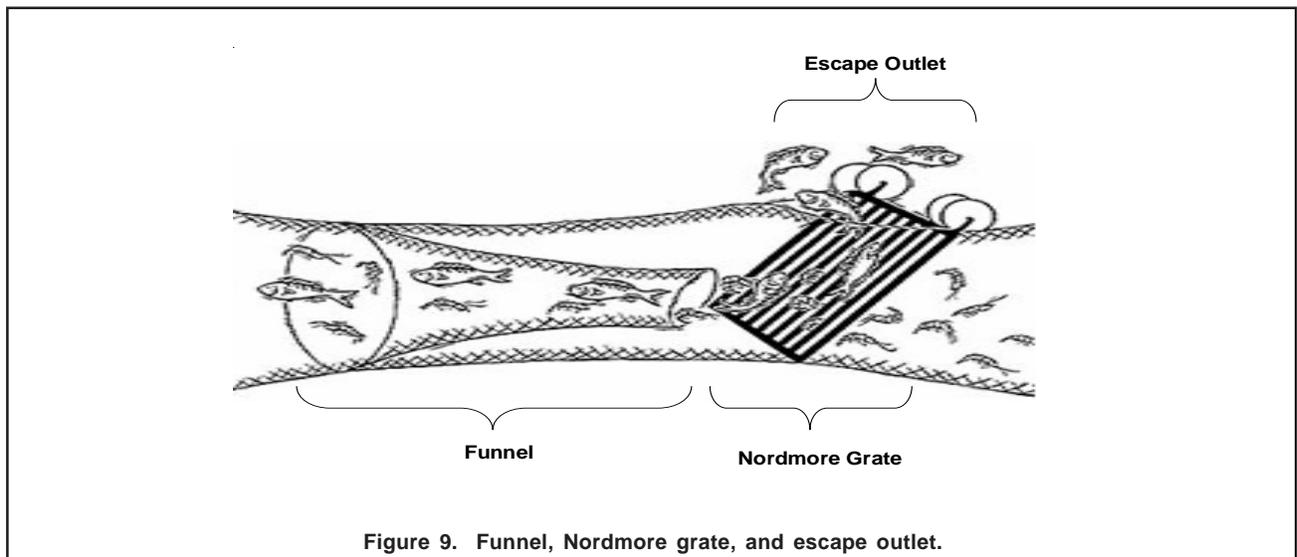


Figure 9. Funnel, Nordmore grate, and escape outlet.

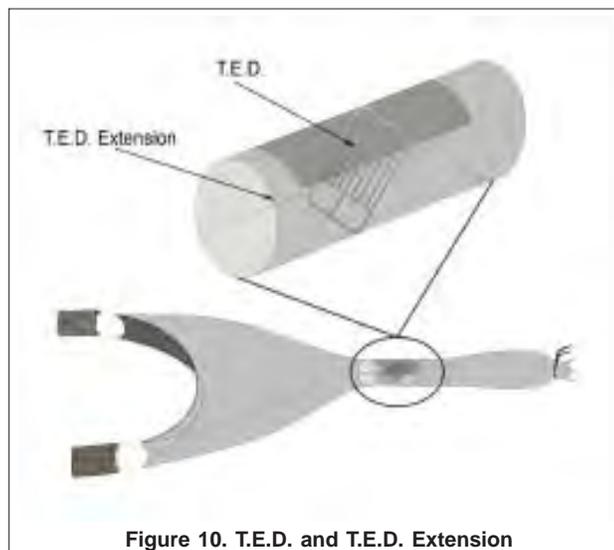


Figure 10. T.E.D. and T.E.D. Extension

SCALLOP TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
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OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE D		GEAR #	NET NAME	NET TYPE	NET BUILDER	CODEND/LINER		GEAR MOUNTED	EXCLUDER/SEPARATOR DEVICE
<input type="checkbox"/>		1	2	3	4	HUNG 28 CODEND LINER		ELECTRONICS	37
NET LOCATION 5		CONSTRUCTION MATERIAL 9		LENGTH MEASUREMENTS		Unknown 0 ___		USED ? 32	USED? NO 0 ___ YES 1 ___
Port 1 ___	TYPE	NET BODY	CODEND	LINER	Headrope	Diamond 1 ___		NO 0 ___	Type Code 38
Starboard 2 ___	Unknown	00 ___	___	___	Footrope/Sweep	Square 2 ___		YES 1 ___	T.E.D. EXTENSION
Aft 3 ___	Nylon	01 ___	___	___	Ground Cable	Square, wrapped 3 ___		NUMBER OF	39
Other 9 ___	Poly	02 ___	___	___	Bridle	Combination 8 ___		TRANSDUCERS	Mesh Size ___ . ___ in
DOORS USED? 6	Kevlar®	03 ___	___	___	STRENGTHENER USED? 19	TWINE TYPE CODEND LINER		33	(circle one) A / E 40
NO 0 ___	Spectra®	04 ___	___	___	NO 0 ___ YES 1 ___	29		TYPE 34	ESCAPE OUTLET
YES 1 ___	Tenex®	05 ___	___	___	CHAFING GEAR USED? 20	Single 1 ___		Unknown 0 ___	41
WEIGHT OF ONE DOOR 7	Nomex®	06 ___	___	___	NO 0 ___ YES 1 ___	Double 2 ___		Wired 1 ___	USED? NO 0 ___ YES 1 ___
kg	Combination	98 ___	___	___		Single on Top/		Wireless 2 ___	
	Other	99 ___	___	___		Double on Bottom 3 ___		Both 3 ___	
LINER USED?	NETS CONNECTED? 10	KITE PANEL		FISHING CIRCLE		CODEND MESH SIZE		BRAND 35	TYPE 42
NO 0 8	NO 0 ___	KITE USED? 11	Number 12	# MESHES 21		30		Unknown 0 ___	Unknown 0 ___
YES 1 ___	YES 1 ___	NO 0 ___	Width 13 in	MESH SIZE 22. in		___ mm ___ mm		Furuno® 1 ___	Panel 1 ___
		YES 1 ___	Length 14 in			___ mm ___ mm		Simrad® 2 ___	Opening 2 ___
COMMENTS	GROUND GEAR 23		SWEEP GEAR		FLOATS		LINER MESH SIZE		Other 9 ___
	TYPE	GROUND CABLE	BRIDLE/ LEG	SWEEP	Number 24	Number 26	31		Combination 8 ___
	Unknown	00 ___	___	___	Diameter 25 in	Diameter 27 in	___ mm ___ mm		Other 9 ___
	Chain	01 ___	___	___			___ mm ___ mm		35A
	Cable / Wire	02 ___	___	___			___ mm ___ mm		LOCATION 36
	Wrapped Cable	03 ___	___	___			___ mm ___ mm		(check all that apply)
	Rock Hopper	04 ___	___	___			___ mm ___ mm		Unknown 0 <input type="checkbox"/>
	Roller	05 ___	___	___			___ mm ___ mm		Headrope 1 <input type="checkbox"/>
	Rubber Cookie	06 ___	___	___			___ mm ___ mm		Wings 2 <input type="checkbox"/>
	Bobbin	07 ___	___	___			___ mm ___ mm		Footrope 3 <input type="checkbox"/>
	Plate Gear	08 ___	___	___			___ mm ___ mm		Door 5 <input type="checkbox"/>
	None	98 ___	___	___			___ mm ___ mm		Codend 6 <input type="checkbox"/>
	Other	99 ___	___	___			___ mm ___ mm		Other 9 <input type="checkbox"/>
		23A					___ mm ___ mm		36A
		SWEEP GEAR		FLOATS			___ mm ___ mm		MESH SIZE 43 in
		Number 24		Number 26			___ mm ___ mm		LENGTH
		Diameter 25 in		Diameter 27 in			___ mm ___ mm		# MESHES 44 OR 45 in
							___ mm ___ mm		WIDTH
							___ mm ___ mm		# MESHES 44 OR 45 in
							___ mm ___ mm		SHAPE Type Code 46
							___ mm ___ mm		LOCATION Type Code 47

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GEAR CODE 0 5 2		GEAR #(s) 01	NET NAME Bottom Trawl	NET TYPE 4-Seam Scallop Trawl	NET BUILDER Superior Trawl	CODEND/LINER HUNG CODEND LINER Unknown 0 _____ Diamond 1 <input checked="" type="checkbox"/> _____ Square 2 _____ Square, wrapped 3 _____ Combination 8 _____		GEAR MOUNTED ELECTRONICS USED ? NO 0 <input checked="" type="checkbox"/> YES 1 _____ NUMBER OF TRANSDUCERS _____ TYPE Unknown 0 _____ Wired 1 _____ Wireless 2 _____ Both 3 _____	EXCLUDER/SEPARATOR DEVICE USED? NO 0 <input checked="" type="checkbox"/> YES 1 _____ Type Code _____ T.E.D. EXTENSION Mesh Size _____ in (circle one) A / E						
NET LOCATION Port 1 <input checked="" type="checkbox"/> Starboard 2 _____ Aft 3 _____ Other 9 _____		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 70 ft Footrope/Sweep 70 ft Ground Cable 25 fm Bridle 25 fm		TWINE TYPE CODEND LINER Single 1 _____ Double 2 <input checked="" type="checkbox"/> _____ Single on Top/ Double on Bottom 3 _____ Other 9 _____		WEIGHT OF ONE DOOR 270 kg		STRENGTHENER USED? NO 0 <input checked="" type="checkbox"/> YES 1 _____ CHAFING GEAR USED? NO 0 <input checked="" type="checkbox"/> YES 1 _____				
DOORS USED? NO 0 _____ YES 1 <input checked="" type="checkbox"/>		NETS CONNECTED? NO 0 _____ YES 1 <input checked="" type="checkbox"/>		KITE PANEL KITE USED? Number 3 NO 0 _____ Width 39 in YES 1 <input checked="" type="checkbox"/> Length 39 in		FISHING CIRCLE # MESHES 60 MESH SIZE 5.5 in		CODEND MESH SIZE 141 mm 143 mm 145 mm 147 mm 145 mm 142 mm 143 mm 150 mm 146 mm 149 mm		BRAND Unknown 0 _____ Furuno® 1 _____ Simrad® 2 _____ Northstar Tech 3 _____ Notus 4 _____ Marport 5 _____ Scanmar 6 _____ Combination 8 _____ Other 9 _____		TYPE Unknown 0 _____ Panel 1 _____ Opening 2 _____ Single Flap 3 _____ Double Flap 4 _____ Other 9 _____			
LINER USED? NO 0 <input checked="" type="checkbox"/> YES 1 _____		COMMENTS		GROUND GEAR TYPE GROUND CABLE BRIDLE/ LEG SWEEP Unknown 00 _____ Chain 01 _____ <input checked="" type="checkbox"/> Cable / Wire 02 <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Wrapped Cable 03 _____ Rock Hopper 04 _____ Roller 05 _____ Rubber Cookie 06 _____ Bobbin 07 _____ Plate Gear 08 _____ None 98 _____ Other 99 _____		SWEEP GEAR Number _____ Diameter _____ in		FLOATS Number 30 Diameter 10 in		LINER MESH SIZE ____ mm _____ mm ____ mm _____ mm ____ mm _____ mm ____ mm _____ mm		LOCATION (check all that apply) Unknown 0 <input type="checkbox"/> Headrope 1 <input type="checkbox"/> Wings 2 <input type="checkbox"/> Footrope 3 <input type="checkbox"/> Door 5 <input type="checkbox"/> Codend 6 <input type="checkbox"/> Other 9 <input type="checkbox"/>		MESH SIZE _____ in LENGTH # MESHES _____ OR _____ in WIDTH # MESHES _____ OR _____ in SHAPE Type Code _____ LOCATION Type Code _____	

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PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES:	ESCAPE OUTLET SHAPE CODES:	ESCAPE OUTLET LOCATION CODES:
	00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	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)

FOR OFFICE USE ONLY

SCALLOP TRAWL GEAR CHARACTERISTICS LOG
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OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		GEAR #(s)		NET NAME		NET TYPE		NET BUILDER		CODEND/LINER HUNG CODEND LINER			GEAR MOUNTED ELECTRONICS		EXCLUDER/SEPARATOR DEVICE		
NET LOCATION Port 1 ___ Starboard 2 ___ Aft 3 ___ Other 9 ___		CONSTRUCTION MATERIAL TYPE NET BODY CODEND LINER				LENGTH MEASUREMENTS Headrope _____ ft Footrope/Sweep _____ ft Ground Cable _____ fm Bridle _____ fm				Unknown 0 ___ Diamond 1 ___ Square 2 ___ Square, wrapped 3 ___ Combination 8 ___			USED ? NO 0 ___ YES 1 ___		USED? NO 0 ___ YES 1 ___ Type Code _____		
DOORS USED? NO 0 ___ YES 1 ___		Kevlar® 03 ___ Spectra® 04 ___ Tenex® 05 ___ Nomex® 06 ___ Combination 98 ___ Other 99 ___				STRENGTHENER USED? NO 0 ___ YES 1 ___ CHAFING GEAR USED? NO 0 ___ YES 1 ___				TWINE TYPE CODEND LINER Single 1 ___ Double 2 ___ Single on Top/ Double on Bottom 3 ___ Other 9 ___			NUMBER OF TRANSDUCERS _____		T.E.D. EXTENSION Mesh Size _____ in		
WEIGHT OF ONE DOOR _____ kg		LINER USED? NO 0 ___ YES 1 ___		NETS CONNECTED? NO 0 ___ YES 1 ___		KITE PANEL KITE USED? Number _____ NO 0 ___ Width _____ in YES 1 ___ Length _____ in		FISHING CIRCLE # MESHES _____ MESH SIZE _____ in		CODEND MESH SIZE _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm			TYPE Unknown 0 ___ Furuno® 1 ___ Simrad® 2 ___ Northstar Tech 3 ___ Notus 4 ___ Marport 5 ___ Scanmar 6 ___ Combination 8 ___ Other 9 ___		ESCAPE OUTLET USED? NO 0 ___ YES 1 ___ TYPE Unknown 0 ___ Panel 1 ___ Opening 2 ___ Single Flap 3 ___ Double Flap 4 ___ Other 9 ___		
COMMENTS		GROUND GEAR TYPE GROUND CABLE BRIDLE/ LEG SWEEP				SWEEP GEAR				FLOATS				MESH SIZE _____ in		LENGTH # MESHES _____ OR _____ in	
		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 ___				Number _____ Diameter _____ in				Number _____ Diameter _____ in				LINER MESH SIZE _____ mm _____ mm _____ mm _____ mm _____ mm _____ mm		LOCATION (check all that apply) Unknown 0 <input type="checkbox"/> Headrope 1 <input type="checkbox"/> Wings 2 <input type="checkbox"/> Footrope 3 <input type="checkbox"/> Door 5 <input type="checkbox"/> Codend 6 <input type="checkbox"/> Other 9 <input type="checkbox"/>	

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS	EXCLUDER/SEPARATOR DEVICE TYPE CODES: 00 = Unknown 25 = Conch T.E.D. 01 = Nordmore Grate 26 = Flat Bottom T.E.D. 03 = Separator Panel 27 = Whelk T.E.D. 04 = Guiding Device 28 = Flexible T.E.D. 05 = Raised Footrope 29 = Parker Soft T.E.D. 20 = T.E.D., Unknown 30 = Experimental T.E.D. 21 = Standard T.E.D. 31 = Northeast Modified T.E.D. 22 = Weedless T.E.D. 32 = Large Flat Bar T.E.D. 23 = Flounder T.E.D. 98 = Combination (Comment) 24 = Bent Rod T.E.D. 99 = Other (Comment)	ESCAPE OUTLET SHAPE CODES: 00 = Unknown 01 = Rectangular 05 = Trapezoid 06 = Square 07 = Diamond 08 = Triangular 09 = Semi-Circle 11 = Horizontal Cut 99 = Other (Comment)	ESCAPE OUTLET LOCATION CODES: 0 = Unknown 1 = Net Top 2 = Net Bottom 3 = Net Side 4 = Codend Top 5 = Codend Bottom 8 = Combination (Comment) 9 = Other (Comment)

FOR OFFICE USE ONLY

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, weather, depths, times, positions, *etc.*). **If the haul is not observed because you are off-watch, complete a Scallop Trawl Off-Watch Haul Log instead of this log.**

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 (*i.e.* 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 Sea Bird Incidental Take Log. See Appendix R. 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 (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 net deployed, *i.e.* net hits the water.

Haul End: Hauling equipment put into gear.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Scallop Trawl Gear Characteristics Log.

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 I. 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 (ie, port or starboard) include a comment with the net location.

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 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).

5. 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: Both nets should be observed during on-watch hauls.

NOTE: If only one net is observed for weather or safety related reasons, record only the catch data from this net in the Species Information section.

NOTE: Aft refers to a single net fished over the stern of the vessel.

6. TOW SPEED: Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

7. 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.

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.

NOTE: The next four fields, NUMBER OF BUSHELS KEPT (#10), NUMBER OF BUSHELS DISCARDED (#11), AVERAGE POUND PER BUSHEL KEPT (#12) and AVERAGE POUND PER BUSHEL DISCARDED (#13) are optional and are to be filled out at the discretion of the observer.

10. NUMBER OF BUSHELS KEPT:

Open and Access Area Trips: Record, to the nearest hundredth of a bushel, the amount of scallops, **in the shell**, kept from this haul.

NOTE: If entire kept scallop weight is actual in species section of haul log then dash field.

11. NUMBER OF BUSHELS DISCARDED:

Open and Access Area Trips: Record, to the nearest hundredth of a bushel, the amount of scallops, **in the shell**, discarded from this haul.

NOTE: If entire discard scallop weight is actual in species section of haul log then dash field.

12. AVERAGE POUND PER BUSHEL KEPT:

Open Area Trip: Record, to the nearest tenth of a pound, the **average** weight per bushel of scallops, **in the shell**, kept from this haul.

NOTE: This number should reflect the observer's average for several baskets, not the captain's estimate.

Access Area Trip: Record, to the nearest tenth of a pound, the average weight per bushel of **shucked scallop meats** from this haul. Use meats shucked by the crew to be a representative measurement of how scallops are cut for this trip.

NOTE: If number of bushels kept is zero then dash field (for both Open Area and Access Area trips).

13. AVERAGE POUNDS PER BUSHEL DISCARDED:

Open and Access Area Trips: Record, to the nearest tenth of a pound, the **average** weight per bushel of scallops, **in the shell**, discarded from this haul.

NOTE: This number should reflect the observer's average for several baskets, not the Captain's estimate.

NOTE: If number of bushels discarded is zero then dash field.

14. NUMBER OF TURNS: Record the number of significant turns the vessel makes during this haul *i.e.*,

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.

15. 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).

16. 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 "ScoopMaster" thermometer 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 (#17), HORIZONTAL OPENING (#18), and DOOR SPREAD (#19), should only be filled out if Gear Mounted Electronics are used.

17. 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.

18. 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.

19. 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, *i.e.* 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
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OBS/ TRIP ID	C97013-	
DATE LAND (mm/yy)	06	/ 06
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GEAR CODE 0 5 2	GEAR # 0 1	HAUL # 0 2 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	WIND SPEED 10 kn DIRECTION 90 °	WAVE HEIGHT 2 ft	DEPTH, HAUL BEGIN 35 fm	GEAR COND CODE 010	
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				NET OBSERVED	TOW SPEED	WIRE OUT			
BEGIN HAUL	06 / 12 / 06	12 : 25	Station 1 9960 -	Latitude / Bearing 35 ° 38.3	Station 2 9960 -	Longitude / Bearing 75 ° 17.3	Port 1 Starboard 2 Both 3 <input checked="" type="checkbox"/> Aft 4	3.1 kn	75 fm			
BEGIN FISHING	06 / 12 / 06	12 : 29					TARGET SPECIES		CODE			
END HAUL	06 / 12 / 06	13 : 21	9960 -	35 ° 34.2	9960 -	75 ° 19.9	Sea Scallops		8009			
GEAR ONBOARD	06 / 12 / 06	13 : 38					SEA SCALLOP BUSHELS (optional) KEPT DISCARDED # OF BUSHELS 8 . 25 2 . 75		NUMBER OF TURNS 1			
COMMENTS							AVG LB/BUSHEL 61 . 0 65 . 0		WATER TEMP ° F			
							SEA SCALLOP CLAPPERS OBS? NO 0 YES 1 <input checked="" type="checkbox"/>		60 . 0			
							VERTICAL OPENING ** 6 ft		HORIZONTAL OPENING ** 12 ft		DOOR SPREAD ** 15 ft	

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

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Sea Scallops		K	486	100	R	03							
Sea Scallops		D	16	002	R	04							
Monkfish (tails)		K	26	100	D	01							
Yellowtail Flounder		K	13	100	R	01							
Sand Dollar		D	70	001	R	06							
Clappers, Scallop		D	10	054	R	06							
Little Skate		D	22	001	R	01							

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 new log for each group of hauls which occur during an 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 Gear Haul Log in addition to completing an 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.

INSTRUCTIONS

For instructions on completing fields **A, B, C, G** and **O**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

1. HAUL NUMBER: Record the haul number each time gear is hauled during this off-watch period, maintaining sequential haul numbering for all hauls (observed, unobserved and off-watch) throughout the trip.

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. NUMBER OF BUSHEL KEPT:

Open and Access Area Trips: Record, to the nearest hundredth of a bushel, the captain's or mate's estimated number of bushels of sea scallops, in the shell, kept

from **both nets** for this haul.

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
OBSTO OBHAU 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B / /
PAGE #	C <input type="checkbox"/> of <input type="checkbox"/>

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			SEA SCALLOPS # OF BUSHELS KEPT
				Station 1	Latitude / Bearing	Station 2	
1				Station 1		Station 2	
ON-EFFORT?				9960-	O	9960-	4
NO 0 <u>G</u>		2 / /	3 :	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	
				Station 1		Station 2	
ON-EFFORT?				9960-		9960-	
NO 0		/ /	:	9960-		9960-	
YES 1		/ /	:	9960-		9960-	

SCALLOP TRAWL OFF-WATCH HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSTO OBHAU 01/01/10

OBS/TRIP ID	E05012-
DATE LANDED mm/yy	03 / 01
PAGE #	3 of 3

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			SEA SCALLOPS # OF BUSHELS KEPT
				Station 1	Latitude / Bearing	Station 2	
030	BEGIN	03 / 06 / 01	23:55	9960-	41° 07.2	9960-	69° 22.8
ON-EFFORT?	END	03 / 07 / 01	00:55	9960-	41° 08.3	9960-	69° 25.6
NO 0 <input checked="" type="checkbox"/>							8 . 50
YES 1							
031	BEGIN	03 / 07 / 01	01:00	9960-	41° 08.3	9960-	69° 25.6
ON-EFFORT?	END	03 / 07 / 01	01:55	9960-	41° 07.4	9960-	69° 22.3
NO 0 <input checked="" type="checkbox"/>							9 . 00
YES 1							
032	BEGIN	03 / 07 / 01	02:00	9960-	41° 07.4	9960-	69° 22.3
ON-EFFORT?	END	03 / 07 / 01	02:55	9960-	41° 07.9	9960-	69° 24.9
NO 0 <input checked="" type="checkbox"/>							7 . 75
YES 1							
033	BEGIN	03 / 07 / 01	03:00	9960-	41° 07.9	9960-	69° 24.9
ON-EFFORT?	END	03 / 07 / 01	03:55	9960-	41° 06.9	9960-	69° 21.5
NO 0 <input checked="" type="checkbox"/>							9 . 50
YES 1							
034	BEGIN	03 / 07 / 01	04:00	9960-	41° 06.9	9960-	69° 21.5
ON-EFFORT?	END	03 / 07 / 01	04:55	9960-	41° 07.6	9960-	69° 23.4
NO 0 <input checked="" type="checkbox"/>							12 . 25
YES 1							
035	BEGIN	03 / 07 / 01	05:00	9960-	41° 07.6	9960-	69° 23.4
ON-EFFORT?	END	03 / 07 / 01	05:55	9960-	41° 07.2	9960-	69° 22.8
NO 0							10 . 25
YES 1 <input checked="" type="checkbox"/>							
	BEGIN	/ /	:	9960-		9960-	
ON-EFFORT?	END	/ /	:	9960-		9960-	
NO 0							
YES 1							
	BEGIN	/ /	:	9960-		9960-	
ON-EFFORT?	END	/ /	:	9960-		9960-	
NO 0							
YES 1							
	BEGIN	/ /	:	9960-		9960-	
ON-EFFORT?	END	/ /	:	9960-		9960-	
NO 0							
YES 1							

SCALLOP TRAWL OFF-WATCH HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSTO OBHAU 01/01/10

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

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			SEA SCALLOPS # OF BUSHELS KEPT
				Station 1	Latitude / Bearing	Station 2 Longitude / Bearing	
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							
[][]	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT?							
NO 0							
YES 1							

SCALLOP DREDGE GEAR CHARACTERISTICS LOG

This log contains detailed questions about the gear fished. This log will also be used to collect information on mussel dredge gear. 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) deployed during the trip. Both port and starboard dredges, if used, will be described.

If a gear is set out and hauled 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 hauled. 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 or mussels. A club stick may be attached to the end of the ring-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 Figures 4, 5, and 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 Figures 4 and 7.

Gear: The combination of dredges fished at any one time.

INSTRUCTIONS

For instructions on completing the Header fields **A, B, C and 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 consists of a port dredge and a starboard dredge. The characteristics for both the port and starboard dredges are recorded on the Scallop Dredge Gear Characteristics Log. This gear number (“1”) will be used on the Scallop Dredge Haul Log for each haul and will reflect that both the port and starboard dredge are fishing. If at any time, the gear configuration on either the port or starboard dredge changes (i.e. the number of chains are changed, rollers are removed, the twine top is replaced), a new consecutive gear number (“2”) will be assigned. For example, if a tickler chain is removed from the port dredge, a new Scallop Dredge Gear Characteristics Log is required with gear number “2”, recording the new characteristics of the port dredge and the same characteristics from the starboard dredge information from gear number “1”. 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: Aft refers to a single dredge fished over the stern of the vessel.

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 = C-Farm
- 9 = Other, record a detailed description in

COMMENTS of any dredge that is not Standard or C-Farm.

STANDARD: A steel, triangular-shaped frame with a cutting bar, pressure plate and bail 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).

C-FARM: Any scallop dredge frame in which:
 a) the cutting bar is positioned forward of the pressure plate.
 b) has no more than two outside bail bars and one center bail bar.
 c) the bail is connected to the frame with an approximately 12" straight extension. Record the number welded into the frame, if present. See figure 1.



Figure 1. Image of C-Farm Dredge. Photo Credit: Reidar's Manufacturing Inc. and Coonamessett Farm

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 (if present). See Figures 4 and 7.

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 4.

6. PRESSURE PLATE USED?: Record whether a forward angled steel plate (see Figures 4 and 7) is used on top of the frame by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

CHAINS

7. ROCK CHAINS USED?: Record whether rock chains (see Figure 6) are hung perpendicular to the dredge frame by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

8. 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.

9. TICKLER CHAINS USED?: Record whether tickler chains (see Figure 6) are hung parallel to the dredge frame by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

10. NUMBER: Record the number of tickler chains used.

11. 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.

NOTE: This information should be verified by the Captain.

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.



Figure 2. Turtle Chain Mat for excluding turtles

TWINE TOP

12. MESH SIZE: Record, in whole millimeters, ten randomly selected **inside** mesh measurements from the twine top. Use calipers for these measurements. See Appendix P. Vernier Caliper Instructions for further information.

13. # MESHES WIDE: Record the number of meshes for the width of the twine top (runs from one side of the dredge frame to the other side of the dredge frame).

14. # MESHES LONG: Record the number of meshes for the length of the twine top (runs from the dredge frame to the chain bag).

15. 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.

16. # RINGS: Record the number of rings that the twine top is hung from. See Figure 3.

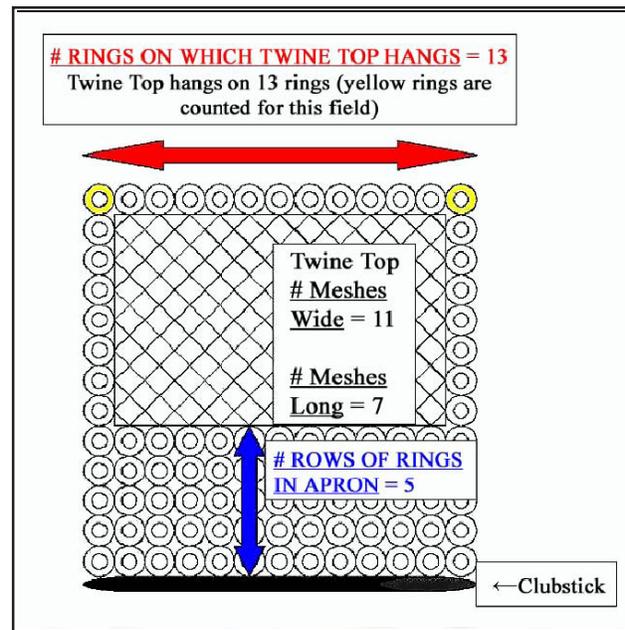


Figure 3. Example of Number of Rings on which Twine Top Hangs and Rows of Rings in Apron.

CHAIN BAG

17. 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.

18. AVERAGE NUMBER OF LINKS BETWEEN TWO RINGS: Record the **average** number of links used between two rings in the **bottom** of

the chain bag.

19. 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 O. Vernier Caliper Instructions](#) for further information.

Example: 3/8.

20. # 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 3.

21. 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 O. Vernier Caliper Instructions](#) for further information.

22. INSIDE RING SIZE (TOP OF BAG): Record, in whole millimeters, the inside diameters of ten randomly selected rings from the top (apron; see Figure 4) of the chain bag. Use calipers for these measurements. See [Appendix O. Vernier Caliper Instructions](#) for further information.

23. INSIDE RING SIZE (BOTTOM OF BAG): Record, in whole millimeters, the inside diameters of ten randomly selected rings from the bottom of the chain bag. Use calipers for these measurements. See [Appendix O. Vernier Caliper Instructions](#) for further information.

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.

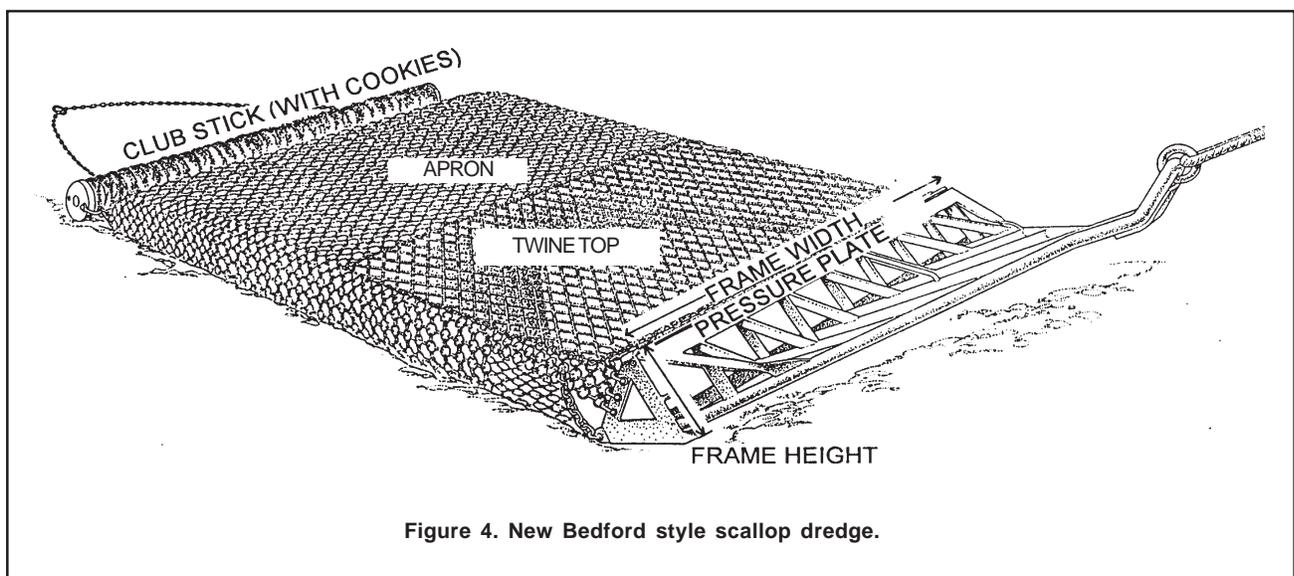


Figure 4. New Bedford style scallop dredge.

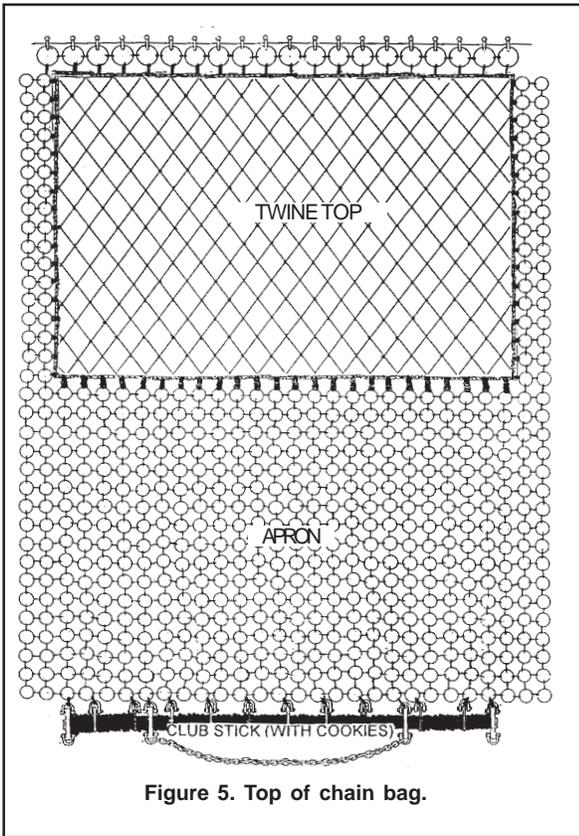


Figure 5. Top of chain bag.

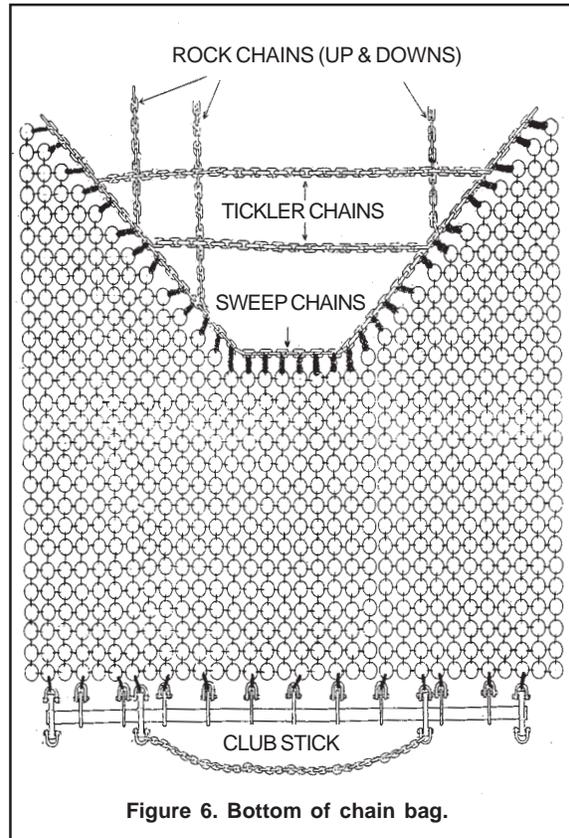


Figure 6. Bottom of chain bag.

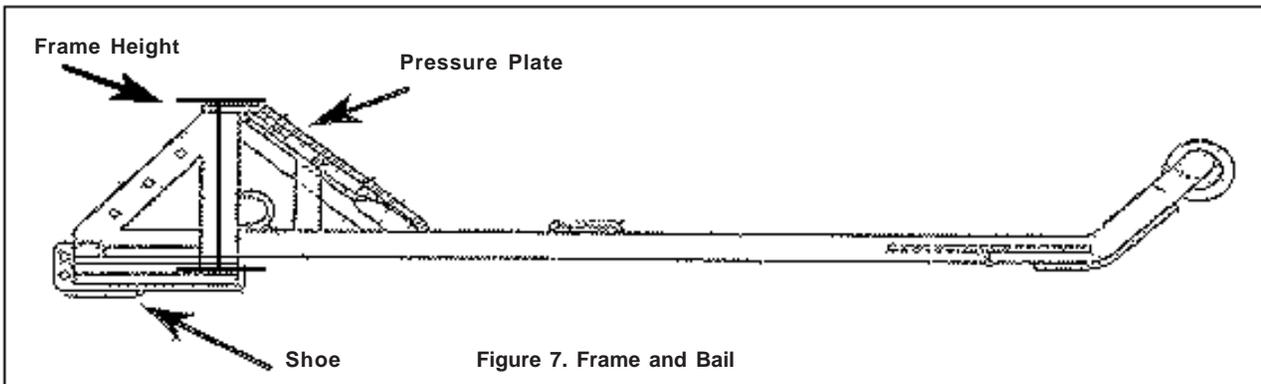


Figure 7. Frame and Bail

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS, PORT DREDGE

ADDITIONAL COMMENTS, STARBOARD DREDGE

FOR OFFICE USE ONLY

SCALLOP DREDGE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSDG 01/01/10

OBS/TRIP ID	E05012-
DATE LANDED mm/yy	03 / 03
PAGE #	1 OF 1

GEAR CODE <table border="1"><tr><td>1</td><td>3</td><td>2</td></tr></table>	1	3	2	GEAR NUMBER(s) 1	If the dredge is fished off the stern, check box here AFT (A) <input type="checkbox"/>
1	3	2			

PORT DREDGE (P)																					
DREDGE FRAME		CHAINS		TWINE TOP		# MESHES		PORT DREDGE COMMENTS													
FRAME TYPE		USED? NO YES NUMBER		MESH SIZE		WIDE		<p>Rock and tickler chains connected at intersection point. Captain said squares equal 12 inches on each side and is turtle chain mat.</p> <p>See photos for C-Farm dredge. Dredge had 2 outside bail bars and 1 center bar. Cutting bar as positioned forward of the pressure plate.</p>													
Unknown 0 <input type="checkbox"/> FRAME HEIGHT 19 in		ROCK 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 9		258 mm 254 mm		75															
Standard 1 <input type="checkbox"/>		TICKER 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 6		261 mm 256 mm		LONG 6															
C-Farm 2 <input checked="" type="checkbox"/> FRAME WIDTH 13 ft		CONFIGURATION		255 mm 259 mm		HUNG															
Other 9 <input type="checkbox"/>		STANDARD 1 <input type="checkbox"/>		254 mm 259 mm		Unknown 0 <input type="checkbox"/>															
PRESSURE PLATE USED? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>		TURTLE CHAIN MAT 2 <input checked="" type="checkbox"/>		254 mm 257 mm		Diamond 1 <input checked="" type="checkbox"/>															
CHAIN BAG																					
CHAFING GEAR USED? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>		INSIDE RING SIZE (mm) (10 random measurements)																			
AVG # LINKS BTW 2 RINGS 2																					
LINK STOCK SIZE 5 / 16		TOP OF BAG		102		105		103		103		105		102		103		103		105	
# ROWS IN APRON 9																					
OUTSIDE RING SIZE 123 mm		BOTTOM OF BAG		106		106		104		103		104		104		105		102		103	

STARBOARD DREDGE (S)																					
DREDGE FRAME		CHAINS		TWINE TOP		# MESHES		STARBOARD DREDGE COMMENTS													
FRAME TYPE		USED? NO YES NUMBER		MESH SIZE		WIDE		<p>Same comments as port dredge</p>													
Unknown 0 <input type="checkbox"/> FRAME HEIGHT 19 in		ROCK 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 9		254 mm 255 mm		77															
Standard 1 <input type="checkbox"/>		TICKER 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 5		254 mm 255 mm		LONG 7															
C-Farm 2 <input checked="" type="checkbox"/> FRAME WIDTH 13 ft		CONFIGURATION		257 mm 256 mm		HUNG															
Other 9 <input type="checkbox"/>		STANDARD 1 <input type="checkbox"/>		255 mm 260 mm		Unknown 0 <input type="checkbox"/>															
PRESSURE PLATE USED? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>		TURTLE CHAIN MAT 2 <input checked="" type="checkbox"/>		255 mm 259 mm		Diamond 1 <input checked="" type="checkbox"/>															
CHAIN BAG																					
CHAFING GEAR USED? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>		INSIDE RING SIZE (mm) (10 random measurements)																			
AVG # LINKS BTW 2 RINGS 2																					
LINK STOCK SIZE 5 / 16		TOP OF BAG		103		105		102		105		105		102		104		103		105	
# ROWS IN APRON 9																					
OUTSIDE RING SIZE 124 mm		BOTTOM OF BAG		102		103		105		104		103		103		105		104		103	

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

ADDITIONAL COMMENTS, PORT DREDGE

ADDITIONAL COMMENTS, STARBOARD DREDGE

FOR OFFICE USE ONLY

SCALLOP DREDGE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
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OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	GEAR NUMBER(S)	If the dredge is fished off the stern, check box here AFT (A) <input type="checkbox"/>
---	----------------	---

PORT DREDGE (P)							
DREDGE FRAME		CHAINS		TWINE TOP		# MESHES	
FRAME TYPE		USED? NO YES NUMBER		MESH SIZE		HUNG	
Unknown 0 <u> </u> FRAME HEIGHT <u> </u> in		ROCK 0 <u> </u> 1 <u> </u>		<u> </u> mm <u> </u> mm		Wide <u> </u>	
Standard 1 <u> </u>		TICKER 0 <u> </u> 1 <u> </u>		<u> </u> mm <u> </u> mm		LONG <u> </u>	
C-Farm 2 <u> </u> FRAME WIDTH <u> </u> ft							
Other 9 <u> </u>							
PRESSURE PLATE USED? NO 0 <u> </u> YES 1 <u> </u>		CONFIGURATION				Unknown 0 <u> </u>	
		STANDARD 1 <u> </u>				Diamond 1 <u> </u>	
		TURTLE CHAIN MAT 2 <u> </u>				Square 2 <u> </u>	
						Combination 8 <u> </u>	
						# RINGS ON WHICH TWINE TOP HANGS <u> </u>	
CHAIN BAG							
CHAFING GEAR USED? NO 0 <u> </u> YES 1 <u> </u>							
AVG # LINKS BTW 2 RINGS <u> </u>		INSIDE RING SIZE (mm) (10 random measurements)					
LINK STOCK SIZE <u> </u> / <u> </u>		TOP OF BAG					
# ROWS IN APRON <u> </u>							
OUTSIDE RING SIZE <u> </u> mm		BOTTOM OF BAG					

STARBOARD DREDGE (S)							
DREDGE FRAME		CHAINS		TWINE TOP		# MESHES	
FRAME TYPE		USED? NO YES NUMBER		MESH SIZE		HUNG	
Unknown 0 <u> </u> FRAME HEIGHT <u> </u> in		ROCK 0 <u> </u> 1 <u> </u>		<u> </u> mm <u> </u> mm		Wide <u> </u>	
Standard 1 <u> </u>		TICKER 0 <u> </u> 1 <u> </u>		<u> </u> mm <u> </u> mm		LONG <u> </u>	
C-Farm 2 <u> </u> FRAME WIDTH <u> </u> ft							
Other 9 <u> </u>							
PRESSURE PLATE USED? NO 0 <u> </u> YES 1 <u> </u>		CONFIGURATION				Unknown 0 <u> </u>	
		STANDARD 1 <u> </u>				Diamond 1 <u> </u>	
		TURTLE CHAIN MAT 2 <u> </u>				Square 2 <u> </u>	
						Combination 8 <u> </u>	
						# RINGS ON WHICH TWINE TOP HANGS <u> </u>	
CHAIN BAG							
CHAFING GEAR USED? NO 0 <u> </u> YES 1 <u> </u>							
AVG # LINKS BTW 2 RINGS <u> </u>		INSIDE RING SIZE (mm) (10 random measurements)					
LINK STOCK SIZE <u> </u> / <u> </u>		TOP OF BAG					
# ROWS IN APRON <u> </u>							
OUTSIDE RING SIZE <u> </u> mm		BOTTOM OF BAG					

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

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, weather, depths, times, positions, *etc.*). **If the haul is not observed because you are off-watch, complete a Scallop Dredge Off-Watch Haul Log instead of this log.**

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 (*i.e.* 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 Sea Bird Incidental Take Log. See Appendix R. 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 (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(s) deployed, *i.e.*, dredge(s) hit the water.

Haul End: Hauling equipment put into gear.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Scallop Dredge Gear Characteristics Log.

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 I. 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 (*i.e.*, 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 (*ie*, port or starboard) include a comment with the net location.

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 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).

5. 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: Both dredges should be observed during on-watch hauls.

NOTE: If only one dredge is observed for weather or safety related reasons, record only the catch data from this dredge in the Species Information section.

NOTE: Aft refers to a single net fished over the stern of the vessel.

6. TOW SPEED: Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

7. 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.

8. 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 "ScoopMaster" thermometer to obtain this temperature.

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

DATE/TIME

9. 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.

11. 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: The next four fields, NUMBER OF BUSHELS KEPT (#12), NUMBER OF BUSHELS DISCARDED (#13), AVERAGE POUND PER BUSHEL KEPT (#14) and AVERAGE POUND PER BUSHEL DISCARDED (#15) are optional and are to be filled out at the discretion of the observer.

12. NUMBER OF BUSHELS KEPT:

Open and Access Area Trips: Record, to the nearest hundredth of a bushel, the amount of scallops, **in the shell**, kept from this haul.

NOTE: If entire kept scallop weight is actual in species section of haul log then dash field.

13. NUMBER OF BUSHELS DISCARDED:

Open and Access Area Trips: Record, to the nearest hundredth of a bushel, the amount of scallops, **in the shell**, discarded from this haul.

NOTE: If entire discard scallop weight is actual in species section of haul log then dash field.

14. AVERAGE POUND PER BUSHEL KEPT:

Open Area Trip: Record, to the nearest tenth of a pound, the **average** weight per bushel of scallops, **in the shell**, kept from this haul.

NOTE: This number should reflect the observer's average for several baskets, not the captain's estimate.

Access Area Trip: Record, to the nearest tenth of a pound, the average weight per bushel of **shucked scallop meats** from this haul. Use meats shucked by the crew to be a representative measurement of how scallops are cut for this trip.

NOTE: If number of bushels kept is zero then dash field (both Open and Access Area trips).

15. AVERAGE POUNDS PER BUSHEL DISCARDED:

Open and Access Area Trips: Record, to the nearest tenth of a pound, the **average** weight per bushel of scallops, **in the shell**, discarded from this haul.

NOTE: This number should reflect the observer's average for several baskets, not the captain's estimate.

NOTE: If number of bushels discarded is zero then dash field.

COMMENTS

Record any additional information regarding this haul, *i.e.* 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 01/01/10

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

GEAR CODE 1 3 2	GEAR # 1	HAUL # E	HAUL OBS? NO 0 <u>F</u> YES 1 _____	ON-EFFORT? NO 0 <u>G</u> YES 1 _____	CATCH? NO 0 <u>H</u> YES 1 _____	INC TAKE? NO 0 <u>I</u> YES 1 _____	WEATHER CODE J	WIND SPEED K DIRECTION L °	WAVE HEIGHT M ft	DEPTH, HAUL BEGIN N fm	GEAR COND CODE 2	
HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				DREDGE OBSERVED 5	TOW SPEED 6 kn	WIRE OUT 7 fm	WATER TEMP 8 ° F		
BEGIN HAUL	3 / /	4 :	Station 1 9960 -	Latitude / Bearing O		Station 2 9960 -	Port 1 _____ Starboard 2 _____ Both 3 _____ Aft 4 _____			TARGET SPECIES CODE P Q		
BEGIN FISHING	9 / /	:					SEA SCALLOP CLAPPERS OBS? 11 NO 0 _____ YES 1 _____			SEA SCALLOP BUSHELS (optional) KEPT 12 . DISCARDED 13 . # OF BUSHELS . . . AVG LB/BUSHEL 14 . 15 .		
END HAUL	/ /	:	9960 -			9960 -						
GEAR ONBOARD	10 / /	:										

COMMENTS

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X							

SCALLOP DREDGE HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSDH OBHAU OBSPP 01/01/10

OBS/ TRIP ID	E05012-
DATE LAND (mm/yy)	03 / 01
PAGE #	1 OF 2

GEAR CODE 1 3 2	GEAR # 0 1	HAUL # 1 3 5	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 04	WIND SPEED 5 kn DIRECTION 0		WAVE HEIGHT 3 ft	DEPTH, HAUL BEGIN 35 fm	GEAR COND CODE 710
HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				DREDGE OBSERVED	TOW SPEED	WIRE OUT	WATER TEMP		
BEGIN HAUL	03 / 12 / 01	05 : 00	Station 1 9960 -	Latitude / Bearing 41 ° 07.2	Station 2 9960 -	Longitude / Bearing 69 ° 22.8	Port 1	3 . 5 kn	100 fm	58 . 0 F		
BEGIN FISHING	03 / 12 / 01	05 : 06					Starboard 2	TARGET SPECIES CODE				
END HAUL	03 / 12 / 01	05 : 55	9960 -	41 ° 07.3	9960 -	69 ° 23.0	Both 3 <input checked="" type="checkbox"/>	Sea Scallops			8009	
GEAR ONBOARD	03 / 12 / 01	06 : 08					Aft 4					
COMMENTS							SEA SCALLOP CLAPPERS OBS?	SEA SCALLOP BUSHELS (optional) KEPT DISCARDED # OF BUSHELS 8 . 25 0 . 0 NO 0 YES 1 <input checked="" type="checkbox"/>				
							AVG LB/BUSHEL	69 . 0				

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Sea Scallops		K	569	100	R	03							
Monkfish (tail)		K	29	100	D	01							
Monkfish		D	18	012	R	01							
Yellowtail Flounder		K	6	100	R	01							
Shells, nk		D	200	054	R	02							
Starfish, Seastar, nk		D	150	001	R	02							
Debris, Rock		D	1,000	053	R	06							
Little Skate		D	50	001	R	02							
Clappers, Scallop		D	200	054	R	02							
Jonah Crab		D	15	001	R	02							

SCALLOP DREDGE HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
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OBS/ TRIP ID	
DATE LAND (mm/yy)	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE 1 3 2	GEAR # <input type="text"/>	HAUL # <input type="text"/>	HAUL OBS? NO 0 <input type="text"/> YES 1 <input type="text"/>	ON-EFFORT? NO 0 <input type="text"/> YES 1 <input type="text"/>	CATCH? NO 0 <input type="text"/> YES 1 <input type="text"/>	INC TAKE? NO 0 <input type="text"/> YES 1 <input type="text"/>	WEATHER CODE	WIND SPEED <input type="text"/> kn DIRECTION <input type="text"/> °	WAVE HEIGHT <input type="text"/> ft	DEPTH, HAUL BEGIN <input type="text"/> fm	GEAR COND CODE	
HAUL INFO BEGIN HAUL	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				DREDGE OBSERVED	TOW SPEED <input type="text"/> kn	WIRE OUT <input type="text"/> fm	WATER TEMP <input type="text"/> ° F		
BEGIN HAUL	/ /	:	Station 1 9960 -	Latitude / Bearing		Station 2 9960 -	Longitude / Bearing		Port 1 <input type="text"/>	TARGET SPECIES CODE		
BEGIN FISHING	/ /	:					Starboard 2 <input type="text"/>	Sea Scallops			8009	
END HAUL	/ /	:	9960 -			9960 -			Both 3 <input type="text"/>			
GEAR ONBOARD	/ /	:					Aft 4 <input type="text"/>					
COMMENTS							SEA SCALLOP CLAPPERS OBS? NO 0 <input type="text"/> YES 1 <input type="text"/>	SEA SCALLOP BUSHELS (optional) KEPT DISCARDED # OF BUSHELS <input type="text"/> <input type="text"/> AVG LB/BUSHEL <input type="text"/> <input type="text"/>				

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE

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 trips. Complete a new log for each group of hauls which occur during an 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 an 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.

INSTRUCTIONS

For instructions on completing fields **A, B, C, G** and **O**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

1. HAUL NUMBER: Record the haul number each time gear is hauled during this off-watch period, maintaining sequential haul numbering for all hauls (observed, unobserved and off-watch) throughout the trip.

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. NUMBER OF BUSHELS KEPT:

Open and Access Area Trips: Record, to the nearest hundredth of a bushel, the captain's or mate's estimated number of bushels of sea scallops, **in the shell**, kept

from **both dredges** for this haul.

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 01/01/10

OBS/TRIP ID	E05012-
DATE LANDED mm/yy	03 / 01
PAGE #	3 of 10

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			SEA SCALLOPS # OF BUSHELS KEPT
				Station 1	Latitude / Bearing	Station 2	
030	BEGIN	03 / 06 / 01	23:55	9960-	41° 07.2	9960-	69° 22.8
ON-EFFORT?	END	03 / 07 / 01	00:55	9960-	41° 08.3	9960-	69° 25.6
NO 0 <input checked="" type="checkbox"/>							8 . 50
YES 1 <input type="checkbox"/>							
031	BEGIN	03 / 07 / 01	01:00	9960-	41° 08.3	9960-	69° 25.6
ON-EFFORT?	END	03 / 07 / 01	01:55	9960-	41° 07.4	9960-	69° 22.3
NO 0 <input checked="" type="checkbox"/>							9 . 00
YES 1 <input type="checkbox"/>							
032	BEGIN	03 / 07 / 01	02:00	9960-	41° 07.4	9960-	69° 22.3
ON-EFFORT?	END	03 / 07 / 01	02:55	9960-	41° 07.9	9960-	69° 24.9
NO 0 <input checked="" type="checkbox"/>							7 . 75
YES 1 <input type="checkbox"/>							
033	BEGIN	03 / 07 / 01	03:00	9960-	41° 07.9	9960-	69° 24.9
ON-EFFORT?	END	03 / 07 / 01	03:55	9960-	41° 06.9	9960-	69° 21.5
NO 0 <input type="checkbox"/>							9 . 50
YES 1 <input checked="" type="checkbox"/>							
034	BEGIN	03 / 07 / 01	04:00	9960-	41° 06.9	9960-	69° 21.5
ON-EFFORT?	END	03 / 07 / 01	04:55	9960-	41° 07.6	9960-	69° 23.4
NO 0 <input checked="" type="checkbox"/>							12 . 25
YES 1 <input type="checkbox"/>							
035	BEGIN	03 / 07 / 01	05:00	9960-	41° 07.6	9960-	69° 23.4
ON-EFFORT?	END	03 / 07 / 01	05:55	9960-	41° 07.2	9960-	69° 22.8
NO 0 <input type="checkbox"/>							10 . 25
YES 1 <input checked="" type="checkbox"/>							
	BEGIN	/ /	:	9960-		9960-	
ON-EFFORT?	END	/ /	:	9960-		9960-	
NO 0 <input type="checkbox"/>							
YES 1 <input type="checkbox"/>							
	BEGIN	/ /	:	9960-		9960-	
ON-EFFORT?	END	/ /	:	9960-		9960-	
NO 0 <input type="checkbox"/>							
YES 1 <input type="checkbox"/>							
	BEGIN	/ /	:	9960-		9960-	
ON-EFFORT?	END	/ /	:	9960-		9960-	
NO 0 <input type="checkbox"/>							
YES 1 <input type="checkbox"/>							

**SCALLOP DREDGE OFF-WATCH HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSDO OBHAU 01/01/10**

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

HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		
HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SEA SCALLOPS
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	# OF BUSHELS KEPT
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-		
	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.

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.

Buoyline: A line that connects the buoy(s) at the surface 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 subject to a specific tension load.

INSTRUCTIONS

For instructions on completing Header Fields **A - 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: 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.

NOTE: Gears should be numbered consecutively.

tively 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.

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 side construction 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.

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 K. 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.

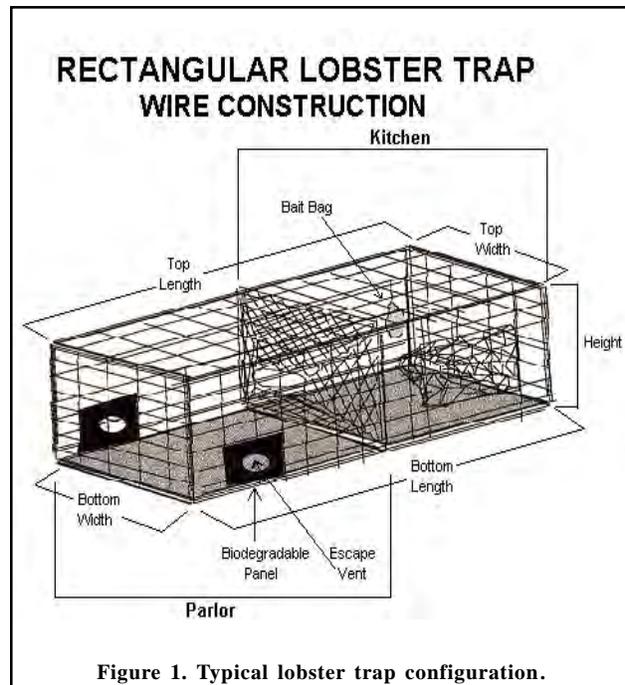


Figure 1. Typical lobster trap configuration.

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.

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 PO 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 O. 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.

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 O. 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.

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.
- 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.
- 9 = Other, record the baiting method on line 24A.

SURFACE SYSTEM

NOTE: The surface system refers to the configuration of high flyers and buoys at the surface of the water. See Figure 2.

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. LENGTH OF LINE BETWEEN HIGH FLYER(S) and BUOY(S): 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 K. 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

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.

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 K. 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 K. 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 K. 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 is selected for Buoyline Type Code (#40), otherwise dash '-' the field.

Example: The Captain states that he has 40 fathoms of sinkline 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 Captain.

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.

- 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..

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 K. Material / Other Codes:

- 0 = Unknown.

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.

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 (i.e. surface weak link type = other, modified swivel). 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.

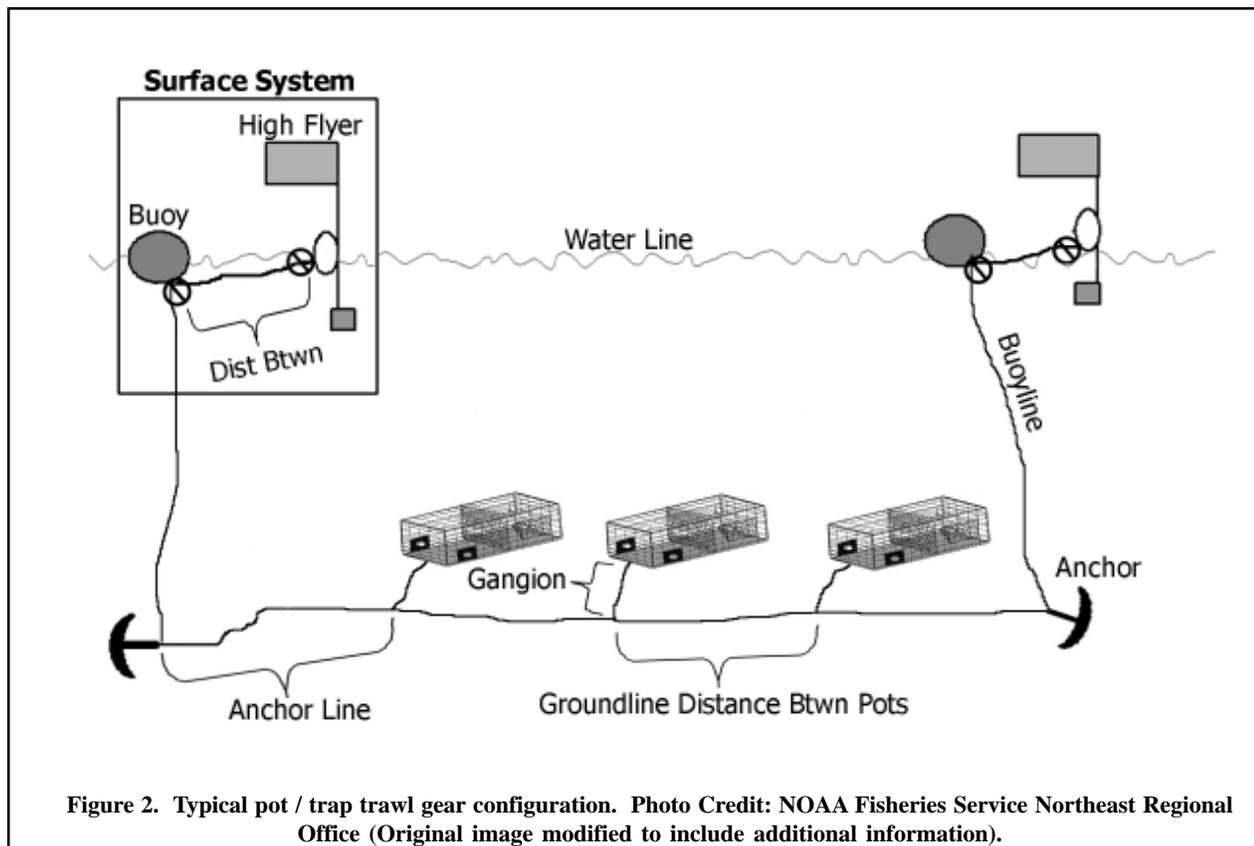


Figure 2. Typical pot / trap trawl gear configuration. Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPTG 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE D		GEAR NUMBER(S)		NUMBER OF POTS		COMMENTS		
<table border="1"> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>					1		2	
POT CHARACTERISTICS		ENTRANCE		SURFACE SYSTEMS		ANCHOR(S)		
Shape Code <u>3</u> Side Construction Code <u>4</u> DIMENSIONS Length (in) Width (in) Top <u>5</u> <u>6</u> Bottom <u>7</u> <u>8</u> Height <u>9</u> in		Number <u>19</u> Inside Ring Size <u>20</u> in Location <u>21</u> Unknown 0 Top 1 Side 2 End 3 Combination 8 Other 9 <u>21A</u>		# of High Flyer(s) <u>25</u> # of Buoys <u>26</u> Length of Line Btwn High Flyer & Buoy(s) (avg) <u>27</u> ft Type Code <u>28</u> Diameter <u>29</u> / in Mark? <u>30</u> NO 0 YES 1			USED? <u>44</u> NO 0 YES 1 Number <u>45</u> (circle one) Weight (total) <u>46</u> lbs <u>47</u> A / E Type <u>48</u> Unknown 0 Danforth-style 1 Dead Weight 2 Combination 8 Other 9 <u>48A</u>	
GROUNDLINE		BIODEGRADABLE PANEL		WEAK LINKS		ANCHOR LINE		
Length of Line Btw Pots (avg) <u>10</u> ft Type code <u>11</u> Diameter <u>12</u> / in		USED? NO 0 YES 1 Attachment Type <u>23</u> Unknown 0 Iron Hog Rings 1 Degradable Plastic 2 Softwood Lathe 3 Uncoated Wire 4 Other 9 <u>23A</u>		USED ON SURFACE? 0 1 Number (total) <u>32</u> Type Code <u>33</u> GANGIONS USED? <u>34</u> NO 0 YES 1 Length (avg) <u>35</u> ft Type Code <u>36</u> Diameter <u>37</u> / in			Length of Line Btwn Anchor & Gangion (avg) <u>49</u> ft Type Code <u>50</u> Diameter <u>51</u> / in	
ESCAPE VENT		BAIT		BUOYLINE		<div style="text-align: center;"> <p>RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION</p> </div>		
NO YES USED? <u>13</u> 0 1 Number <u>14</u> Shape Code <u>15</u> Length <u>16</u> in Height <u>17</u> in Location <u>18</u> Unknown 0 Top 1 Side 2 End 3 Combination 8 Other 9 <u>18A</u>		METHOD <u>24</u> Unknown 0 String 1 Bait Bag 2 Other 9 <u>24A</u>		# of Buoyline(s) <u>38</u> Length (avg) <u>39</u> ft Type Code <u>40</u> Percent of Type <u>41</u> %/ (sinking/floating) Diameter <u>42</u> / in Mark? <u>43</u> NO 0 YES 1				

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

DIAGRAM FOR REFERENCE ONLY

⊗ = Weak Link

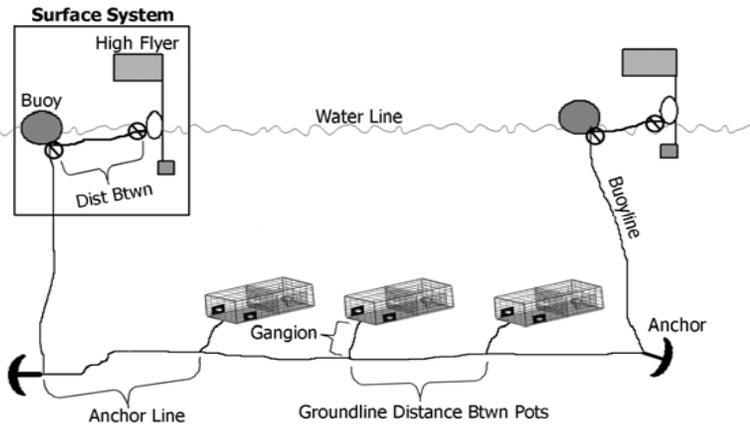


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

ADDITIONAL COMMENTS

SHAPE CODES:

- 00 = Unknown
- 01 = Rectangular
- 02 = Round / Oval
- 03 = 1/2 Round
- 04 = Cone
- 05 = Trapezoid
- 99 = Other

SIDE CONSTRUCTION CODES:

- 0 = Unknown
- 1 = Wood Lathe
- 2 = Plastic Coated Wire
- 3 = Twine Mesh
- 4 = Plastic Mesh
- 8 = Combination
- 9 = Other

LINE / GANGION TYPE CODES:

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

WEAK LINK TYPE CODES:

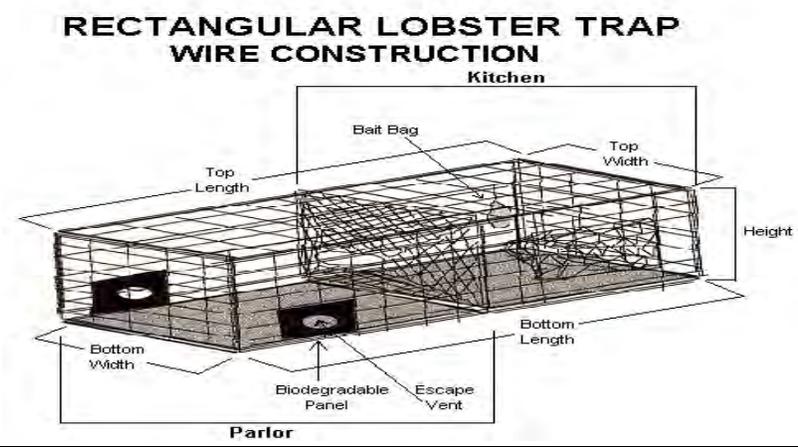
- 0 = Unknown
- 1 = Rope of Appropriate Breaking Strength
- 2 = Off the Shelf
- 3 = Overhand Knot
- 4 = Hog Rings
- 8 = Combination
- 9 = Other

FOR OFFICE USE ONLY

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPTG 01/01/10

OBS/TRIP ID	A75025-
DATE LANDED mm/yy	03 / 01
PAGE #	1 OF 1

GEAR CODE 2 0 0		GEAR NUMBER(S) 1, 2, 9, 10, 13, 15-19, 21, 25, 28, 32-35, 37-40		NUMBER OF POTS 10		COMMENTS
POT CHARACTERISTICS		ENTRANCE		SURFACE SYSTEMS		
Shape Code 05		Number 2		# of High Flyer(s) 2		ANCHOR(S) USED? NO 0 YES 1 X
Side Construction Code 1		Inside Ring Size 7 . 0 in		# of Buoys 2		
DIMENSIONS		Location		Length of Line Btwn		Weight (total) 44 lbs (circle one) A (E)
Length (in) Width (in)		Unknown 0		High Flyer & Buoy(s) (avg) 5 ft		
Top 48 26		Top 1		Type Code 1		Type Unknown 0
Bottom 48 32		Side 2 X		Diameter 5 / 8 in		
Height 18 in		End 3		Type Code 1		Danforth-style 1 X
		Combination 8				
		Other 9				Dead Weight 2
GROUNDLINE		BIODEGRADABLE PANEL		Mark? NO 0 YES 1 X		ANCHOR LINE
Length of Line Btw Pots (avg) 138 ft		USED? NO 0 YES 1 X		WEAK LINKS NO YES		
Type code 1		Attachment Type		USED ON SURFACE? 0 1 X		Length of Line Btwn Anchor & Gangion (avg) 10 ft
Diameter 3 / 8 in		Unknown 0		Number (total) 5		
ESCAPE VENT		Iron Hog Rings 1		GANGIONS		Type Code 1
NO YES		Degradable Plastic 2		USED? NO 0 YES 1 X		
USED? 0 1 X		Softwood Lathe 3 X		Length (avg) 4 ft		Diameter 3 / 8 in
Number 3		Uncoated Wire 4		Type Code 1		
Shape Code 01		Other 9		Type Code 1		
Length 5 . 8 in		BAIT		Diameter 3 / 8 in		
Height 1 . 8 in		METHOD		BUOYLINE		
Location		Unknown 0		# of Buoyline(s) 2		
Unknown 0		String 1		Length (avg) 100 ft		
Top 1 X		Bait Bag 2 X		Type Code 8		
Side 2		Other 9		Percent of Type 67 % / 33 %		
End 3				(sinking/floating)		
Combination 8				Diameter 5 / 8 in		
Other 9				Mark? NO 0 YES 1 X		



OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

DIAGRAM FOR REFERENCE ONLY

⊗ = Weak Link

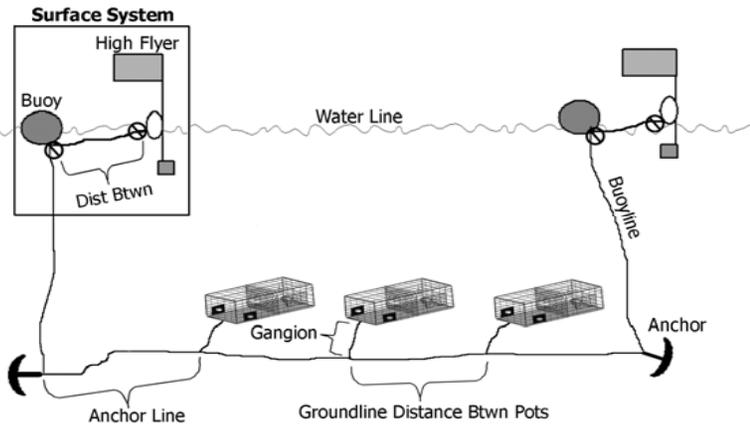


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

ADDITIONAL COMMENTS

SHAPE CODES:

- 00 = Unknown
- 01 = Rectangular
- 02 = Round / Oval
- 03 = 1/2 Round
- 04 = Cone
- 05 = Trapezoid
- 99 = Other

SIDE CONSTRUCTION CODES:

- 0 = Unknown
- 1 = Wood Lathe
- 2 = Plastic Coated Wire
- 3 = Twine Mesh
- 4 = Plastic Mesh
- 8 = Combination
- 9 = Other

LINE / GANGION TYPE CODES:

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

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

FOR OFFICE USE ONLY

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPTG 01/01/10

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE	GEAR NUMBER(S)	NUMBER OF POTS	COMMENTS
<input type="text"/>	<input type="text"/>	<input type="text"/>	
POT CHARACTERISTICS Shape Code <input type="text"/> Side Construction Code <input type="text"/> DIMENSIONS Length (in) <input type="text"/> Width (in) <input type="text"/> Top <input type="text"/> <input type="text"/> Bottom <input type="text"/> <input type="text"/> Height <input type="text"/> in	ENTRANCE Number <input type="text"/> Inside Ring Size <input type="text"/> in Location Unknown 0 Top 1 Side 2 End 3 Combination 8 Other 9	SURFACE SYSTEMS # of High Flyer(s) <input type="text"/> # of Buoys <input type="text"/> Length of Line Btw High Flyer & Buoy(s)(avg) <input type="text"/> ft Type Code <input type="text"/> Diameter <input type="text"/> / <input type="text"/> in Mark? NO 0 YES 1	ANCHOR(S) USED? NO 0 YES 1 Number <input type="text"/> Weight (total) <input type="text"/> lbs A / E Type Unknown 0 Danforth-style 1 Dead Weight 2 Combination 8 Other 9
GROUNDLINE Length of Line Btw Pots (avg) <input type="text"/> ft Type code <input type="text"/> Diameter <input type="text"/> / <input type="text"/> in ESCAPE VENT NO YES USED? 0 1 Number <input type="text"/> Shape Code <input type="text"/> Length <input type="text"/> in Height <input type="text"/> in Location Unknown 0 Top 1 Side 2 End 3 Combination 8 Other 9	BIODEGRADABLE PANEL USED? NO 0 YES 1 Attachment Type Unknown 0 Iron Hog Rings 1 Degradable Plastic 2 Softwood Lathe 3 Uncoated Wire 4 Other 9 BAIT METHOD Unknown 0 String 1 Bait Bag 2 Other 9	WEAK LINKS NO YES USED ON SURFACE? 0 1 Number (total) <input type="text"/> Type Code <input type="text"/> GANGIONS USED? NO 0 YES 1 Length (avg) <input type="text"/> ft Type Code <input type="text"/> Diameter <input type="text"/> / <input type="text"/> in BUOYLINE # of Buoyline(s) <input type="text"/> Length (avg) <input type="text"/> ft Type Code <input type="text"/> Percent of Type <input type="text"/> / <input type="text"/> % Diameter <input type="text"/> / <input type="text"/> in Mark? NO 0 YES 1	ANCHOR LINE Length of Line Btw Anchor & Gangion (avg) <input type="text"/> ft Type Code <input type="text"/> Diameter <input type="text"/> / <input type="text"/> in
			<div style="text-align: center;"> RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION </div>

DIAGRAM FOR REFERENCE ONLY

⊗ = Weak Link

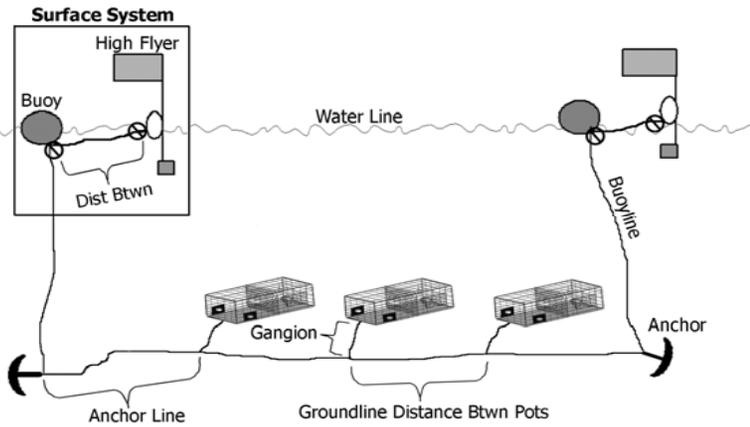


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

ADDITIONAL COMMENTS

SHAPE CODES:

- 00 = Unknown
- 01 = Rectangular
- 02 = Round / Oval
- 03 = 1/2 Round
- 04 = Cone
- 05 = Trapezoid
- 99 = Other

SIDE CONSTRUCTION CODES:

- 0 = Unknown
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- 2 = Plastic Coated Wire
- 3 = Twine Mesh
- 4 = Plastic Mesh
- 8 = Combination
- 9 = Other

LINE / GANGION TYPE CODES:

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

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

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, weather, depths, times, positions, *etc.*).

If the gear is set, and only partially hauled, complete a Lobster, Crab, and Fish Pot Haul Log with the Species Information 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 (F).

Species caught that should not be recorded on this particular log include: pelagic species (*i.e.* 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 Sea Bird Incidental Take Log. See Appendix R. 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 (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

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-X**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Lobster, Crab, and Fish Pot Gear Characteristics Log.

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 I. 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.

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 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 (#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), and when the lobster, crab, or fish pot gear is completely retrieved and aboard the vessel (Haul End).

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 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 3 and 4).**

NOTE: If estimated set times from the captain are used to calculate SOAK DURATION record them in COMMENTS.

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

NOTE: Use a "ScoopMaster" thermometer to

obtain these temperatures.

NOTE: If these temperatures are obtained in Celsius, use Appendix P. Conversion Tables to convert them to Fahrenheit.

NUMBER OF POTS

7. 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).

8. HAULED: Record the **total** number of pots that are hauled back from this set.

9. LOST: Record the **total** number of pots that are lost from this set. If this number differs from NUMBER OF POTS SET (#7) minus NUMBER OF POTS HAULED (#8), then record the reason(s) in COMMENTS.

BAIT

10. 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.

11. 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 N. Bait Codes:

00 = Unknown.
 01 = Mackerel.
 02 = Herring.
 03 = Squid.
 05 = Redfish.
 08 = Skate.
 09 = Clams.
 99 = Other, record the bait kind in COMMENTS.

12. 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 N. Bait Codes:

0 = Unknown.

- 1 = Whole.
- 2 = Cut.
- 3 = Live.
- 9 = Other, record the bait type in COMMENTS.

Example: Fish racks, frames or bellies are “Cut” (2), record cut type in COMMENTS.

13. 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 N. 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).

14. 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, *i.e.* 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 01/01/10

OBS/ TRIP ID	A74025-
DATE LAND (mm/yy)	06 / 09
PAGE #	1 OF 1

GEAR CODE 2 0 0	GEAR # 1 3	HAUL # 0 1 3	HAUL OBS? NO 0 YES 1 X	ON-EFFORT? NO 0 YES 1 X	CATCH? NO 0 YES 1 X	INC TAKE? NO 0 X YES 1	WEATHER CODE 02	WIND SPEED 5 kn DIRECTION 225 °	WAVE HEIGHT 2 ft	DEPTH, HAUL BEGIN 122 fm	GEAR COND CODE 410
--------------------	---------------	-----------------	-------------------------------------	--------------------------------------	----------------------------------	-------------------------------------	--------------------	---------------------------------------	---------------------	--------------------------------	-----------------------

SET INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				ESTIMATED SOAK DURATION	TARGET SPECIES CODE(S)
S E T	BEGIN / / : END / / :	Station 1 9960 -	Latitude / Bearing 41 ° 32.3	Station 2 9960 -	Longitude / Bearing 69 ° 35.8	168.0 hrs	American Lobster
HAUL INFO						WATER TEMP	NUMBER OF POTS BAIT
H A U L	BEGIN 06 / 19 / 09 21 : 52 END 06 / 19 / 09 23 : 21	9960 -	41 ° 32.3	9960 -	69 ° 35.8	o	SET 40 LBS KIND TYPE COND #1 150 05 2 3 #2 150 03 1 1

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

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
American Lobster		K	75	100	R	01							
American Lobster		D	1	022	R	01							
American Lobster		D	3	012	R	01							
Jonah Crab		K	80	100	R	01							
Black Whiting		K	22	170	R	01							
Jonah Crab		D	9	001	R	01							

**LOBSTER, CRAB, & FISH POT HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPTH OBHAU OBSPP 01/01/10**

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

GEAR CODE	GEAR #	HAUL #	HAUL OBS? NO 0 _____ YES 1 _____	ON-EFFORT? NO 0 _____ YES 1 _____	CATCH? NO 0 _____ YES 1 _____	INC TAKE? NO 0 _____ YES 1 _____	WEATHER CODE	WIND SPEED _____ kn DIRECTION _____ °		WAVE HEIGHT _____ ft	DEPTH, HAUL BEGIN _____ fm	GEAR COND CODE	
SET INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)					ESTIMATED SOAK DURATION	TARGET SPECIES CODE(S)					
S E T	BEGIN	/ /	:	Station 1 9960 -	Latitude / Bearing	Station 2 9960 -	Longitude / Bearing	. hrs	NUMBER OF POTS				BAIT
	END	/ /	:	9960 -		9960 -			SET _____	LBS	KIND	TYPE	
HAUL INFO								WATER TEMP _____ °	SET METHOD				
H A U L	BEGIN	/ /	:	9960 -		9960 -			HAULED _____	#1 _____	_____	_____	_____
	END	/ /	:	9960 -		9960 -		LOST _____	#2 _____	_____	_____	_____	

COMMENTS

SET METHOD

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

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE

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.

Sack/Bunt: A section of smaller mesh sewn into the net in the middle or at either end which forms a bag-

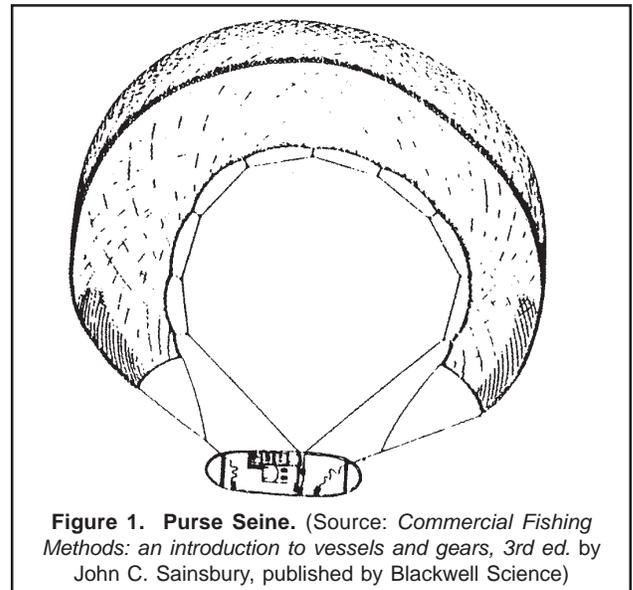


Figure 1. Purse Seine. (Source: *Commercial Fishing Methods: an introduction to vessels and gears*, 3rd ed. by John C. Sainsbury, published by Blackwell Science)

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 3.

Hauling Device: A mechanized device aboard the vessel for hauling in the seine.

Gear: A seine (net and/or bunt), with an attached floatline and leadline, connected along the bottom with rings to a purse line. See Figure 2.

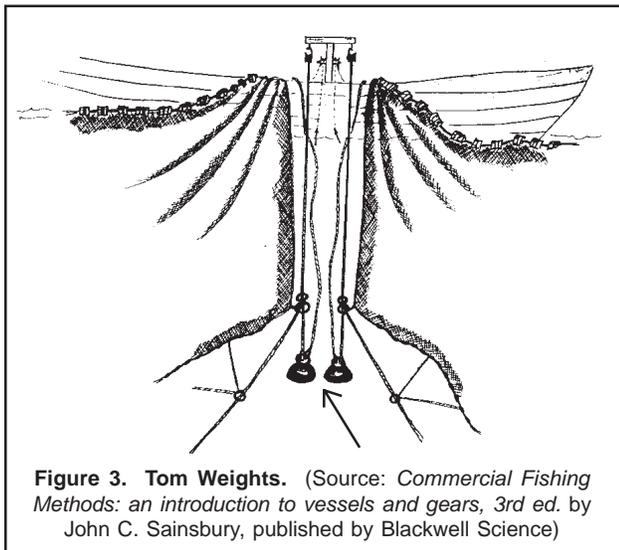
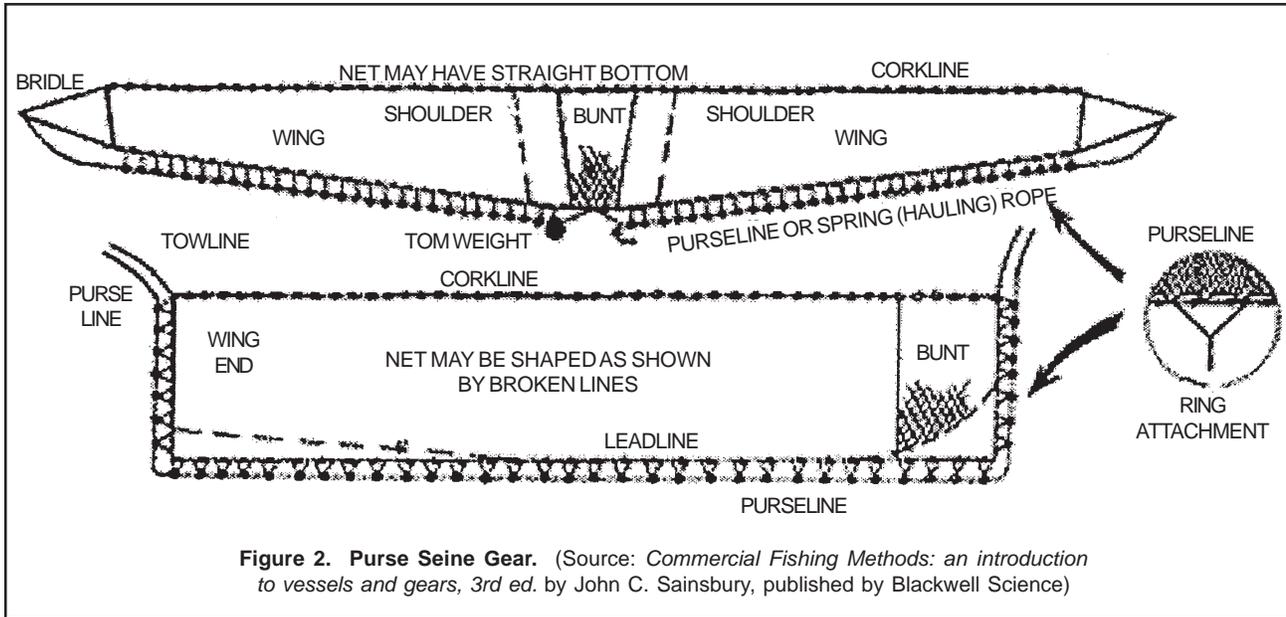
INSTRUCTIONS

For instructions on completing the Header Fields **A, B, C and 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.

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 sack/bunt in this measurement.

3. SACK/BUNT LENGTH: Record, in whole fathoms, the overall length of the sack/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 overall depth of the net section. This information may be obtained from the captain.

5. SACK/BUNT DEPTH: Record, in whole fathoms, the overall depth of the sack/bunt section of the purse seine. This information may be obtained from the captain. This section may not be as deep as the NET DEPTH.

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 $\frac{1}{4}$ “. Record “1.25”.

7. MESH SIZE OF SACK/BUNT: Record, in hundredths of inches, the mesh size used in the sack/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 1/4 “. Record “1.25”.

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 SACK/BUNT: Record, in whole millimeters, the twine size of the sack/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 sack/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 SACK/BUNT: Record the type of construction material used in the body of the sack/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.

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 (*i.e.* tom 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.

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.
- 21A.
- 9 = Other, record the hauling device on line

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 = 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, *i.e.* unusual arrangements of the gear. 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 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE	D	GEAR NUMBER(S)
<input type="text"/>		1

SEINE CHARACTERISTICS:

	NET	SACK / BUNT
LENGTH	2 fm	3 fm
DEPTH	4 fm	5 fm
MESH SIZE	6 in	7 in
TWINE SIZE	8 mm	9 mm

CONSTRUCTION MATERIAL

	10	11
Unknown	00	
Nylon	01	
Poly	02	
Kevlar®	03	
Spectra®	04	
Combination	98	
Other	99	
	10A	11A

GEAR CHARACTERISTICS:

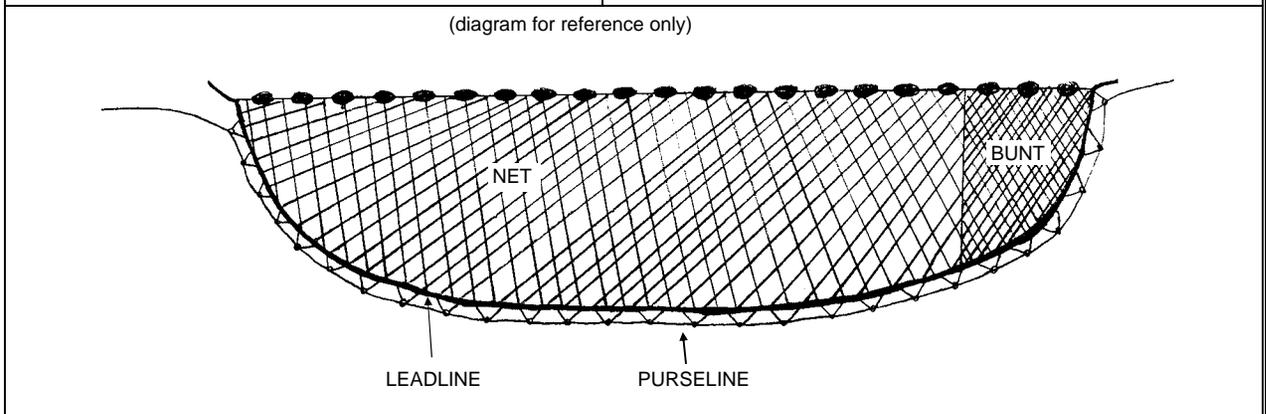
	LENGTH	DIAMETER
FLOATLINE	12 fm	13 in
LEADLINE	14 fm	15 in
PURSE LINE	16 fm	17 in
LEADLINE WEIGHT		18 lbs
ADDITIONAL WEIGHTS	19 No 0	Yes 1
		20 lbs

HAULING DEVICE 21

Unknown	0	Drum	3
Power Block	1	Other	9
Triplex	2		
21A			

PURSE RINGS:

TYPE 22	MATERIAL 23
Unknown	0
Round	1
Snap	2
Combo	3
Other	9
22A	
Unknown	0
Steel	1
Iron	2
Alloy	3
Other	9
23A	



COMMENTS

PURSE SEINE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSG 01/01/10

OBS/TRIP ID	E66035-	
DATE LANDED mm/yy	09	01
PAGE #	1	OF 1

GEAR CODE	GEAR NUMBER(S)
1 2 4	1

SEINE CHARACTERISTICS:

	NET	SACK / BUNT
LENGTH	500 fm	15 fm
DEPTH	30 fm	30 fm
MESH SIZE	8.00 in	4.00 in
TWINE SIZE	2 mm	2 mm

CONSTRUCTION MATERIAL

Unknown	00		
Nylon	01	X	X
Poly	02		
Kevlar®	03		
Spectra®	04		
Combination	98		
Other	99		

GEAR CHARACTERISTICS:

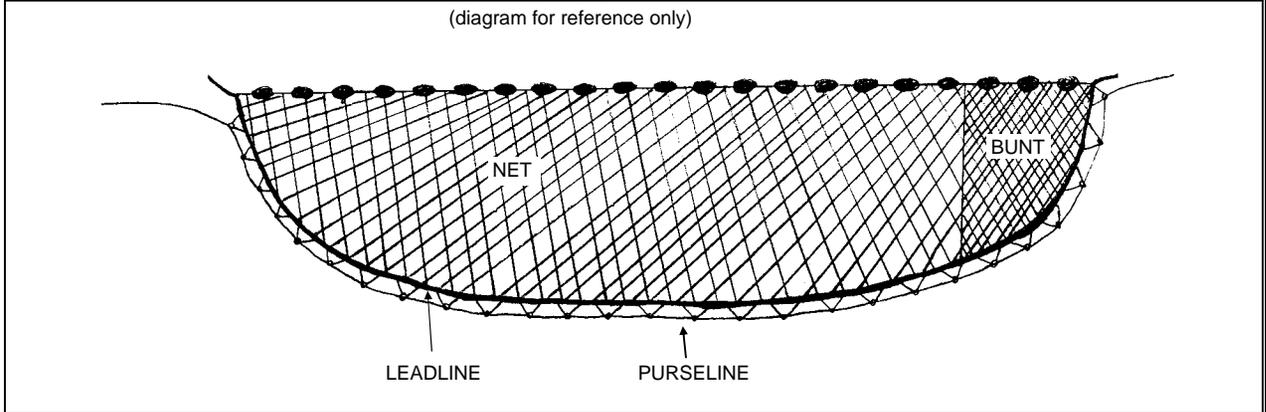
	LENGTH	DIAMETER
FLOATLINE	515 fm	0.70 in
LEADLINE	515 fm	0.40 in
PURSE LINE	600 fm	0.60 in
LEADLINE WEIGHT		3000 lbs
ADDITIONAL WEIGHTS	No 0 X Yes 1	lbs

HAULING DEVICE

Unknown	0	Drum	3
Power Block	1 X	Other	9
Triplex	2		

PURSE RINGS:

TYPE		MATERIAL	
Unknown	0	Unknown	0
Round	1	Steel	1
Snap	2 X	Iron	2
Combo	3	Alloy	3 X
Other	9	Other	9



COMMENTS

PURSE SEINE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSG 01/01/10

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE	GEAR NUMBER(S)
<input type="text"/>	<input type="text"/>

GEAR CHARACTERISTICS:

	LENGTH	DIAMETER
FLOATLINE	_____ fm	_____ . _____ in
LEADLINE	_____ fm	_____ . _____ in
PURSE LINE	_____ fm	_____ . _____ in
LEADLINE WEIGHT		_____ lbs
ADDITIONAL WEIGHTS	No 0 ___	Yes 1 ___
		_____ lbs

HAULING DEVICE

Unknown	0 ___	Drum	3 ___
Power Block	1 ___	Other	9 ___
Triplex	2 ___		

SEINE CHARACTERISTICS:

	NET	SACK / BUNT
LENGTH	_____ fm	_____ fm
DEPTH	_____ fm	_____ fm
MESH SIZE	_____ . _____ in	_____ . _____ in
TWINE SIZE	_____ mm	_____ mm

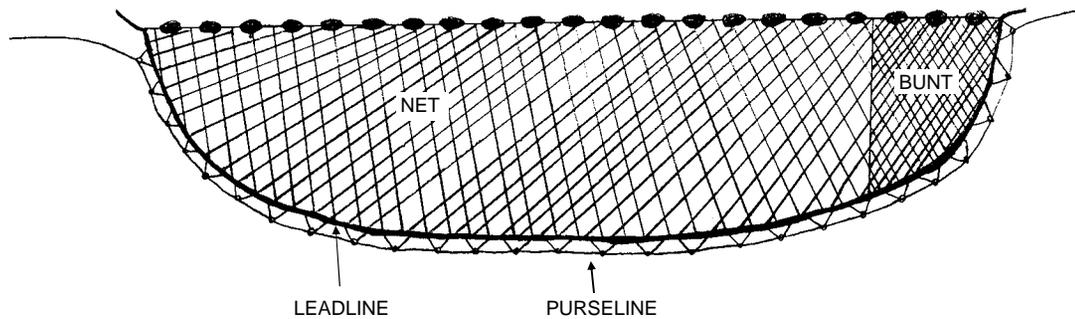
CONSTRUCTION MATERIAL

Unknown	00	_____	_____
Nylon	01	_____	_____
Poly	02	_____	_____
Kevlar®	03	_____	_____
Spectra®	04	_____	_____
Combination	98	_____	_____
Other	99	_____	_____

PURSE RINGS:

TYPE		MATERIAL	
Unknown	0 ___	Unknown	0 ___
Round	1 ___	Steel	1 ___
Snap	2 ___	Iron	2 ___
Combo	3 ___	Alloy	3 ___
Other	9 ___	Other	9 ___

(diagram for reference only)



COMMENTS

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 (*i.e.* Header information, weather, depths, times, positions, *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 (*i.e.* 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 Sea Bird Incidental Take Log. See Appendix R. 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. Please review the Discard Log protocols and Catch Composition Log protocols 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 (1) and HAUL NUMBER (E).

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.

Set End: The purseline is closed off and all rings are brought up alongside the seiner vessel.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this set as uniquely identified on the appropriate Purse Seine Gear Characteristics Log(s).

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 I. 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.

3. BEGIN/END DATE: Record the month, day, and year, based on local, that the set 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 skiff hits the water (Set Begin), and when the purseline is closed off and all rings are brought up alongside the seiner vessel. (Set End).

5. SET SPEED: Record, to the nearest tenth of a knot, the speed of the main vessel setting the net during the set.

FISH PUMPING

For vessels that are pumping fish onboard, subsamples must be collected prior to the fish entering the fish hold. 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. Observers must obtain samples from each of the chutes that lead to the fish holds on those vessels with multiple chutes. Please review the Catch Composition Log protocols for details on sampling.

After the pumping process is completed, the observer should notify the captain that the codend needs to be viewed by the observer regardless of whether it is brought onboard the vessel or not. This will allow the observer the opportunity to comment on species remaining in the codend at the end of the pumping process and to observe for the presence of any marine mammals that have been entangled or caught in the gear. **Refer to the Discard Log for more details on recording information on discards.**

DISCARD AT COMPLETION OF PUMPING:

At the completion of the pumping process occasionally there may be some catch left in the net. This catch is generally referred to as operational discards. Observers should be documenting the weight of this discard by species, as accurately as possible. Record this weight on the species section of the Haul Log as "Fish, nk" if accurate speciation of the catch is not possible. If there are discards on this haul, be sure to fill out the Discard Log.

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 or pump or gear related problems.

Any catch that is discarded, regardless of the weight or reason, must be recorded in the species section of the Haul Log as "Fish, nk" if the observer cannot accurately speciate the catch. If the catch is identified the observer must document methods for identifying the fish to species. **Refer to the Discard Log for more details on recording information on discards.**

6. BEGIN/END DATE: Record the month, day, and year, based on local time, that the fish pumping began and ended.

7. 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 at-

tached 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).

8. PLANE USED: Record whether a spotter plane was used this day by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

9. 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.

10. 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.

11. 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 P. Conversion Tables to convert it to Fahrenheit.

NOTE: Use a "ScoopMaster" thermometer to obtain this temperature.

NOTE: Especially if an incidental take occurs in this set, a WATER TEMPERATURE **must** be recorded.

12. SET BY PLANE?: Record whether a spotter plane was used to set on this school of fish by placing and "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

13. SET ON DEBRIS?: Record whether this set was made on debris by placing and "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

14. SUCCESSFUL SET?: Record whether the captain felt the set was successful by placing and "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

15. FISH LOST?: Record whether fish were lost during the setting process by placing and "X" next to the appropriate code:

0 = No.

1 = Yes.

NOTE: This information should be obtained from the captain.

Example: Fish escaped over the floatline before the encircling was completed.

OBSERVED VS. UNOBSERVED HAUL

The NEFOP's traditional definition of an observed haul is one where all of the catch is recorded, regardless if it is kept or discarded, whereby an unobserved haul is defined as one where complete discard information from the haul is not collected. In the Purse Seine Fishery, the primary objective of the observer is to observe every haul and to record all catch that comes up in the net. The traditional definition of an "observed" haul also has as associated meaning that the observer was on duty and fulfilled their duties to the most complete ability. An "observed" haul on purse seine trips represents that the observer was on that particular vessel where the fish were being hauled back to, and they were alert and aware of the potential of discarding during the haul. If all catch was pumped aboard the vessel that the observer is on, then the haul is observed. If the entire or partial catches are discarded at sea (i.e. not pumped), the haul becomes unobserved.

NOTE: Traditionally, the NEFOP does not allow discards to be recorded on unobserved hauls. However, in the purse seine fisheries, the observer can record discards on hauls that are unobserved, even if the discards may not have been 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.

Below are some scenarios/examples on how to determine whether or not a haul is observed or

unobserved.

Scenario 1: The net comes next to the vessel but is still submerged in water and all catch is pumped onboard. The captain lifts the net out of the water for the observer to view anything that may be remaining in the net. Should the haul be considered observed or unobserved? What catch should be recorded?

Answer: The haul should be observed and all pumped catch (both kept and discarded), along with all of the catch observed in the net, regardless if it is released, should be recorded on the Purse Sein Set Log. If the observer is unsure of what species remained in the bunt, "Fish, nk" should be recorded with the corresponding estimated weight. If any speciation of the catch occurred, document in the CATCH COMPOSITION OF DISCARDED CATCH comments section (#10) of the Discard Log.

Scenario 2: The net is hauled back and the pumping process begins. After part of the catch is pumped, the pump breaks and eventually the captain releases the rest of the catch back into the water. Should the haul be considered observed or unobserved? What catch should be recorded?

Answer: The haul should be unobserved and a comment regarding the situation should be recorded on the Purse Seine Set Log. The catch that was pumped should be recorded as kept on the Haul log. If the observer was not able to retain 10 baskets of a subsample in order to extrapolate the catch, then they should use however many baskets they were able to collect weights on to extrapolate the kept portion of the catch. A discard estimate, provided by the Captain, of the catch that was released from the net should be recorded on the Purse Seine Set Log as "Fish, nk" with the corresponding amount that was released from the bunt. If any speciation of the catch occurred, document in the CATCH COMPOSITION OF DISCARDED CATCH comments section (#10) of the Discard Log.

COMMENTS

Record any additional information regarding this haul, *i.e.* 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.

PURSE SEINE SET LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSH OBHAU OBSPP 01/01/10

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

GEAR CODE D	GEAR # 1	HAUL # E	HAUL OBS? NO 0 F YES 1 _____	ON-EFFORT? NO 0 G YES 1 _____	CATCH? NO 0 H YES 1 _____	INC TAKE? NO 0 I YES 1 _____	WEATHER CODE J	WIND		WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
<input type="text"/>	<input type="text"/>	<input type="text"/>						SPEED K kn	DIRECTION L o	M ft	N fm	2
SET INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SET SPEED	TARGET SPECIES	CODE(S)			
BEGIN	3	4	Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	5 kn	P	Q			
END	/ /	:	9960 -	O	9960 -							
FISH PUMPING			PLANE USED? 8	TIME UP 9	WATER TEMP (Fahrenheit) 11		NO 0 YES 1	NO 0 YES 1				
BEGIN	6	7	NO 0 _____	TIME DOWN 10	o		SET BY PLANE? 12 _____	SUCCESSFUL SET? 14 _____				
END	/ /	:	YES 1 _____		F		SET ON DEBRIS? 13 _____	FISH LOST? 15 _____				

COMMENTS

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X							

PURSE SEINE SET LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSH OBHAU OBSPP 01/01/10

OBS/ TRIP ID	F42024-
DATE LAND (mm/yy)	09 / 09
PAGE #	1 OF 2

GEAR CODE 1 2 1			GEAR # 0 1		HAUL # 0 0 1			HAUL OBS? NO 0 YES 1 X	ON-EFFORT? NO 0 YES 1 X	CATCH? NO 0 YES 1 X	INC TAKE? NO 0 X YES 1	WEATHER CODE 03	WIND SPEED 10 kn DIRECTION 225 °		WAVE HEIGHT 2 ft	DEPTH, HAUL BEGIN 69 fm	GEAR COND CODE 510
SET INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SET SPEED	TARGET SPECIES				CODE(S)					
BEGIN	09 / 14 / 09	20 : 42	Station 1 9960 -	Latitude / Bearing 45 ° 51.3	Station 2 9960 -	Longitude / Bearing 70 ° 28.7	6.0 kn	Atlantic Herring									
END	09 / 14 / 09	20 : 58	PLANE USED? NO 0 X		TIME UP :		WATER TEMP (Fahrenheit) :		NO 0 YES 1		NO 0 YES 1						
FISH PUMPING			NO 0 X		TIME DOWN :		57 . 8 F		SET BY PLANE? X		SUCCESSFUL SET? X						
BEGIN	09 / 14 / 09	21 : 15	YES 1						SET ON DEBRIS? X		FISH LOST? X						
END	09 / 14 / 09	21 : 56															

COMMENTS

Pump broke - nothing pumped onboard. Weight recorded was estimated amount of catch - called Fish, nk since nothing came onboard.

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Fish, nk		D	100,000	042	R	04							

PURSE SEINE SET LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSH OBHAU OBSPP 01/01/10

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

GEAR CODE [][]	GEAR # [][]	HAUL # [][][]	HAUL OBS? NO 0 _____ YES 1 _____	ON-EFFORT? NO 0 _____ YES 1 _____	CATCH? NO 0 _____ YES 1 _____	INC TAKE? NO 0 _____ YES 1 _____	WEATHER CODE	WIND SPEED _____ kn DIRECTION _____ °	WAVE HEIGHT _____ ft	DEPTH, HAUL BEGIN _____ fm	GEAR COND CODE	
SET INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				SET SPEED	TARGET SPECIES	CODE(S)			
BEGIN	/ /	:	Station 1 9960 -	Latitude / Bearing	Station 2 9960 -	Longitude / Bearing						
END	/ /	:	PLANE USED? NO 0 _____ YES 1 _____	TIME UP :	WATER TEMP (Fahrenheit)		NO 0 YES 1		NO 0 YES 1			
FISH PUMPING				TIME DOWN :			SET BY PLANE? _____	SUCCESSFUL SET? _____				
BEGIN	/ /	:					SET ON DEBRIS? _____	FISH LOST? _____				
END	/ /	:										

COMMENTS

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE

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 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 Characteristics Log for the multiple hauls. Rather, record on the Beach Seine 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 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 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. Sometimes incorrectly referred

to as a haul seine. See Figure 2.

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. Set and haul techniques are the same as with a beach seine net. See Figure 3.

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.

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 filled in the wing or it can be hauled in such a manner as to "corral" the fish.

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.

INSTRUCTIONS

For instructions on completing the Header Fields **A**, **B** and **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.

NOTE: If two or more identical gears are used, assign consecutive numbers to each gear and record all of these numbers on one Beach Seine Gear Characteristics Log.

Example: The first uniquely configured beach seine is "1", and its characteristics will be recorded on one Beach Seine 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 characteristics are recorded on a second Beach Seine Gear Characteristics Log.

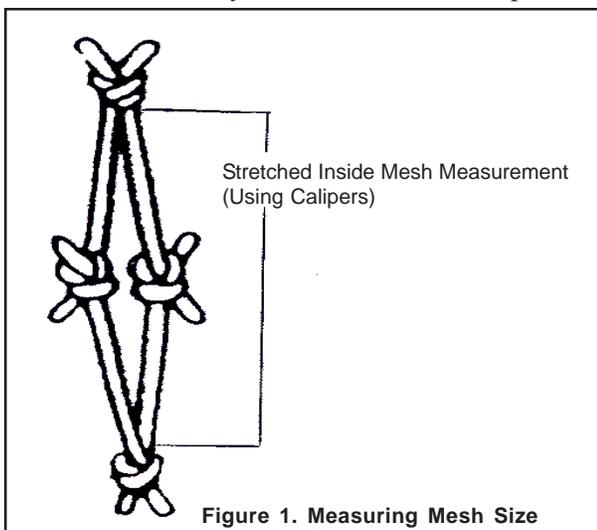
2. NUMBER OF NETS: Record the **total** number of individual nets in the wing of this gear. **Do not** include the bunt or wash net in this count.

BUNT CHARACTERISTICS

If no bunt is used in this gear, record a dash (-) in fields #3 - #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.

6. BUNT MESH SIZE: Record, to the nearest hundredth of an inch, the mesh size used in the bunt of this gear. This value may be obtained by measuring a stretched mesh using calipers. This measurement should be taken inside, from knot to knot, stretched in the direction in which the mesh is hung. See Figure 1 and Appendix O. Vernier Caliper Instructions for further information. This information may also 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. See MESH SIZE (#6) for measurement instructions. An **estimated** mesh size measurement is provided by the operator.

8. MESH COUNT, VERTICAL: Record 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 "1/2".

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 the NEFSC Observer Program or contractor. This information may also be obtained from the operator. See Appendix P. 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 calipers. See MESH SIZE (#6) for measurement instructions. 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 on line 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.

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

An "active" marine mammal deterrent device is a device which emits sound which may be detected by a marine mammal.

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

A "passive" marine mammal deterrent device is a device which may provide reflection of marine mammal echolocation signals or be detected visually.

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.

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

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.

35. NET MESH SIZE: Record, to the nearest hundredth of an inch, the mesh size used in the net of this gear. This value may be obtained by measuring a stretched mesh using calipers. This measurement should be taken inside, from knot to knot, stretched in the direction in which the mesh is hung. See Figure 1 and [Appendix O. Vernier Caliper Instructions](#) for further information. This information may also 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. See MESH SIZE (#6) for measurement instructions. An **estimated** mesh size measurement is provided by the operator.

37. NET MESH COUNT, VERTICAL: Record 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 "1/2".

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 the NEFSC Observer Program or contractor. This information may also be obtained from the operator. See [Appendix P. 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 the NEFSC Observer Program or contractor. 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 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 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.

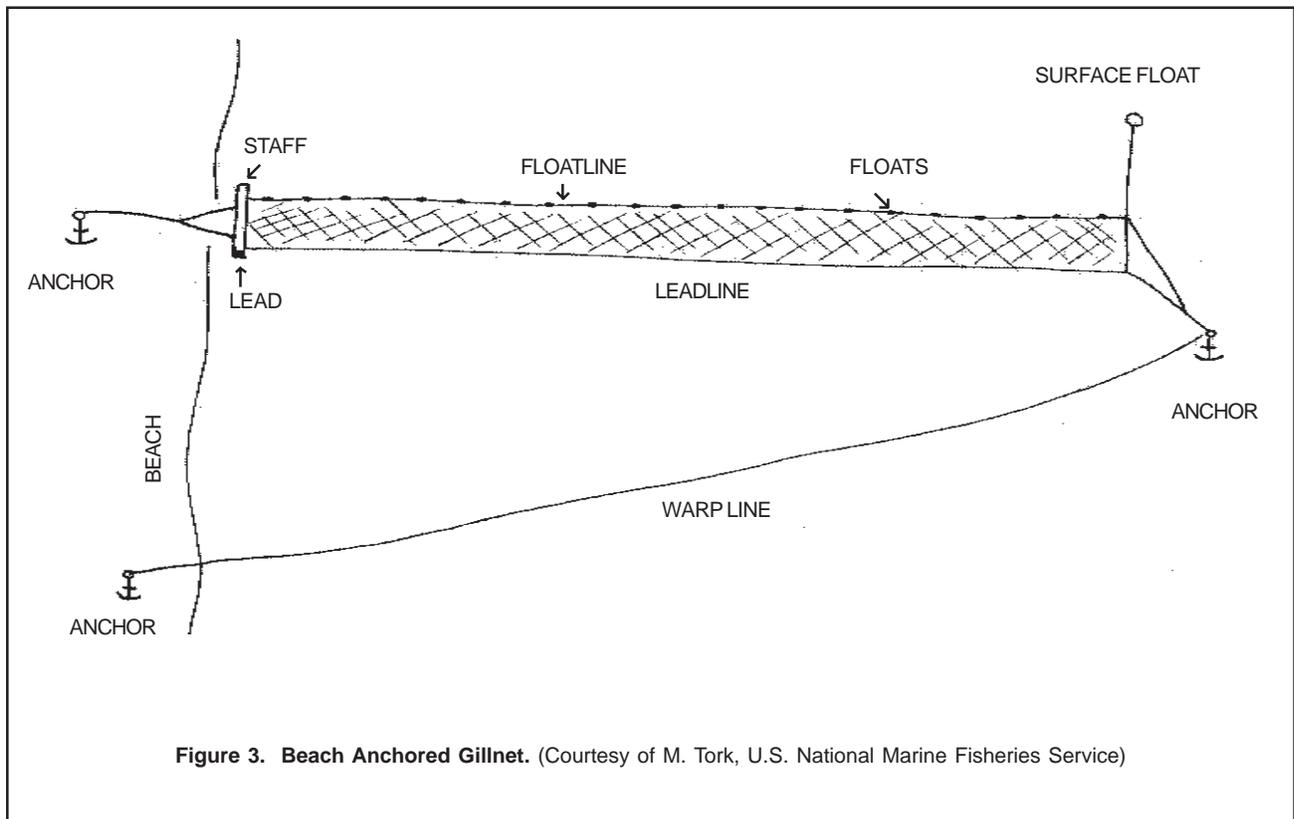
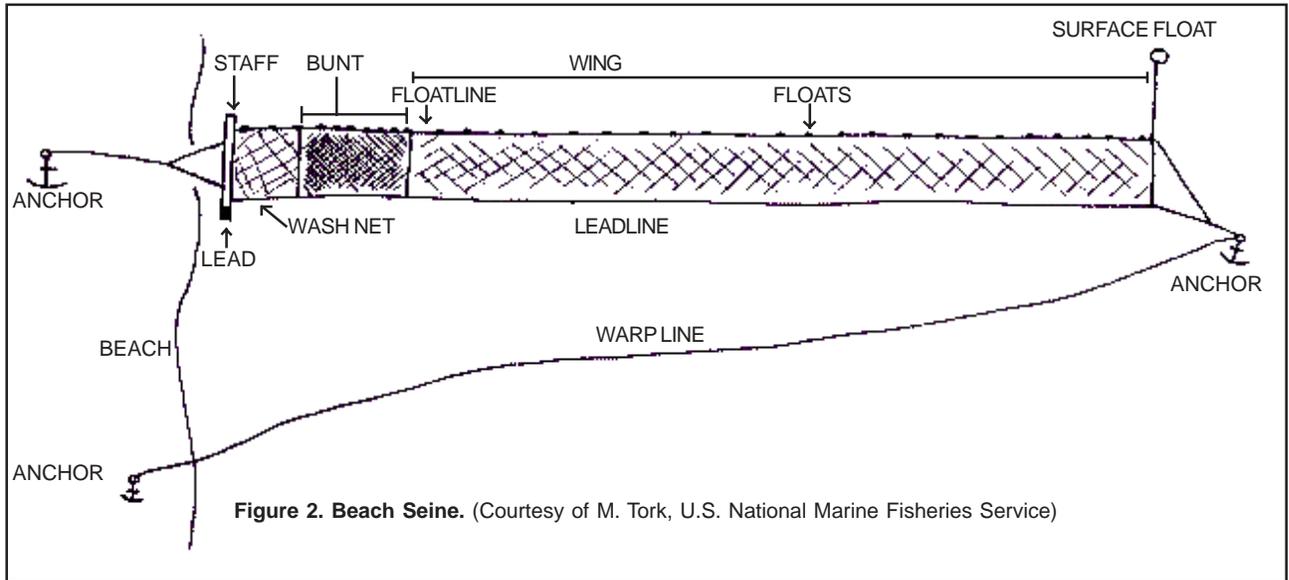
1 = Nylon.

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, *i.e.* 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.



BEACH SEINE GEAR / BEACH ANCHORED GILLNET GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBSG OBBSW 01/01/10

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

GEAR CODE D <input type="text"/>	GEAR NUMBER(S) 1	NUMBER OF NETS 2
BUNT CHARACTERISTICS: USED? No (0) Yes(1) 3 LENGTH 4 ft HEIGHT 5 ft MESH SIZE 6 in (circle one) A / E 7 MESH COUNT, VERTICAL 8 HANGING RATIO 9 / TWINE SIZE 10 (circle one) A / E 11 # STRANDS 12 COLOR CODE 13 NET MATERIAL 14 Unknown 0 Nylon 1 Other 9 14A	GEAR CHARACTERISTICS: USED? NO YES MEASUREMENTS WASH NET 16 0 1 Length 17 ft FLOATS 18 0 1 Dist Between 19 ft ANCHOR (S) 20 0 1 Number 21 Type 22 Unknown 0 Danforth-style 1 Weight (total) 23 lb Dead Weight 2 Combination 8 Actual 1 24 Other 9 Estimated 2 22A LEADLINE WEIGHT 25 lbs / net MM DETERRENT DEVICES USED? ACTIVE 26 0 1 Brand(s) 28 Unknown 00 Number 27 Dukane 01 Airmar 02 Frequency 29 kHz Fumunda 03 Combination 98 Other 99 28A PASSIVE 30 0 1 Number 31	WING CHARACTERISTICS: Net # 32 Net # Net # Net # Net # LENGTH (ft) 33 HEIGHT (ft) 34 MESH SIZE (in) 35 A / E (circle) A / E 36 A / E A / E A / E A / E MESH COUNT, VERTICAL 37 HANGING RATIO / 38 / / / / TWINE SIZE 39 A / E (circle) A / E 40 A / E A / E A / E A / E # STRANDS 41 COLOR CODE 42 NET MATERIAL 43 Unknown 0 0 0 0 0 Nylon 1 1 1 1 1 Other 9 9 9 9 9 43A
FLOATLINE MATERIAL Unknown 15 0 Floating (foam core) 1 Twisted polypropylene 2 Other 9 15A	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	COMMENTS

BEACH SEINE GEAR / BEACH ANCHORED GILLNET GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBSG OBBSW 01/01/10

OBS/ TRIP ID	V03011-
DATE LAND (mm/yy)	12 / 06
PAGE #	1 OF 1

GEAR CODE 0 7 0	GEAR NUMBER(S) 1	NUMBER OF NETS 2
BUNT CHARACTERISTICS: USED? No (0) ___ Yes(1) <input checked="" type="checkbox"/> LENGTH 30 ft HEIGHT 8.0 ft MESH SIZE 4.0 in (circle one) A / (E) MESH COUNT, VERTICAL 25 HANGING RATIO 1 / 2 TWINE SIZE 10 (circle one) A / (E) # STRANDS 3 COLOR CODE 04 NET MATERIAL Unknown 0 ___ Nylon 1 <input checked="" type="checkbox"/> Other 9 ___	GEAR CHARACTERISTICS: USED? NO YES MEASUREMENTS WASH NET 0 <input checked="" type="checkbox"/> 1 ___ Length ___ ft FLOATS 0 ___ 1 <input checked="" type="checkbox"/> Dist Between 5 ft ANCHOR (S) 0 ___ 1 <input checked="" type="checkbox"/> Number 4 Type Unknown 0 ___ Danforth-style 1 ___ Weight (total) 110 lb Dead Weight 2 ___ Combination 8 <input checked="" type="checkbox"/> Actual 1 ___ Other 9 ___ Estimated 2 <input checked="" type="checkbox"/> danforth & sandbags LEADLINE WEIGHT 37 lbs / net MM DETERRENT DEVICES USED? ACTIVE 0 <input checked="" type="checkbox"/> 1 ___ Brand(s) Unknown 0 ___ Dukane 1 ___ Airmar 2 ___ Frequency ___ kHz Fumunda 3 ___ Combinator 8 ___ Other 9 ___ PASSIVE 0 <input checked="" type="checkbox"/> 1 ___ Number ___	WING CHARACTERISTICS: Net # 1 Net # 2 Net # ___ Net # ___ Net # ___ LENGTH (ft) 200 250 ___ ___ ___ HEIGHT (ft) 10.0 12.5 . . . MESH SIZE (in) 4.50 4.25 . . . A / E (circle) A / (E) A / (E) A / E A / E A / E MESH COUNT, VERTICAL 25 20 ___ ___ ___ HANGING RATIO 1 / 2 1 / 2 / / / TWINE SIZE 10 10 ___ ___ ___ A / E (circle) A / (E) A / (E) A / E A / E A / E # STRANDS 1 1 ___ ___ ___ COLOR CODE 05 02 ___ ___ ___ NET MATERIAL Unknown 0 ___ 0 ___ 0 ___ 0 ___ 0 ___ Nylon 1 <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 1 ___ 1 ___ 1 ___ Other 9 ___ 9 ___ 9 ___ 9 ___ 9 ___
FLOATLINE MATERIAL Unknown 0 ___ Floating (foam core) 1 ___ Twisted polypropylene 2 <input checked="" type="checkbox"/> Other 9 ___	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	COMMENTS Anchors: 2 (25 lb) danforths on beach and 2 (30 lb) sand bags on end of net LL Weight: 50 lbs / 600 ft * 450 ft = 37.5 lbs

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 Information section of this log should be used to record catches of groundfish species, 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? (F). 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? (F). 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?(#2). However, if the gear is "fished-over", the observer should record "No (2)" for MARINE MAMMAL HAUL WATCH?(#2).

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 Sea Bird Incidental Take Log. See Appendix R. 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 (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: 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-X, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Beach Seine/Beach Anchored Gillnet Gear Characteristics Log.

2. 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

3. 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 I. 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.

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.

990 = Other, specify in COMMENTS.

HAUL INFORMATION

4. BEGIN/END DATE: Record the month, day, and year, based on local time, that this haul began and ended.

5. 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).

6. 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.

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 temperatures is obtained in Celsius, use Appendix P. Conversion Tables to convert it to Fahrenheit.

NOTE: Use a "ScoopMaster" thermometer to obtain this temperature.

NOTE: Especially 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 are used for this set. This number should agree with the number recorded in NUMBER OF NETS on the corresponding Beach Seine/Beach Anchored Gillnet Gear Characteristics Log(s).

NOTE: If a beach seine is used, do not count the wash net or bunt.

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 minus NUMBER OF NETS HAULED record the reason(s) in COMMENTS.

NUMBER OF MARINE MAMMAL DETERRENT DEVICES

ACTIVE:

An "active" marine mammal deterrent device is a device which emits sound which may be detected by a marine mammal.

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 Beach Seine/Beach Anchored 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 regard-

less of whether or not it is believed these devices are actually working. Information of this nature should be recorded 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, then record the reason(s) in COMMENTS.

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

PASSIVE:

A “passive” marine mammal deterrent device is a device which may provide reflection of marine mammal echolocation signals.

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 Beach Seine/Beach Anchored Gillnet Gear 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.

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, then record the reason(s) in COMMENTS.

NOTE: Do not include devices not seen be-

cause gear was partially hauled.

COMMENTS

Record any additional information regarding this haul, *i.e.* 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 01/01/10

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

GEAR CODE D	GEAR # 1	HAUL # E	HAUL OBS? NO 0 F YES 1 _____	MM WATCH? NO 0 2 YES 1 _____	CATCH? NO 0 H YES 1 _____	INC TAKE? NO 0 I YES 1 _____	WEATHER CODE J	WIND SPEED K kn		DIRECTION L °	WAVE HEIGHT M ft	GEAR COND CODE 3
HAUL INFO	DATE (mm/dd/yy)	TIME (24 hrs)	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)				EST SOAK DUR	WATER TEMP	TARGET SPECIES		CODE(S)	
BEGIN	4 / /	5 :	Station 1	Latitude/Bearing	Station 2	Longitude/Bearing	6	7 ° F	P		Q	
END	/ /	:	9960-	O	9960-		. hrs	. F				

COMMENTS

NUMBER OF NETS		IF MM DETERRENTS USED	
SET	8	ACTIVE	PASSIVE
HAULED	9	HAULED	11 13
LOST	10	LOST	12 14

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X							

BEACH SEINE / BEACH ANCHORED GILLNET HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBSH OBHAU OBSPP 01/01/10

OBS/ TRIP ID	M03011-
DATE LAND (mm/yy)	06 / 01
PAGE #	1 OF 2

GEAR CODE 0 7 0	GEAR # 0 1	HAUL # 0 0 1	HAUL OBS? NO 0 _____ YES 1 X	MM WATCH? NO 0 _____ YES 1 X	CATCH? NO 0 _____ YES 1 X	INC TAKE? NO 0 X YES 1 _____	WEATHER CODE 02	WIND SPEED 7 kn DIRECTION 45 °	WAVE HEIGHT 1 ft	GEAR COND CODE 210	
HAUL INFO	DATE (mm/dd/yy)	TIME (24 hrs)	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)				EST SOAK DUR	WATER TEMP	TARGET SPECIES	CODE(S)	
BEGIN	06 / 26 / 01	05 : 16	Station 1	Latitude/Bearing	Station 2	Longitude/Bearing		o	Weakfish		
END	06 / 26 / 01	06 : 03	9960-	35 ° 13.8	9960-	75 ° 32.8	14.3 hrs	61.0 F			

<p>COMMENTS</p> <p>Net set approximately at 15:00 yesterday.</p> <p>Fishing in Hatteras Bight.</p>	NUMBER OF NETS	IF MM DETERRENTS USED	
	SET 2	ACTIVE	PASSIVE
	HAULED 2	HAULED _____	_____
	LOST 0	LOST _____	_____

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Weakfish		K	172	100	R	01							
Bluefish		K	75	100	R	01							
Northern Kingfish		K	18	100	R	01							
Butterfish		K	8	100	R	01							
Atlantic Menhaden		D	10	001	R	01							
Horseshoe Crab		D	12	001	R	01							

BEACH SEINE / BEACH ANCHORED GILLNET HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBSH OBHAU OBSPP 01/01/10

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

GEAR CODE [][][]	GEAR # [][]	HAUL # [][][]	HAUL OBS? NO 0 _____ YES 1 _____	MM WATCH? NO 0 _____ YES 1 _____	CATCH? NO 0 _____ YES 1 _____	INC TAKE? NO 0 _____ YES 1 _____	WEATHER CODE	WIND SPEED _____ kn DIRECTION _____ °		WAVE HEIGHT _____ ft	GEAR COND CODE	
HAUL INFO	DATE (mm/dd/yy)	TIME (24 hrs)	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)				EST SOAK DUR	WATER TEMP	TARGET SPECIES	CODE(S)		
BEGIN	/ /	:	Station 1	Latitude/Bearing	Station 2	Longitude/Bearing		°				
END	/ /	:	9960-		9960-		. hrs	. F				

COMMENTS	NUMBER OF NETS	IF MM DETERRENTS USED	
		ACTIVE	PASSIVE
	SET _____	HAULED _____	_____
	HAULED _____	LOST _____	_____
	LOST _____		

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE

PELAGIC DRIFT 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 net length, net color, mesh size, dropline length, *etc.* Any changes in these fields requires the completion of a new Pelagic Drift Gillnet Gear Characteristics Log. Number each gear configuration sequentially.

If the gear is set out and hauled more than once during a trip, or if two or more distinct gears are tied together for a haul, do not complete a new Pelagic Drift Gillnet Gear Characteristics Log for the multiple hauls or combined gears. Rather, record on the Pelagic Drift 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 and/or hauled in COMMENTS ON METHODS OF SETTING OR HAULING GEAR.

If the vessel has two or more identical gears which are hauled separately, complete only one Pelagic Drift Gillnet Gear Characteristics Log and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). See the pelagic drift gillnet 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, then 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

Pelagic Drift Gillnet: Vertical panel(s) of netting suspended in the water column which may be attached to free floating buoys and/or a high flier at one end, and tied off to the vessel at the other end. Large mesh netting is stretched between a floatline at the

top and a leadline at the bottom, and supported by vertical endlines, or up and down lines on each end. Panels of netting may be separated by a space or escape panel.

Net: A panel of netting which may be pieces of manufactured nets sewn together. The entire drift gillnet string may be referred to as “the net”.

Space or Escape Panel: A space between nets, continuous from the floatline to the leadline, that may be used to ease setting and hauling the gear. This space is only considered an escape panel if the captain indicates that the space is set intentionally for marine mammals or sea turtles to swim through.

Gear: A section of continuous netting of exactly the same characteristics between two endlines (up and down lines) that **may** have a space, or escape panel following it. For the purposes of this log, a net plus a space (if present) is synonymous with gear.

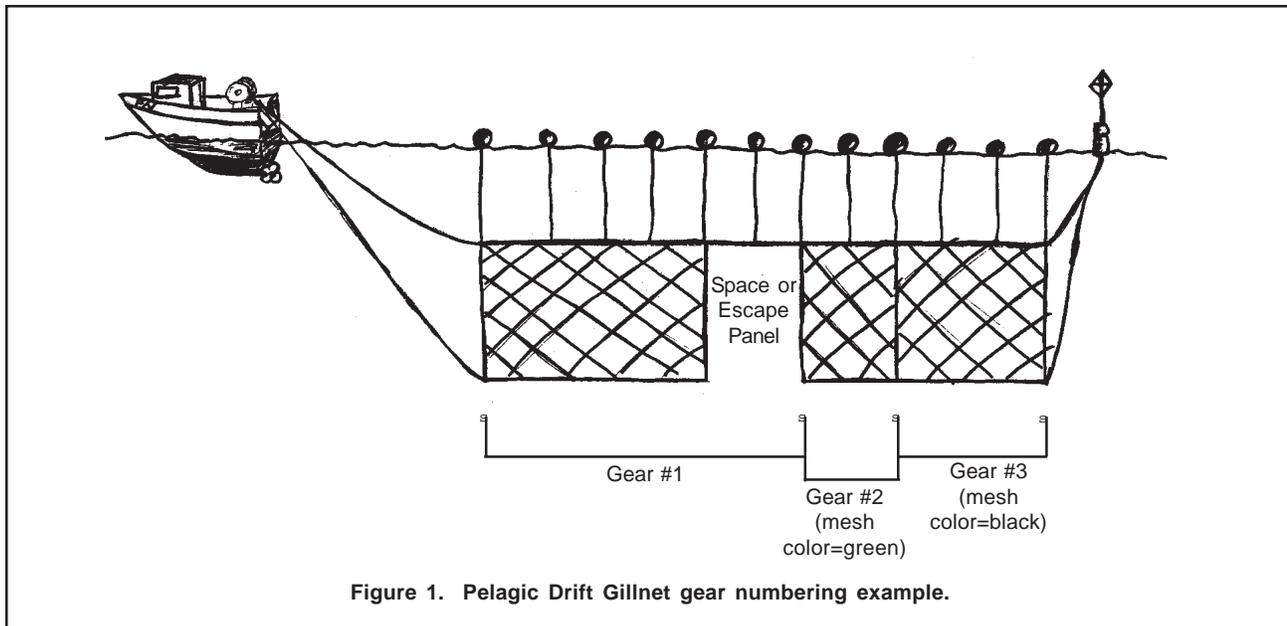
INSTRUCTIONS

For instructions on completing the Header fields **A, B and 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 definition of gear in the introduction, and the illustration of the drift gillnet gears in Figure 1.

NOTE: Gears should be numbered consecutively according to the order in which they are hauled aboard the vessel. If two or more identical gears are used, assign consecutive numbers to each gear and record all of these numbers on one Pelagic Drift Gillnet Gear Characteristics Log.

(Reference Figure 1.) The first uniquely configured gear (closest to the vessel) is “1”, and its characteristics (including the space or escape panel) will be recorded on one Pelagic Drift Gillnet Gear Characteristics Log. The



next two gears are “2” and “3”, and their unique characteristics (as defined by the different colors of net webbing) will be recorded on a second and third Pelagic Drift Gillnet Gear Characteristics Log.

2. NETS STACKED?: Record whether nets in this gear are stacked by placing an “X” next to the appropriate code:

0 = No.

1 = Yes, describe or draw the configuration in OTHER COMMENTS.

NOTE: Nets are stacked if two panels of netting are sewn together vertically, one on top of the other, to intentionally fish “double deep.”

NOTE: If “Yes”, record each net in the stacked configuration on a separate Pelagic Drift Gillnet Gear Characteristics Log. The gear on “top” may have no leadline, while the “bottom” gear may have no floatline, droplines, or floats.

NET CHARACTERISTICS

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

captain.

NOTE: If a space or escape panel follows a net, **do not** include this distance in the net length.

4. HEIGHT: Record, to the nearest tenth of a foot, the height of a net in this gear. This value is obtained by measuring the length of the endline, or up and down line, on the end of a net where the meshes are attached. This information may also be obtained from the captain.

5. MESH SIZE: Record, to the nearest hundredth of an inch, the mesh size used in a net in this gear. This information may be obtained from the captain.

6. MESH COUNT, VERTICAL: Record the number of vertical meshes of a net in this gear. This information may be obtained from the captain.

7. HANGING RATIO: Record the 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 "1/2".

8. TWINE SIZE NUMBER: Record the twine size number (industry standard) of the net webbing used in this gear. This information may be obtained from the captain. See Appendix P. Conversion Tables for a listing of industry standard twine size numbers and their corresponding deniers, breaking strengths, and number of feet per pound.

9. 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 captain.

Example: Monofilament has 1 strand.

10. MATERIAL: Record the material of the net webbing used in this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Nylon.
- 9 = Other, record the net webbing material on line 10A.

11. 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 colors on line 11A.
- 08 = Red.
- 99 = Other, record the color on line 11A.

NOTE: "Multi-color" = 07, if more than 1 color of net webbing is used in **one** net. For example, a section of black webbing is patched into the middle of an otherwise green gear.

GEAR CHARACTERISTICS

FLOATS

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

- 0 = No.
- 1 = Yes.

13. NUMBER: Record an approximate **total** number of floats used on this gear. This number must include the number of floats across a space that may occur at the bridle at the end of a net. This information may be obtained from the captain.

14. DISTANCE BETWEEN: Record, in whole feet, the **average** distance along the floatline between the floats used on this gear.

DROPLINES

15. USED?: Record whether droplines are used in this gear by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

16. LENGTH: Record, in whole feet, the 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.

SPACE OR ESCAPE PANEL

17. USED?: Record whether there is a continuous space or escape panel at the bridle following a net(s) by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes, describe or draw the space or escape panel in **COMMENTS ON DESCRIPTION OF SPACE OR ESCAPE PANEL**.

NOTE: A space or an escape panel is associated with the gear closest to the vessel. Do not count the lack of netting between the last gear and the highflyer as a space.

18. WIDTH: Record, to the nearest tenth of a foot, the width of the space or escape panel used between the nets in this gear.

LEADLINE

19. USED?: Record whether a leadline is used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
1 = Yes.

20. WEIGHT: Record, in whole pounds, the **total** weight of the leadline used in this gear. Do **not** include the weight of any additional weights removed as this gear is hauled aboard the vessel. Include in comments any calculations used to determine this value.

NOTE: This value should **not** include any weight added for a net space (see following section and Figure 1) unless actual leadline material is used across the space.

ADDITIONAL WEIGHTS

21. 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.

22. 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.

ACTIVE MARINE MAMMAL DETERRENT DEVICES

An “active” marine mammal deterrent device is a device which emits sound which may be detected by a marine mammal.

23. 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.

24. 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 captain if the set is not observed.

PASSIVE MARINE MAMMAL DETERRENT DEVICES

A “passive” marine mammal deterrent device is a device which may provide reflection of marine mammal echolocation signals.

25. 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.

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

26. 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.

ANCHOR

27. TIED TO VESSEL OR OTHER ANCHOR METHOD USED?: Record whether the gear is tied directly to the vessel, or another anchoring method is used on this gear by placing an “X” next to the appropriate code:

- 0 = No.
1 = Yes.

NOTE: If any gear in a particular set/haul is considered anchored, then all other gears in the same set/haul are also considered anchored.

28. 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.

NOTE: If the gear is tied directly to the vessel and no other anchors are used, record "0".

29. WEIGHT - ACTUAL OR ESTIMATED:

Record whether the weight recorded in #28 is an actual or estimated weight by placing an "X" next to the appropriate code:

- 1 = Actual.
- 2 = Estimated.

NOTE: If the gear is tied directly to the vessel and no other anchors are used, leave this field blank.

30. METHOD: Record the method used to anchor this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Tied to Vessel Only.
- 2 = Anchored Only.
- 3 = Tied to the Vessel and Anchored.
- 9 = Other, record the anchor method on line 30A.

COMMENTS

COMMENTS ON DESCRIPTION OF SPACE OR ESCAPE PANEL:

Describe the location of the space or escape panel and indicate whether the captain uses this space between the nets for the efficiency of setting or hauling of the gear, or for marine mammals or sea turtles to swim through. If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log.

NOTE: If "Yes" is recorded for SPACE OR ESCAPE PANEL USED? (#17), comments must be recorded here.

Example: "Although there is no designated escape panel in the net, when nets are set together, there is an approximate 100' space between them. The captain says this space is for hauling purposes only."

COMMENTS ON METHODS OF SETTING OR HAULING GEAR:

Describe the gear and procedures used to set and/or haul this gear. Describe whether the net is hauled directly onto a net reel, along the side of the vessel, or by some other method. If more room is needed, use the back of this log, making sure to write "See Back" on the front of the log.

Examples: "Gear is set and hauled directly off the net reel, and mending is done during haulback."

"Gear is set from the stern with the net drum, and hauled at the stern, through level wind, onto the net drum."

OTHER COMMENTS:

Record any additional information about this gear. 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.

PELAGIC DRIFT GILLNET GEAR LOG
NMFS FISHERIES OBSERVER PROGRAM
OMGPG 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	D	GEAR NUMBER(S) 1	NETS STACKED? 2 NO 0___ YES 1___		
NET CHARACTERISTICS		USED?	NO	YES	MEASUREMENTS
LENGTH	<u>3</u> ft	FLOATS?	12 0___	1___	Number <u>13</u>
HEIGHT	<u>4</u> ft				Dist Between <u>14</u> ft
MESH SIZE	<u>5</u> in	DROPLINES	15 0___	1___	Length <u>16</u> ft
MESH COUNT VERTICAL	<u>6</u>	SPACE OR ESCAPE PANEL	17 0___	1___	Width <u>18</u> ft
HANGING RATIO	<u>7</u> /	LEADLINE	19 0___	1___	Weight <u>20</u> lbs
TWINE SIZE	<u>8</u>	ADDITIONAL WEIGHTS	21 0___	1___	Weight <u>22</u> lbs
# STRANDS	<u>9</u>	MM DETERRENT DEVICES USED?			
NET MATERIAL	10	ACTIVE	23 0___	1___	Number <u>24</u>
Unknown	___	PASSIVE	25 0___	1___	Number <u>26</u>
Nylon	___	TIED TO VESSEL OR OTHER			
Other	___	ANCHOR METHOD	27 0___	1___	Weight <u>28</u> lbs
10A					29 actual 1___ estimated 2___
NET COLOR	11	ANCHOR METHOD	30		
Unknown	___	Unknown			
Clear	___	Tied to Vessel Only			
White	___	Tied & Anchored			
Pink	___	Other			
Black	___	30A			
Green	___				
Blue	___				
Multi-color	___				
Red	___				
Other	___				
11A					

(diagram for reference only)

Waterline

Floats

Dropline

Float Line

End Line

Lead Line

Space or Escape Panel

Net Height

NET

NET

GEAR

COMMENTS ON DESCRIPTION OF SPACE OR ESCAPE PANEL

COMMENTS ON METHODS OF SETTING OR HAULING GEAR

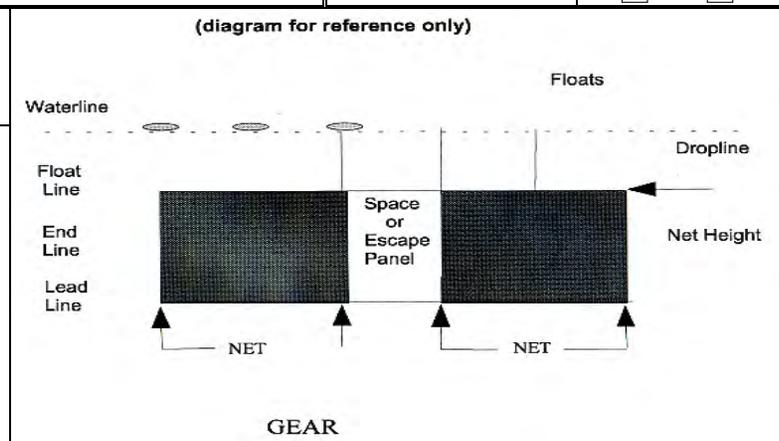
OTHER COMMENTS

PELAGIC DRIFT GILLNET GEAR LOG
NMFS FISHERIES OBSERVER PROGRAM
OMPG 01/01/10

OBS/TRIP ID	B98045-
DATE LANDED mm/yy	10 / 01
PAGE #	1 OF 1

GEAR CODE 1 1 5	GEAR NUMBER(S) 1	NETS STACKED? NO 0 <u>X</u> YES 1 <u> </u>
--------------------	---------------------	---

NET CHARACTERISTICS	USED?	NO	YES	MEASUREMENTS
LENGTH <u>4338</u> ft	FLOATS?	0 <u> </u>	1 <u>X</u>	Number <u>43</u>
HEIGHT <u>123 . 3</u> ft				Dist Between <u>100</u> ft
MESH SIZE <u>22 . 0</u> in	DROPLINES	0 <u> </u>	1 <u>X</u>	Length <u>30</u> ft
MESH COUNT VERTICAL <u>70</u>	SPACE OR ESCAPE PANEL	0 <u> </u>	1 <u>X</u>	Width <u>55</u> ft
HANGING RATIO <u>1 / 3</u>	LEADLINE	0 <u> </u>	1 <u>X</u>	Weight <u>470</u> lbs
TWINE SIZE <u>30</u>	ADDITIONAL WEIGHTS	0 <u>X</u>	1 <u> </u>	Weight <u> </u> lbs
# STRANDS <u>3</u>	MM DETERRENT DEVICES USED?			
NET MATERIAL Unknown <u> </u>	ACTIVE	0 <u>X</u>	1 <u> </u>	Number <u> </u>
Nylon <u>X</u>	PASSIVE	0 <u>X</u>	1 <u> </u>	Number <u> </u>
Other <u> </u>	TIED TO VESSEL OR OTHER ANCHOR METHOD	0 <u> </u>	1 <u>X</u>	Weight <u>0</u> lbs actual 1 <u> </u> estimated 2 <u> </u>
NET COLOR Unknown <u> </u>	ANCHOR METHOD			
Clear <u> </u>	Unknown <u> </u>			
White <u> </u>	Tied to Vessel Only <u>X</u>			
Pink <u> </u>	Tied & Anchored <u> </u>			
Black <u> </u>	Other <u> </u>			
Green <u> </u>				
Blue <u> </u>				
Multi-color <u> </u>				
Red <u>X</u>				
Other <u> </u>				



COMMENTS ON DESCRIPTION OF SPACE OR ESCAPE PANEL

Space is designed to aid in hauling gear.

Captain does not consider it an escape panel.

COMMENTS ON METHODS OF SETTING OR HAULING GEAR

Gear is set and hauled by hand.

OTHER COMMENTS

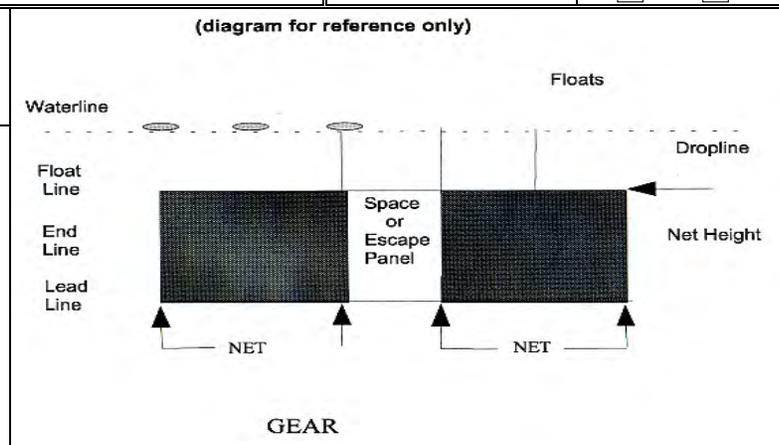
LL Wgt: 65lbs/600ft: 50/600x4338 ~470lbs

PELAGIC DRIFT GILLNET GEAR LOG
NMFS FISHERIES OBSERVER PROGRAM
OMGPG 01/01/10

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	GEAR NUMBER(S)	NETS STACKED? NO 0__ YES 1__
---	----------------	---------------------------------

NET CHARACTERISTICS	USED?	NO	YES	MEASUREMENTS
LENGTH _____ ft	FLOATS?	0__	1__	Number _____
HEIGHT _____ ft				Dist Between _____ ft
MESH SIZE _____ in	DROPLINES	0__	1__	Length _____ ft
MESH COUNT	SPACE OR ESCAPE PANEL	0__	1__	Width _____ ft
VERTICAL				
HANGING RATIO ____ / ____	LEADLINE	0__	1__	Weight _____ lbs
TWINE SIZE _____	ADDITIONAL WEIGHTS	0__	1__	Weight _____ lbs
# STRANDS _____	MM DETERRENT DEVICES USED?			
NET MATERIAL	ACTIVE	0__	1__	Number _____
Unknown _____	PASSIVE	0__	1__	Number _____
Nylon _____				
Other _____				
	TIED TO VESSEL OR OTHER ANCHOR METHOD	0__	1__	Weight _____ lbs
				actual 1__
				estimated 2__
NET COLOR	ANCHOR METHOD			
Unknown _____	Unknown _____			
Clear _____	Tied to Vessel Only _____			
White _____	Tied & Anchored _____			
Pink _____	Other _____			
Black _____				
Green _____				
Blue _____				
Multi-color _____				
Red _____				
Other _____				



COMMENTS ON DESCRIPTION OF SPACE OR ESCAPE PANEL

COMMENTS ON METHODS OF SETTING OR HAULING GEAR

OTHER COMMENTS

PELAGIC DRIFT 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, weather, depths, times, positions, *etc.*).

Species caught that should not be recorded on this particular log include: pelagic species (*i.e.* swordfish, billfish, tuna, bonito, sharks, *etc.*), sturgeons, rays or tagged fish. Those species must be recorded on an Individual Animal Log. In general, 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 Information section of this log. All marine mammals, sea turtles, and sea birds must be recorded on a Marine Mammal, Sea Turtle, and Sea Bird Incidental Take Log. See Appendix R. 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 Pelagic Drift Gillnet 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

Set Begin: First component of pelagic drift gillnet deployed.

Set End: Pelagic drift gillnet secured to anchoring device, or completely deployed.

Haul Begin: Hauling equipment put into gear.

Haul End: Pelagic drift gillnet completely retrieved and aboard vessel.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Pelagic Drift Gillnet Gear Characteristics Log.

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 two digit code listed below, and in Appendix I. Gear Condition Codes:

- 000 = Unknown.
- 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.
- 990 = Other, specify in COMMENTS .

3. 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.

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 pelagic drift gillnet is deployed (Set Begin), and when the pelagic drift gillnet is secured to an 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 (Haul Begin), and when the pelagic drift gillnet is completely retrieved and aboard the vessel (Haul End).

5. BEGIN/END 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 “ScoopMaster” thermometer to obtain these temperatures.

NOTE: If these temperatures are obtained in Celsius, use [Appendix P. Conversion Tables](#) to convert them to Fahrenheit.

NUMBER OF MARINE MAMMAL DETERRENT DEVICES**ACTIVE:**

An “active” marine mammal deterrent device is a device which emits sound which may be detected by a marine mammal.

6. 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 [Pelagic Drift 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: If “pingers” are used on the gear, record them on the [Individual Animal Log](#) as they are brought onboard.

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 COMMENTS.

7. 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:

A “passive” marine mammal deterrent device is a device which may provide reflection of marine mammal echolocation signals.

8. 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 [Pelagic Drift Gillnet Gear 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.

9. 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 in this field devices not seen because gear was partially hauled.

10. DEPTH RANGE, LEADLINE: Record, in whole fathoms, the range of depths (shallowest to deepest) from the surface, at which the leadline fishes for this haul. This range may be calculated by adding the gear dropline length(s) to the net height.

LIGHT STICKS

11. USED?: Record whether chemical light sticks are used on the gear in this haul by placing an “X” next to the appropriate code:

- 0 = No.
- 1 = Yes.

12. NUMBER: Record the number of chemical light sticks used on the gear in this haul.

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).
- 06 = Eddy.
- 98 = Mixed, (more than one code applies) record all set methods on line 13A.
- 99 = Other, record the set method(s) on line 13A.

COMMENTS

Record any additional information regarding this haul, *i.e.* unusual species caught, or gear “parting” during haulback. 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.

**PELAGIC DRIFT GILLNET HAUL LOG
 NMFS FISHERIES OBSERVER PROGRAM
 OBGPH OBHAU OBSPP 01/01/10**

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

GEAR CODE D	GEAR # 1	HAUL # E	HAUL OBS? NO 0 F YES 1 _____	ON-EFFORT? NO 0 G YES 1 _____	CATCH? NO 0 H YES 1 _____	INC TAKE? NO 0 I YES 1 _____	WEATHER CODE J	WIND SPEED K DIRECTION L ° kn	WAVE HEIGHT M ft	DEPTH, HAUL BEGIN N fm	GEAR COND CODE 2
--------------------	-----------------	-----------------	---	--	--	---	--------------------------	--	-------------------------------	--	----------------------------

SET INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				TEMPERATURE Fahrenheit	TARGET SPECIES CODE(S)
S E T	BEGIN 3 / / 4 :	Station 1 9960 -	Latitude / Bearing O	Station 2 9960 -	Longitude / Bearing	5 ° F	P Q
T E N D	/ / :	9960 -		9960 -		° F	IF MM DETERRENTS USED ACTIVE PASSIVE
H A U L	BEGIN / / :	9960 -		9960 -		° F	NUMBER HAULED 6 8
L	END / / :	9960 -		9960 -		° F	NUMBER LOST 7 9

COMMENTS

DEPTH RANGE, LEADLINE 10 fm
SET METHOD 13
Unknown 00 _____
Temperature 01 _____
Bottom Contours 02 _____
Compass/Loran 03 _____
Tide/Current 04 _____
Visual 05 _____
Eddy 06 _____
Mixed 98 _____
Other 99 _____
LIGHT STICKS USED? NO 0 11 YES 1 _____
NUMBER 12
NUMBER _____ 13A _____

SPECIES		CATCH DISP (K/D)	PNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	PNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X							

LOGLINE 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 (i.e. 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.

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 big-eye tuna. Complete a second gear log numbered gear number "2".

Other Line Fishing Gears (Rod & Reel, Trolling Gears)

For other line fishing gears, complete only the following fields on the Longline Gear Characteristics Log; A, B, C, D, 1, 2, 5-16. For these 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.

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.

Become familiar with the following definitions.

DEFINITIONS

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).

Troll line: One or more lines with hooks and bait or lures attached, that are towed behind a moving boat.

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.

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.

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.

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.**

DEMERSAL LONGLINE

Gear: A longline string composed of one or more "tubs", uniquely configured for a specific target species or a single mainline of steel cable with snap-on hooks.
 Example: See GEAR NUMBER (#1).

PELAGIC LONGLINE

Gear: 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

Gear: An individual line with hooks and bait attached.

INSTRUCTIONS

For instructions on completing the Header Fields **A, B, C** and **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 5th 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 - 5 (i.e. there should only be **ONE** gear # 1)

2. NUMBER OF HOOKS: Record the **TOTAL**

number of individual hooks set in this gear.

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.

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.

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.

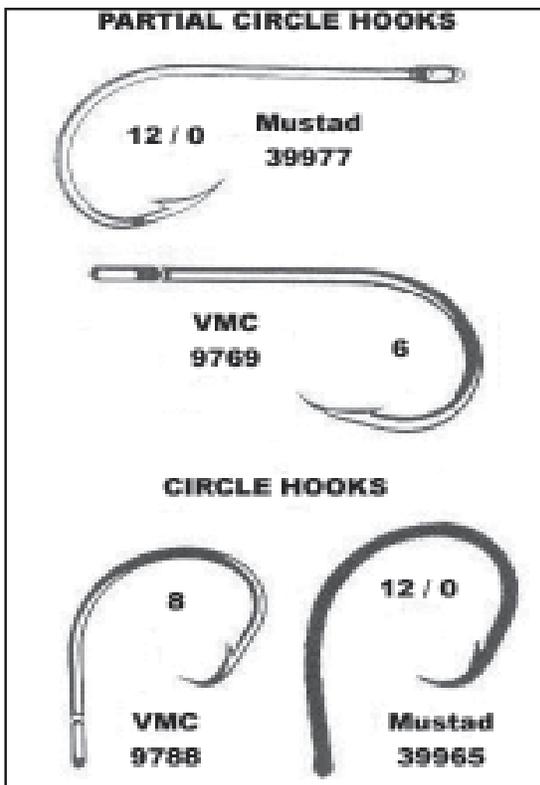


Figure 1. Common hook types seen in Northeast demersal longline fishery.

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.

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 K. 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 is selected for Buoyline Type Code (#29), otherwise dash '-' the field.

Example: The Captain states that he has 40 fathoms of sinkline 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 K. 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

NOTE: The surface system refers to the configuration of high flyers and buoys at the surface of the water.

37. NUMBER OF HIGH FLYERS: Record the **total** number of high flyers used on this gear.

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 K. 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

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.

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 K. 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 K. 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.

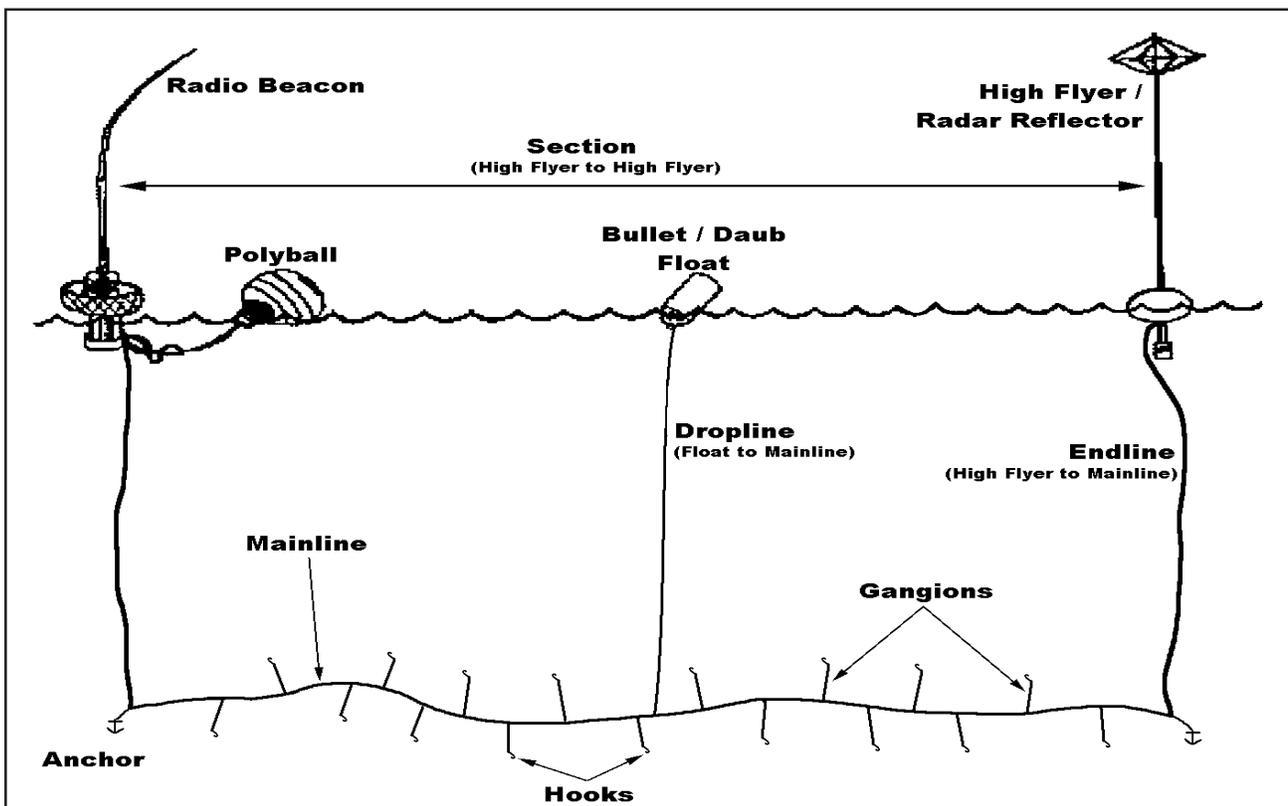


Figure 2. Characteristics of demersal and/or pelagic longline fishing gear.

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 LIGHTSICKS: 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 near-

est 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. These may also be called "high flyers".

COMMENTS

Record any additional information about this gear. 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 GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBLG 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE D		GEAR NUMBER(S)		NUMBER OF HOOKS		SECTION LENGTH		NUMBER OF SECTIONS		
<input type="text"/>		1		2		3 _____ nm		4		
MAINLINE			LEADERS		BUOYLINE		SURFACE SYSTEM		FLOATS	
# OF STRANDS 5 _____			USED? 10 NO 0 ___ YES 1 ___		# of Buoylines 27 _____		# of High Flyers 37 _____		USED? 49	
DIAMETER 6 _____ mm			LENGTH 11 _____ ft		Length (avg) 28 _____ ft		# of Buoys 38 _____		TYPE NO YES NUMBER AVG HOOKS BETWEEN	
TEST 7 _____ lbs			TEST 12 _____ lbs		Type Code 29 _____		Surface Line Length (avg) 39 _____ ft		Unknown 0 ___ 1 ___ _____	
MATERIAL 8 _____			MATERIAL 13 _____		Percent of Type 30 % / %		Type Code 40 _____		Polyball 0 ___ 1 ___ _____	
COLOR 9 _____					(sinking/floating)		Diameter 41 _____ / _____ in		Bullet/Daub 0 ___ 1 ___ _____	
					Diameter 31 _____ / _____ in		Mark? 42 NO 0 ___ YES 1 ___		Other 0 ___ 1 ___ _____	
HOOKS			ANCHOR USED? 17		GROUNDLINE		WEAK LINKS		LIGHT STICKS USED?	
BRAND MODEL/PATTERN SIZE			NO 0 ___ YES ___		NO YES		NO YES		NO 0 ___ YES 1 ___ 52	
WEIGHT			Actual 19 1 ___		USED? 33 0 ___ 1 ___		USED ON SURFACE? 0 ___ 1 ___		COLOR 53	
14 15 16			Estimated 2 ___		Length (total) 34 _____ ft		Number (total) 44 _____		NUMBER 54	
					Type Code 35 _____		Type Code 45 _____		DROPLINE	
					Diameter 36 _____ / _____ in		Type Code 46		LENGTH 55 _____ ft	
GANGIONS			LENGTH COUNT		USED? 33 0 ___ 1 ___		USED ON STRING?		DISTANCE BETWEEN 56 _____ ft	
DISTANCE BETWEEN 20 _____ ft			23 _____ ft 24 _____		Length (total) 34 _____ ft		43		COUNT	
DIAMETER 21 _____ mm			MATERIAL 25		Type Code 35 _____		Number (total) 44 _____		RADIO BEACONS 59	
TEST 22 _____ lbs			COLOR 26		Diameter 36 _____ / _____ in		Type Code 45 _____		RADAR REFLECTORS 60	
COMMENTS							46			
							USED ON STRING?			
							Number (total) 47 _____			
							Type Code 48 _____			
									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	
									MATERIAL	
									Unknown 0	
									Mono-filament Nylon 1	
									Cotton 2	
									Steel Wire 3	
									Multi-strand Nylon 4	
									Other 9	

LONGLINE GEAR CHARACTERISTICS LOG
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DATE LANDED mm/yy	11 / 05
PAGE #	1 OF 1

GEAR CODE * 0 1 0	GEAR NUMBER(S) 1, 2, 3	NUMBER OF HOOKS 900	SECTION LENGTH 0.9 nm	NUMBER OF SECTIONS 1
-----------------------------	----------------------------------	-------------------------------	---------------------------------	--------------------------------

MAINLINE # OF STRANDS _____ DIAMETER 5.0 mm TEST 900 lbs MATERIAL 04 COLOR 06		LEADERS USED? NO 0 <input checked="" type="checkbox"/> YES 1 ____ LENGTH _____ ft TEST _____ lbs MATERIAL _____		BUOYLINE # of Buoylines 2 Length (avg) 200 ft Type Code 8 Percent of Type (sinking/floating) 75% / 25% Diameter 5 / 8 in Mark? NO 0 ____ YES 1 <input checked="" type="checkbox"/>		SURFACE SYSTEM # of High Flyers 2 # of Buoys 2 Surface Line Length (avg) 20 ft Type Code 1 Diameter 5 / 8 in Mark? NO 0 ____ YES 1 <input checked="" type="checkbox"/>		FLOATS USED? TYPE NO YES NUMBER AVG HOOKS BETWEEN Unknown 0 <input checked="" type="checkbox"/> 1 _____ Polyball 0 ____ 1 <input checked="" type="checkbox"/> 2 900 Bullet/Daub 0 <input checked="" type="checkbox"/> 1 _____ Other 0 <input checked="" type="checkbox"/> 1 _____		LIGHT STICKS USED? NO 0 <input checked="" type="checkbox"/> YES 1 ____ COLOR _____ NUMBER _____		DROPLINE LENGTH _____ ft DISTANCE BETWEEN _____ ft	
HOOKS BRAND MODEL/PATTERN SIZE Mustad 39977 12/0 WEIGHT 25 lbs Actual 1 ____ Estimated 2 <input checked="" type="checkbox"/>		ANCHOR USED? NO 0 ____ YES <input checked="" type="checkbox"/>		GROUNDLINE NO YES USED? 0 ____ 1 <input checked="" type="checkbox"/> Length (total) 20 ft Type Code 1 Diameter 3 / 8 in		WEAK LINKS NO YES USED ON SURFACE? 0 <input checked="" type="checkbox"/> 1 ____ Number (total) _____ Type Code _____		SWIVELS USED? NO 0 <input checked="" type="checkbox"/> YES 1 ____ # OF SWIVELS/GANGION _____		RADIO BEACONS 0 RADAR REFLECTORS 2			
GANGIONS LENGTH COUNT DISTANCE BETWEEN 6 ft 1 ft 900 DIAMETER 2.0 mm TEST 400 lbs MATERIAL 01 COLOR 06		USED ON STRING? 0 <input checked="" type="checkbox"/> 1 ____ Number (total) _____ Type Code _____		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		MATERIAL Unknown 0 Mono-filament Nylon 1 Cotton 2 Steel Wire 3 Multi-strand Nylon 4 Other 9							
COMMENTS <p style="text-align: center;">Mainline is braided nylon - number of strands unknown.</p>													

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OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="text"/>		GEAR NUMBER(S)		NUMBER OF HOOKS		SECTION LENGTH _____ nm		NUMBER OF SECTIONS	
MAINLINE		LEADERS		BUOYLINE		SURFACE SYSTEM		FLOATS	
# OF STRANDS _____		USED? NO 0 YES 1 _____		# of Buoylines _____		# of High Flyers _____		USED? NO YES NUMBER AVG HOOKS BETWEEN	
DIAMETER _____ mm		LENGTH _____ ft		Length (avg) _____ ft		# of Buoys _____		Unknown 0 1 _____	
TEST _____ lbs		TEST _____ lbs		Type Code _____		Surface Line Length (avg) _____ ft		Polyball 0 1 _____	
MATERIAL _____		MATERIAL _____		Percent of Type _____ % / _____ % (sinking/floating)		Type Code _____		Bullet/Daub 0 1 _____	
COLOR _____								Other 0 1 _____	
HOOKS			ANCHOR USED?					LIGHT STICKS USED?	
BRAND	MODEL/PATTERN	SIZE	NO 0 YES _____	Diameter _____ / _____ in	Diameter _____ / _____ in	Mark? NO 0 YES 1 _____	Mark? NO 0 YES 1 _____	NO 0 YES 1 _____	DROPLINE
			WEIGHT _____ lbs						LENGTH _____ ft
			Actual 1 _____						DISTANCE BETWEEN _____ ft
			Estimated 2 _____						
GANGIONS		LENGTH		COUNT		GROUNDLINE		WEAK LINKS	
DISTANCE BETWEEN _____ ft		_____ ft		_____		USED? NO YES 0 _____ 1 _____		USED ON SURFACE? 0 _____ 1 _____	
DIAMETER _____ mm		_____ mm		_____ mm		Length (total) _____ ft		Number (total) _____	
TEST _____ lbs		MATERIAL _____		Diameter _____ / _____ in		Type Code _____		Type Code _____	
		COLOR _____							
COMMENTS								SWIVELS	
								USED? NO 0 YES 1 _____	
								# OF SWIVELS/GANGION _____	
								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	
								MATERIAL	
								Unknown 0	
								Mono-filament Nylon 1	
								Cotton 2	
								Steel Wire 3	
								Multi-strand Nylon 4	
								Other 9	

LONGLINE GEAR CHARACTERISTICS LOG
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OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE * <input type="text"/>		GEAR NUMBER(S)		NUMBER OF HOOKS		SECTION LENGTH _____ nm		NUMBER OF SECTIONS	
MAINLINE		LEADERS		BUOYLINE		SURFACE SYSTEM		FLOATS USED?	
# OF STRANDS _____		USED? NO 0 YES 1 _____		# of Buoylines _____		# of High Flyers _____		TYPE	
DIAMETER _____ mm		LENGTH _____ ft		Length (avg) _____ ft		# of Buoys _____		NO YES NUMBER	
TEST _____ lbs		TEST _____ lbs		Type Code _____		Surface Line Length (avg) _____ ft		Unknown 0 1 _____	
MATERIAL _____		MATERIAL _____		Percent of Type _____ % / _____ % (sinking/floating)		Type Code _____		Polyball 0 1 _____	
COLOR _____				Diameter _____ / _____ in		Diameter _____ / _____ in		Bullet/Daub 0 1 _____	
HOOKS		ANCHOR USED?		Mark? NO 0 YES 1 _____		Mark? NO 0 YES 1 _____		Other 0 1 _____	
BRAND _____		NO 0 YES _____						LIGHT STICKS USED?	
MODEL/PATTERN _____		WEIGHT _____ lbs						NO 0 YES 1 _____	
SIZE _____		Actual 1 _____						COLOR _____	
		Estimated 2 _____						NUMBER _____	
								DROPLINE	
GANGIONS		LENGTH _____		COUNT _____		USED? NO 0 YES 1 _____		LENGTH _____ ft	
DISTANCE BETWEEN _____ ft		_____ ft		_____ ft		Length (total) _____ ft		DISTANCE BETWEEN _____ ft	
DIAMETER _____ mm		_____ mm		Type Code _____		Diameter _____ / _____ in		COUNT _____	
TEST _____ lbs		MATERIAL _____						RADIO BEACONS	
		COLOR _____						_____	
COMMENTS								RADAR REFLECTORS	

								COLOR	
								Unknown 00 Multi-Color 07 Unknown 0	
								Clear 01 Red 08 Mono-filament Nylon 1	
								White 02 Orange 09 Cotton 2	
								Pink 03 Purple 10 Steel Wire 3	
								Black 04 Combination 98 Multi-strand Nylon 4	
								Green 05 Other 99 Other 9	
								Blue 06	

Required

REQUIRED fields for all line gears.

R&R / Troll

For R&R and Trolling gears fill in ONLY the GREEN fields

Bottom

For Bottom Longline fill in the GREEN & PINK fields

Pelagic

For Pelagic Longline fill in ALL fields

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, weather, depths, times, positions, *etc.*).

If the gear is set, and only partially hauled, complete a Longline Haul Log with the Species Information 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 (F).

Species caught that should not be recorded on this particular log include: pelagic species (*i.e.* 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 Information 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 Sea Bird Incidental Take Log. See Appendix R. 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 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 (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

Set Begin: First component of longline/line gear deployed.

Set End: Longline/line gear secured to high flyer or anchoring device, or longline/line gear completely deployed.

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

Haul End: Longline/line gear completely retrieved and aboard vessel.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Longline Trawl Gear Characteristics Log.

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 I. 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.

3. 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.

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 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.* This would be considered one haul. The end of a haul would be noted when there is sig-

nificant break in time.

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 "ScoopMaster" thermometer to obtain these temperatures.

NOTE: If these temperatures are obtained in Celsius, use Appendix P. 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 minus NUMBER OF HOOKS HAULED, 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 N. 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.
- 99 = Other, record the bait kind in COMMENTS.

NOTE: Artificial bait includes lures and jigs, with or without teasers.

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 N. Bait Codes:

- 0 = Unknown.
- 1 = Whole.
- 2 = Cut.
- 3 = Live.
- 4 = Processed.
- 9 = Other, record the bait type in COMMENTS.

Example: Fish racks, frames or bellies are “Cut” (2), record cut type in COMMENTS.

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 N. 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 “Combina-
tion” (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 (*i.e.* recorded as 20 - 20 fm).

COMMENTS

Record any additional information regarding this haul, *i.e.* 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
OBL LH OBHAU OBSPP 01/01/10

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

GEAR CODE D	GEAR # 1	HAUL # E	HAUL OBS? NO 0 F YES 1 _____	ON-EFFORT? NO 0 G YES 1 _____	CATCH? NO 0 H YES 1 _____	INC TAKE? NO 0 I YES 1 _____	WEATHER CODE J	WIND		WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
<input type="text"/>	<input type="text"/>	<input type="text"/>						SPEED K kn	DIRECTION L o	M ft	N fm	2

SET/HAUL INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				WATER TEMP	TARGET SPECIES	CODE(S)
S BEGIN	3 / /	4 :	Station 1 9960 -	Latitude / Bearing O	Station 2 9960 -	5 o . F	P	Q
E END	/ /	:	9960 -		9960 -	. o . F	MAINLINE LENGTH * 6	SET METHOD 8 Unknown 00 ___ Temperature 01 ___ Bottom Contours 02 ___ Compass/Loran 03 ___ Tide/Current 04 ___ Visual 05 ___ Eddy 06 ___ Mixed 98 ___ Other 99 ___
H BEGIN	/ /	:	9960 -		9960 -	. o . F		
U END	/ /	:	9960 -		9960 -	. o . F		

ITEMS USED?	9		10	NUMBER OF HOOKS	BAIT				SET SPEED	HOOK DEPTH RANGE 21 fm
TYPE	NO	YES	NUMBER	SET 12	LBS 17	KIND 18	TYPE 19	COND 20	7 kn	
Rattlers*	0	1	_____	HAULED 13	#1 _____	_____	_____	_____		
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		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X

LONGLINE HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBLH OBHAU OBSPP 01/01/10

OBS/ TRIP ID	E03715-
DATE LAND (mm/yy)	07 / 05
PAGE #	1 OF 1

GEAR CODE	GEAR #	HAUL #	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	WIND		WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
0 1 0	0 1	0 0 1					01	SPEED 20 kn	DIRECTION 0 °	3 ft	36 fm	610

SET/HAUL INFO	DATE mm/dd/yy	AND 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				WATER TEMP	TARGET SPECIES		CODE(S)
			Station 1	Latitude / Bearing	Station 2	Longitude / Bearing				
S E T	BEGIN	07 / 15 / 05	05 : 30	9960 -	42 ° 00.2	9960 -	67 ° 38.7	54 . 3	Haddock	
	END	07 / 15 / 05	05 : 42	9960 -	41 ° 59.4	9960 -	67 ° 38.2	54 . 3	MAINLINE LENGTH *	
H A U L	BEGIN	07 / 15 / 05	07 : 38	9960 -	41 ° 59.6	9960 -	67 ° 39.0	54 . 8	SET METHOD	
	END	07 / 15 / 05	08 : 16	9960 -	42 ° 00.4	9960 -	67 ° 38.4	55 . 0	Unknown 00 ___ Temperature 01 ___ Bottom Contours 02 <input checked="" type="checkbox"/> Compass/Loran 03 ___ Tide/Current 04 ___ Visual 05 ___ Eddy 06 ___ Mixed 98 ___ Other 99 ___	

ITEMS USED?			NUMBER OF HOOKS		BAIT				SET SPEED		
TYPE	NO	YES	NUMBER	SET	LBS	KIND	TYPE	COND	5 . 2 kn		
Rattlers*	0 <input checked="" type="checkbox"/>	1 ___	___	900	#1	30	10	4	6		
Surface Lights*	0 <input checked="" type="checkbox"/>	1 ___	___	895	#2	___	___	___	___		
Additional Line Wts	0 ___	1 <input checked="" type="checkbox"/>	2	5	#3	___	___	___	___		
WEIGHT OF ADDITIONAL LINE WEIGHTS			10 lbs	TENDED*	COMMENTS					10 — 36 fm	
				0	Was not able to obtain actual weights or length frequencies due to time constraints						
				0	Spiny dogfish estimated weight was based on 5 lbs per dogfish (60 dogfish)						
					Only one haddock fell off the hook before coming onboard						

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE
Haddock		K	50	100	D	05
Winter Skate		D	250	001	R	05
Spiny Dogfish		D	300	001	R	05
Monkfish		K	10	100	R	05
Haddock		D	3	012	R	05
Atlantic Cod		K	12	100	R	05

LONGLINE HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBL LH OBHAU OBSPP 01/01/10

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

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

SET/HAUL INFO	DATE mm/dd/yy	AND 24 hours	TIME	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				WATER TEMP	TARGET SPECIES		CODE(S)
				Station 1	Latitude / Bearing	Station 2	Longitude / Bearing				
S BEGIN	/ /		:	9960 -		9960 -		. ° F			
T END	/ /		:	9960 -		9960 -		. ° F	MAINLINE LENGTH *	SET METHOD	
H BEGIN	/ /		:	9960 -		9960 -		. ° F			Unknown 00 _____
U END	/ /		:	9960 -		9960 -		. ° F			Temperature 01 _____
L	/ /		:	9960 -		9960 -		. ° F			Bottom Contours 02 _____
											Compass/Loran 03 _____

ITEMS USED?				NUMBER OF HOOKS		BAIT				SET SPEED			
TYPE	NO	YES	NUMBER	SET		LBS	KIND	TYPE	COND	_____ kn			
Rattlers*	0	1	_____	HAULED	_____					HOOK DEPTH		Tide/Current 04 _____	
Surface Lights*	0	1	_____	LOST	_____					RANGE		Visual 05 _____	
Additional Line Wts	0	1	_____	TENDED*	_____					_____ fm		Eddy 06 _____	
WEIGHT OF ADDITIONAL LINE WEIGHTS _____ lbs				REBAITED*	_____	COMMENTS						Mixed 98 _____	
												Other 99 _____	

SPECIES			WEIGHT				
NAME	CODE	CATCH DISP (K/D)	POUNDS	DISP CODE	D/R	ESTIMATION METHOD CODE	

*Longline only

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 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/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 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, C and 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/Qua-

hog 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 O. 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 O. 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 O. 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 O. 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:

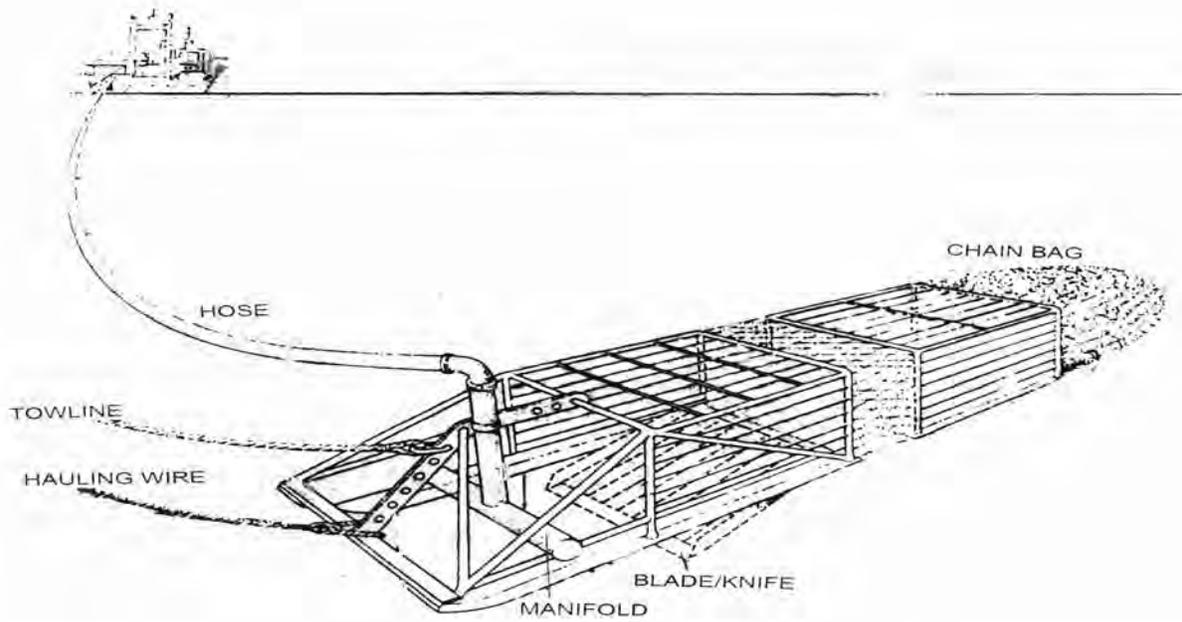
- 0 = Unknown.
- 1 = Single.
- 2 = Bridle.
- 3 = Other, record the towline type on line 15A.

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.



EXAMPLE OF A TWO PIECE DREDGE

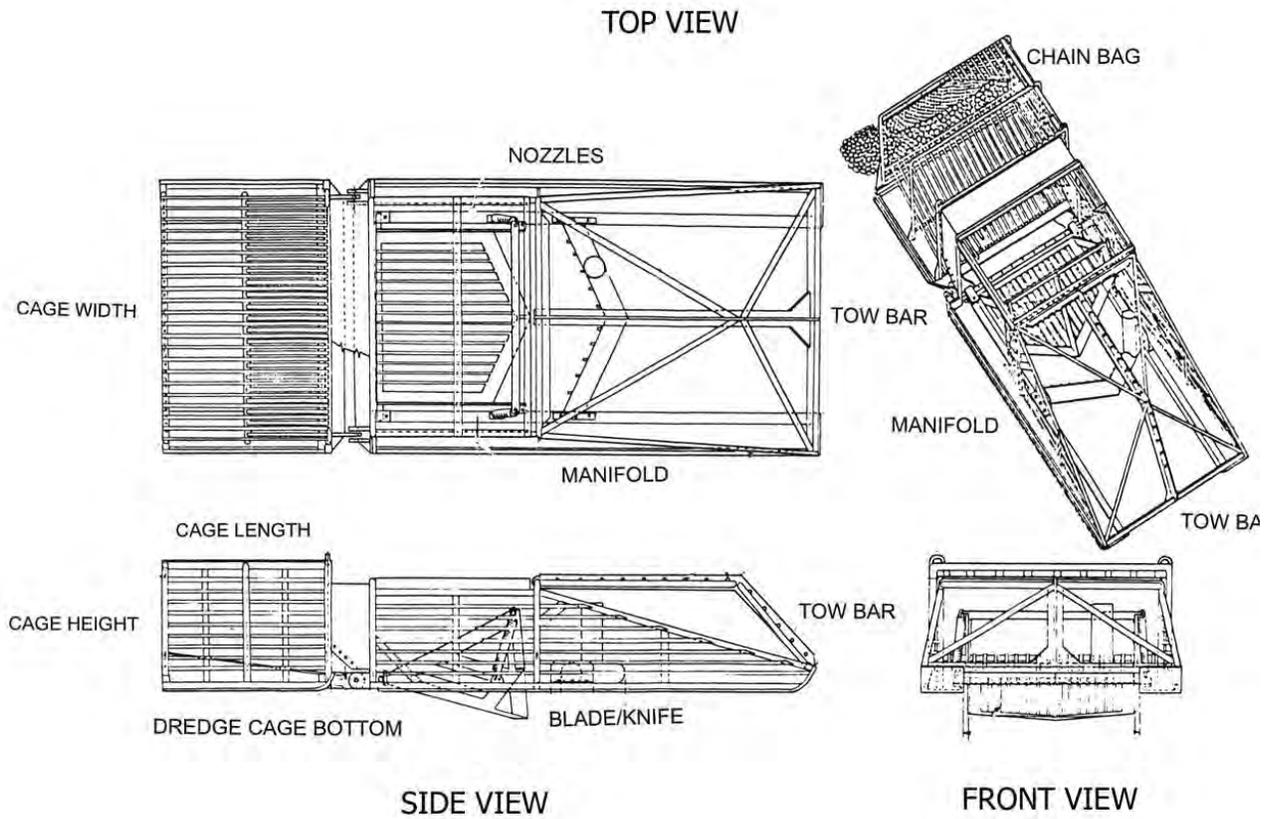


Figure 1.

CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
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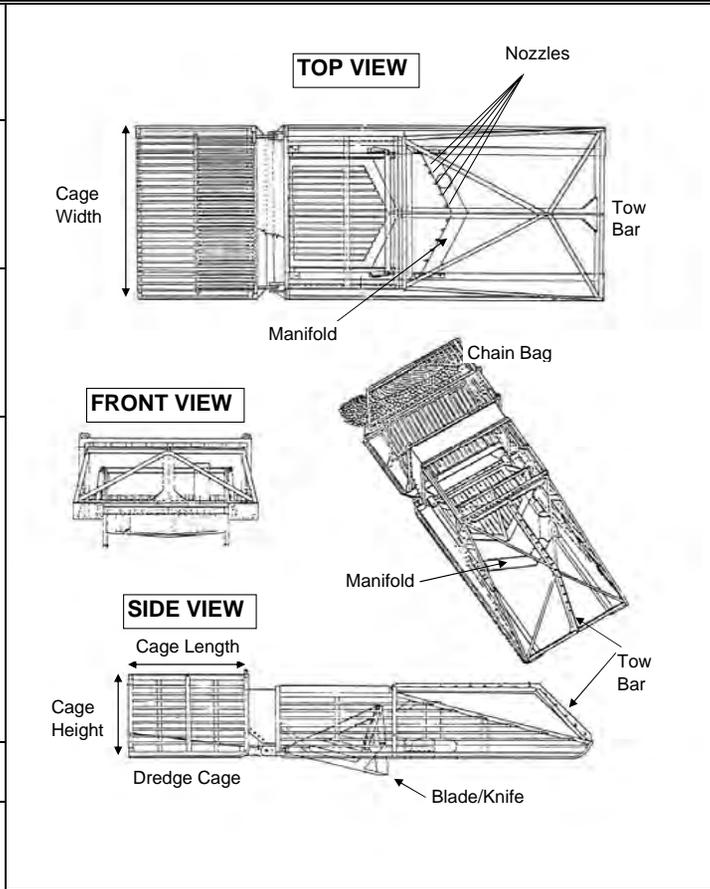
OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE D	GEAR NUMBER(S)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1

DREDGE CAGE			SORTER USED? 7 NO 0 ___ YES 1 ___
HEIGHT	WIDTH	LENGTH	
2 in	3 in	4 in	
CAGE BOTTOM		BAR SPACING	NUMBER OF NOZZLES 8
BAR DIAMETER			
5		6	
. in		. in	

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	



COMMENTS

CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCDG 01/01/10

OBS/TRIP ID	Z00001-
DATE LANDED mm/yy	06 / 06
PAGE #	1 OF 2

GEAR CODE	GEAR NUMBER(S)
3 8 1	1

DREDGE CAGE			SORTER USED?
HEIGHT	WIDTH	LENGTH	
20 in	90 in	120 in	NO 0 YES 1 <input checked="" type="checkbox"/>
CAGE BOTTOM BAR DIAMETER		BAR SPACING	NUMBER OF NOZZLES
1.0 in		1.2 in	

CHAIN BAG

USED? NO 0 YES 1

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE _____ / _____

INSIDE RING SIZE (mm)
(5 random measurements)

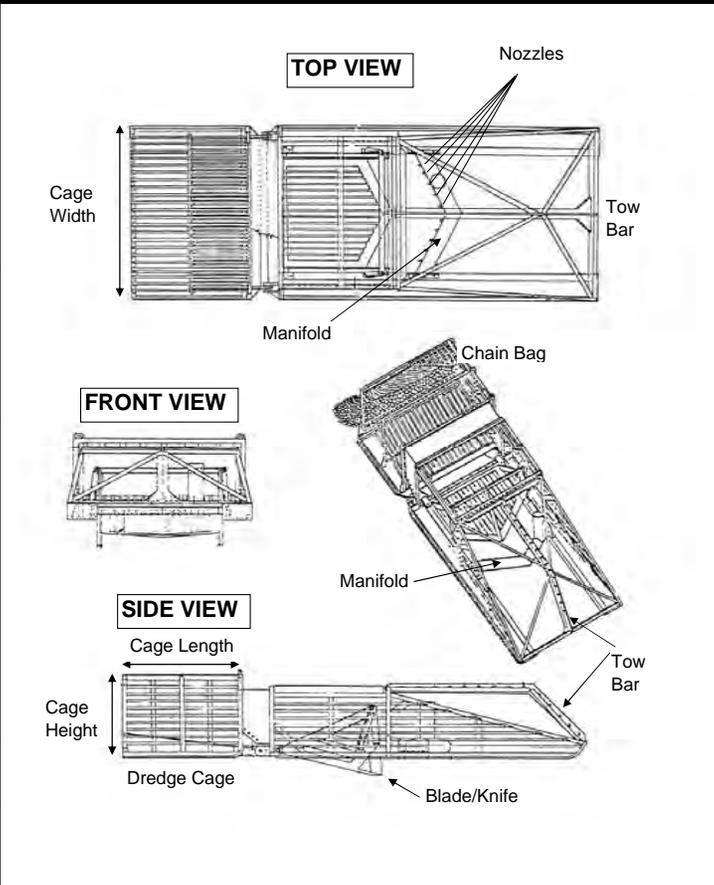
TOP OF BAG _____

BOTTOM OF BAG _____

OUTSIDE RING SIZE _____ mm

TOWLINE

TOWLINE TYPE:		TOWLINE POSITION:	
Unknown	0 _____	Unknown	0 _____
Single	1 <input checked="" type="checkbox"/>	Forward	1 <input checked="" type="checkbox"/>
Bridle	2 _____	Over Top of the Knife	2 _____
Other	9 _____	Other	9 _____



Vessel is stern rigged.

COMMENTS

CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCDG 01/01/10

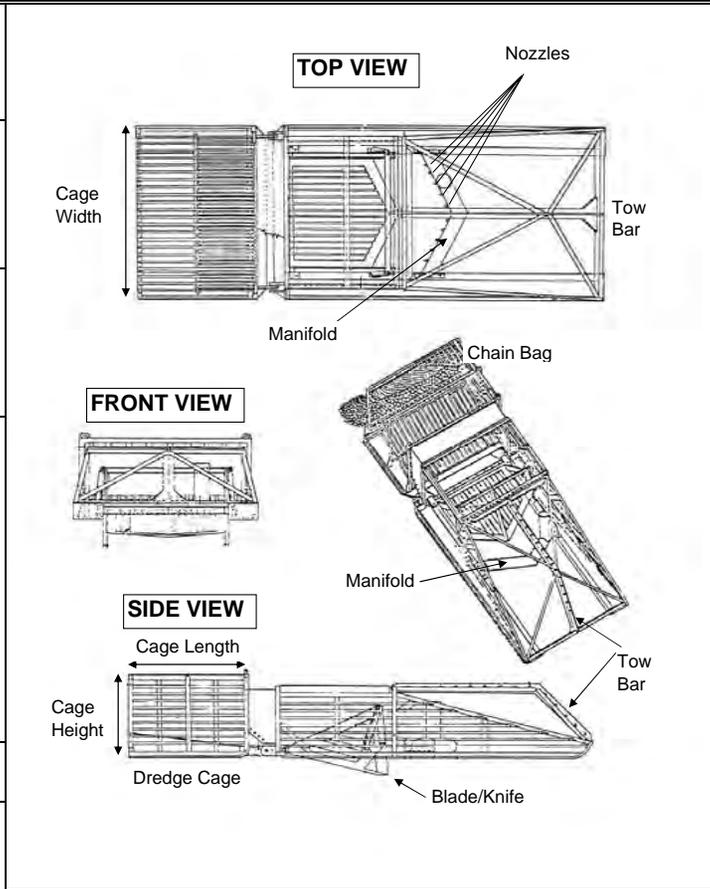
OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="text"/>	GEAR NUMBER(S) <input type="text"/>
-----------------------------------	--

DREDGE CAGE			SORTER USED? NO 0 ___ YES 1 ___
HEIGHT _____ in	WIDTH _____ in	LENGTH _____ in	
CAGE BOTTOM BAR DIAMETER _____ in	BAR SPACING _____ in	NUMBER OF NOZZLES _____	

CHAIN BAG	
USED?	NO 0 ___ 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			
TOWLINE TYPE:		TOWLINE POSITION:	
Unknown	0 ___	Unknown	0 ___
Single	1 ___	Forward	1 ___
Bridle	2 ___	Over Top of the Knife	2 ___
Other	9 ___	Other	9 ___



COMMENTS

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 (*i.e.*, Header Information, weather, depths, times, positions, *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 (*i.e.* 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 Sea Bird Incidental Take Log. See Appendix R. 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 - X**, refer to the Common Haul Log Data section of the NEFSC

Observer Program Manual.

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the appropriate Clam/Quahog Dredge Gear Characteristics Log.

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 I. 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.

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 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).

5. 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 "ScoopMaster" thermometer to obtain this temperature.

NOTE: If an incidental take occurs in this haul, a WATER TEMPERATURE

must be recorded.

6. TOW SPEED: Record, to the nearest tenth of a knot, the average towing speed, over the bottom, for this haul.

7. 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.

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.

10. 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.

11. NUMBER OF BUSHELS KEPT: Record, to the nearest hundredth of a bushel, the amount of clams or quahogs, **in the shell**, kept from this haul.

NOTE: To determine the estimated meat weight (lbs.) to be recorded on the species section of the haul log, multiply the number of kept bushels by 17 if surf clam and multiply the number of kept bushels by 10 if quahog.

12. NUMBER OF BUSHELS DISCARDED: Record, to the nearest hundredth of a bushel, the amount of clams or quahogs, **in the shell**, discarded from this haul.

NOTE: To determine the estimated meat weight (lbs.) to be recorded on the species section of the haul log, multiply the number of discarded bushels by

17 if surf clam and multiply the number of discarded bushels by 10 if quahog.

COMMENTS

Record any additional information regarding this haul, i.e., 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 01/01/10

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

GEAR CODE D	GEAR # 1	HAUL # E	HAUL OBS? NO 0 _____ YES 1 F	ON-EFFORT? NO 0 _____ YES 1 G	CATCH? NO 0 _____ YES 1 H	INC TAKE? NO 0 _____ YES 1 I	WEATHER CODE J	WIND SPEED K DIRECTION L ° kn	WAVE HEIGHT M ft	DEPTH, HAUL BEGIN N fm	GEAR COND CODE 2	
HAUL/FISHING INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				WATER TEMP 5 ° F	TOW SPEED 6 kn	WIRE OUT 7 fm	TARGET SPECIES P CODE Q			
BEGIN HAUL	3 / / : 4	Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	CLAM/QUAHOG CLAPPERS OBS? 10 NO 0 _____ YES 1 _____		# OF BUSHELS KEPT 11 DISCARDED 12				
BEGIN FISHING	8 / / :											
END HAUL	/ / :	9960 -		9960 -								
GEAR ONBOARD	9 / / :											

COMMENTS

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
R	S	T	U	V	W	X							

CLAM/QUAHOG DREDGE HAUL LOG
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GEAR CODE 3 8 1	GEAR # 0 1	HAUL # 0 0 1	HAUL OBS? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>	ON-EFFORT? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>	CATCH? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>	INC TAKE? NO 0 <input checked="" type="checkbox"/> YES 1 <input type="checkbox"/>	WEATHER CODE 01	WIND SPEED 10 kn DIRECTION 90 °	WAVE HEIGHT 1 ft	DEPTH, HAUL BEGIN 20 fm	GEAR COND CODE 810	
HAUL/FISHING INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				WATER TEMP	TOW SPEED	WIRE OUT				
BEGIN HAUL	01 / 15 / 04	10 : 10	Station 1 9960 -	Latitude / Bearing 39 ° 10.5	Station 2 9960 -	Longitude / Bearing 74 ° 11.3	60 . 1 F	3 . 7 kn	110 fm	TARGET SPECIES CODE		
BEGIN FISHING	01 / 15 / 04	10 : 13					CLAM/QUAHOG CLAPPERS OBS?		Ocean Quahog			
END HAUL	01 / 15 / 04	10 : 35	9960 -	39 ° 11.2	9960 -	74 ° 10.3	# OF BUSHELS		KEPT DISCARDED			
GEAR ONBOARD	01 / 15 / 04	10 : 42					NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>	32 . 00		0 . 00		

COMMENTS

Sorter motor broke. 30 minutes lost for repair

Blade was bent during tow.

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE
Ocean Quahog		K	320	100	D	04							
Sea Cucumber, nk		D	2	001	R	01							
Sea Squirt, nk		D	1.1	001	R	01							

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PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

GEAR CODE <input type="text"/>	GEAR # <input type="text"/>	HAUL # <input type="text"/>	HAUL OBS? NO 0 _____ YES 1 _____	ON-EFFORT? NO 0 _____ YES 1 _____	CATCH? NO 0 _____ YES 1 _____	INC TAKE? NO 0 _____ YES 1 _____	WEATHER CODE	WIND SPEED _____ kn DIRECTION _____ °		WAVE HEIGHT _____ ft	DEPTH, HAUL BEGIN _____ fm	GEAR COND CODE	
HAUL/FISHING INFO	DATE AND TIME mm/dd/yy 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)						WATER TEMP _____ ° F	TOW SPEED _____ kn	WIRE OUT _____ fm			
BEGIN HAUL	/ / :	Station 1 9960 -	Latitude / Bearing		Station 2 9960 -	Longitude / Bearing		TARGET SPECIES CODE					
BEGIN FISHING	/ / :							CLAM/QUAHOG CLAPPERS OBS?					
END HAUL	/ / :	9960 -			9960 -			# OF BUSHELS KEPT _____ DISCARDED _____					
GEAR ONBOARD	/ / :							NO 0 _____ YES 1 _____					

COMMENTS

SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT		SPECIES		CATCH DISP (K/D)	POUNDS	DISP CODE	WEIGHT	
NAME	CODE				D/R	ESTIMATION METHOD CODE	NAME	CODE				D/R	ESTIMATION METHOD CODE

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 trips. Complete a new log for each group of hauls which occur during an 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 an Incidental Take Log.

Become familiar with the following definitions.

market or consumptive purposes.

DEFINITIONS

Haul Begin: First component of dredge(s) deployed, *i.e.*, dredge(s) hit the water.

Haul End: Hauling equipment put into gear.

INSTRUCTIONS

For instructions on completing fields **A, B, C, G** and **O**, refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

1. HAUL NUMBER: Record the haul number each time gear is hauled during this off-watch period, maintaining sequential haul numbering for all hauls (observed, unobserved and off-watch) throughout the trip.

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. NUMBER OF BUSHEL KEPT: Record, to the nearest hundredth of a bushel, the captain's or mate's estimated number of bushels of clams/quahogs, in the shell, kept from the dredge for this haul.

NOTE: Kept is defined as brought on board the vessel and retained for

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DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> of <input type="checkbox"/>

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			CLAM/QUAHOG # OF BUSHELS KEPT
				Station 1	Latitude / Bearing	Station 2	
1							
BEGIN	2		3 :	9960-	O	9960-	4
ON-EFFORT?		/ /	:				
NO 0 <u>G</u>	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				
BEGIN		/ /	:	9960-		9960-	
ON-EFFORT?		/ /	:				
NO 0 _____	END	/ /	:	9960-		9960-	
YES 1 _____		/ /	:				

CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG
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HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			CLAM/QUAHOG # OF BUSHELS KEPT
				Station 1	Latitude / Bearing	Station 2	
030	BEGIN	03 / 06 / 01	23:55	9960-	41° 07.2	9960-	38 . 50
ON-EFFORT? NO 0 <input checked="" type="checkbox"/> YES 1 <input type="checkbox"/>	END	03 / 07 / 01	00:55	9960-	41° 08.3	9960-	
031	BEGIN	03 / 07 / 01	01:00	9960-	41° 08.3	9960-	39 . 00
ON-EFFORT? NO 0 <input checked="" type="checkbox"/> YES 1 <input type="checkbox"/>	END	03 / 07 / 01	01:55	9960-	41° 07.4	9960-	
032	BEGIN	03 / 07 / 01	02:00	9960-	41° 07.4	9960-	39 . 75
ON-EFFORT? NO 0 <input checked="" type="checkbox"/> YES 1 <input type="checkbox"/>	END	03 / 07 / 01	02:55	9960-	41° 07.9	9960-	
033	BEGIN	03 / 07 / 01	03:00	9960-	41° 07.9	9960-	37 . 50
ON-EFFORT? NO 0 <input type="checkbox"/> YES 1 <input checked="" type="checkbox"/>	END	03 / 07 / 01	03:55	9960-	41° 06.9	9960-	
034	BEGIN	03 / 07 / 01	04:00	9960-	41° 06.9	9960-	37 . 25
ON-EFFORT? NO 0 <input checked="" type="checkbox"/> YES 1 <input type="checkbox"/>	END	03 / 07 / 01	04:55	9960-	41° 07.6	9960-	
035	BEGIN	03 / 07 / 01	05:00	9960-	41° 07.6	9960-	38 . 25
ON-EFFORT? NO 0 <input checked="" type="checkbox"/> YES 1 <input type="checkbox"/>	END	03 / 07 / 01	05:00	9960-	41° 07.2	9960-	
	BEGIN	/ /	:	9960-		9960-	KEPT
ON-EFFORT? NO 0 <input type="checkbox"/> YES 1 <input type="checkbox"/>	END	/ /	:	9960-		9960-	
	BEGIN	/ /	:	9960-		9960-	KEPT
ON-EFFORT? NO 0 <input type="checkbox"/> YES 1 <input type="checkbox"/>	END	/ /	:	9960-		9960-	
	BEGIN	/ /	:	9960-		9960-	KEPT
ON-EFFORT? NO 0 <input type="checkbox"/> YES 1 <input type="checkbox"/>	END	/ /	:	9960-		9960-	

CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG
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DATE LANDED mm/yy	/ /
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HAUL # <input type="text"/>	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			CLAM/QUAHOG # OF BUSHELS KEPT
				Station 1	Latitude / Bearing	Station 2 Longitude / Bearing	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	
ON-EFFORT? NO 0 _____ YES 1 _____	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:	9960-		9960-	

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. Complete a record on this log for each incidental take. 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, 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 you are on. Incidental takes should never be duplicated.) 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 Sea Bird 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 Incidental Take Log.** Single bones or disarticulated marine mammal, sea turtle, or sea bird skeletons are recorded in the species section of the Haul Log as bone, nk. Articulated (>=75% of skeleton) marine mammal, sea turtle, or sea bird skeletons are recorded on the Incidental Take Log and the INC TAKE? field on the corresponding Haul Log should be checked as 'yes'. Comments and photos MUST be provided in both instances.

Refer to the Protected Species instructions in the NEFSC Observer Program Training Manual for instructions on conducting protected species watches and documenting sightings.

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. 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 Sea Bird Incidental Take Log, making sure to fill in the preceding number.

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 this uniquely identified gear in which the animal is/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 is/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 or 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.
- 3 = Inaudible, Tested and Working.
- 4 = Inaudible, Tested and Not Working.
- 5 = Inaudible, Not Tested.
- 6 = Absent (Lost).
- 9 = Other, describe in COMMENTS.

NOTE: "Tested" means the pinger signal was measured using a testing tool provided by the NEFSC Observer Program or contractor.

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 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, *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) from the tag(s) that you attach, or that were already attached, to the animal. See the Tagging & Tag Recapture instructions in the [NEFSC Observer Program Training Manual](#) for further information on recording tag numbers.

Example: D09999.

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:

- 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:

- 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 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.
- 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)
- 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 (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).

12. ANIMAL CONDITION: Indicate the condition of the animal **when released** 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, *i.e.* hook in the flipper or gear around the flipper., describe more fully in COMMENTS.
- 06 = Alive, hook/gear in/around another single body part, *i.e.* 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) at the end of this section.

NOTE: If more than one code applies, choose the code that describes the most specific condition of the animal (e.g. a turtle is alive and released with gear around the left front flipper - chose code 05 as it is the most specific).

NOTE: Per ESA Permit requirements and Northeast Fisheries Observer Program 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.

NOTE: Additional comments about the condition of the animal **must be** recorded in the 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 (i.e. only dorsal and lateral sides seen). Thoroughly describe 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 (i.e. cracked, slough-

ing, 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 (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.

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.

14. 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 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.

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: 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.

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.

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. 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 observer sees an animal fall from the gear (alive or dead), after completing this log, record additional comments regarding the "fallout," (i.e. 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.

Animal Condition Codes (when released)

Dead, Fresh (code 11)



Figure 1. Illustration of Animal Condition Code 11 (NOTE: Illustrations is of a pregnant female)

Dead, Moderately Decomposed (code 12)



Figure 2. Illustration of Animal Condition Code 12

Dead, Severely Decomposed (code 13)



Figure 3. Illustration of Animal Condition Code 13



Figure 4. Close up of head of animal illustrated in Figure 3

ANIMAL CONDITION CODES (when released)**DEAD FRESH****Marine Mammals:**

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.
 Skin can not be easily pulled or separated from underlying tissue.
 Eyes, when present, may be clear, cloudy blue/white, or red.
 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.
 Easily recognizable or identifiable to species.

Sea Turtles:

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.

Sea Birds:

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; blubber- firm; skin- firm with normal coloration; and organs still easily distinguishable.
 Easily recognizable or identifiable to species.

DEAD, MODERATELY DECOMPOSED**Marine Mammals:**

Does not appear as if it was "just alive or swimming".
 Carcass bloated with decomposition gases and/or if body cavity can be punctured- likely to have gas escape or body cavity collapse.
 Tongue and/or penis may be bloated and protruding from orifices.
 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.
 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).

Sea Turtles:

Does not appear as if it was "just alive or swimming".

Carcass 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).

Sea Birds:

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.

Feathers usually waterlogged.

Body organs/tissue smells like rotting flesh.

Recognizable by species (even though body parts may be missing).

DEAD, SEVERLY DECOMPOSED

Marine Mammals:

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.

Sea Turtles:

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.

Sea Birds:

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 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B / /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

PSID #	HAUL NUM	GEAR NUM	NET NUM/ DREDGE/NET POSITION (p/s/u/a)	TIME (24 hours)	ADD COND CODE	SPECIES		TAG		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	NUMBER(S) (record most recent first)	CODE(S)						
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 <input type="checkbox"/> OF <input type="checkbox"/>

<p>ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:</p> <p>0 = Unknown 1 = No Pingers Used On Gear 2 = Audible 3 = Inaudible, Tested and Working 4 = Inaudible, Tested and Not Working 5 = Inaudible, Not Tested 6 = Absent (Lost) 9 = Other</p>	<p>ENTANGLEMENT / INTERACTION SITUATION CODES:</p> <p>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</p>	<p>ANIMAL CONDITION CODES (when released):</p> <p>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</p>
<p>TAG CODES:</p> <p>0 = Unknown 1 = Tag Applied by Observer 2 = No Tag(s) 3 = Tag Already Present, Left On 4 = Tag Already Present, Removed</p> <p>NOTE: Record Turtle Pit Tags on the Sample Log.</p>	<p>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 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) 99 = Other</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>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>
<p>ADDITIONAL COMMENTS</p>		

**MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG
NMFS FISHERIES OBSERVER PROGRAM**

OBINC 01/01/10

OBS/TRIP ID	A74010+(trip ext)
DATE LANDED mm/yy	01 / 01
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		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	NUMBER(S) (record most recent first)	CODE(S)						

FOR GILLNET GEARS:

<u>0</u> 1	3	3	8	10:04	2	Harbor Porpoise		D07982	1	04	11	0	1	1	105
------------	---	---	---	-------	---	-----------------	--	--------	---	----	----	---	---	---	-----

FOR DREDGE, SCALLOP TRAWL, & TWIN TRAWL GEARS:

<u>0</u> 2	4	1	p	12:13	1	Loggerhead Turtle		QQS555 PPD117	1 3	18	09	1	1	1	---
------------	---	---	---	-------	---	-------------------	--	------------------	--------	----	----	---	---	---	-----

FOR OTHER GEARS:

<u>0</u> 3	15	2	---	12:20	1	Greater Shearwater			2	26	13	1	1	0	---
<u> </u> 4				:											
<u> </u> 5				:											
<u> </u> 6				:											
<u> </u> 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	A74010+(trip ext)	
DATE LANDED mm/yy	01	01
PAGE #	2	2

ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES: 0 = Unknown 1 = No Pingers Used On Gear 2 = Audible 3 = Inaudible, Tested and Working 4 = Inaudible, Tested and Not Working 5 = Inaudible, Not Tested 6 = Absent (Lost) 9 = Other	ENTANGLEMENT / INTERACTION SITUATION CODES: 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 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 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) 99 = Other	ANIMAL CONDITION CODES (when released): 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
TAG CODES: 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.	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).	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

PSID #02- Turtle not seen in dredge 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 & forth while opening & 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 & released off stern ramp tail first gently into water. Gear was out of water and engine in neutral. Swam few strokes & dove immediately. At surface <10 sec & not sighted again. Tag present on right flipper when found, left on with another tag added to L flipper.

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). Id'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.

**MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG
NMFS FISHERIES OBSERVER PROGRAM**

OBINC 01/01/10

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

PSID #	HAUL NUM	GEAR NUM	NET NUM/ DREDGE/NET POSITION (p/s/u/a)	TIME (24 hours)	ADD COND CODE	SPECIES		TAG		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	NUMBER(S) (record most recent first)	CODE(S)						
___ 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 #	<input type="checkbox"/> OF <input type="checkbox"/>

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<p>TAG CODES:</p> <p>0 = Unknown 1 = Tag Applied by Observer 2 = No Tag(s) 3 = Tag Already Present, Left On 4 = Tag Already Present, Removed</p> <p>NOTE: Record Turtle Pit Tags on the Sample Log.</p>		
<p>ADDITIONAL COMMENTS</p>		

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.

The types of sightings and watches and the proper procedures for conducting each type of watch are described in the Protected Species Watches section in the Gillnet section of the NEFSC Observer Program Training Manual.

An animal must not be recorded on both the Protected Species Sighting Log and the Marine Mammal, Sea Turtle, and Sea Bird Incidental Take Log. See the Marine Mammal, Sea Turtle, and Sea Bird 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 Sea Bird Incidental Take Log.

INSTRUCTIONS

For instructions on completing fields **A-C** refer to the Common Haul 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.

EVENT INFORMATION

2. NUMBER: A consecutive event number is assigned to each animal that is sighted 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 preceding number.

3. TIME: Record the local time using the 24 hour clock (0000-2359) that the event being described occurred.

Example: 20:32.

4. TYPE CODE: Indicate the type of event that occurred by recording the most appropriate two digit code:

For Watches Only - When a protected species watch is conducted, record one of the following begin/end watch event type codes:

- 03 = Begin set watch.
- 04 = End set watch.
- 05 = Begin haul watch.
- 06 = End haul watch.

NOTE: For gillnet fisheries, **do not record begin and end haul watch information** as this information is already recorded on the Gillnet Haul Log.

For Sightings Only - When a protected species sighting is made, record one of the following sighting event type codes to indicate whether the observer is on- or off-effort, and to best describe the vessel activity at the time the sighting was made:

- 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.
- 17 = Off-effort, waiting for J/V transfer.
- 18 = Off-effort, taking J/V transfer.

NOTE: If the sighting is made during a watch, 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.
- 02 = Wheelhouse, facing forward.
- 03 = Wheelhouse, facing backward.
- 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 P. 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 E.1. Map of Statistical Areas of the Northeast U.S.

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-** .

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.

IF THE EVENT RECORDED IS A PROTECTED SPECIES SIGHTING, COMMENTS MUST BE INCLUDED. COMMENTS are recorded on the Protected Species Sighting Comments Log. Each event has an unique EVENT NUMBER per day. Care should be taken to correctly record the matching EVENT NUMBER on both logs.

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 (*i.e.* 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 OBSCON data.

SIGHTING INFORMATION

NOTE: If the record or event being recorded is not a sighting, leave the following fields (#10-#15) blank.

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, *i.e.* baleen whale, unidentified dolphin, seal, hard-shelled sea turtle, *etc.* **DO NOT GUESS AT SPECIES IDENTIFICATION.**

Examples: Unidentified Whale.
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, *i.e.* hook in the flipper or gear around the flipper.
- 06 = Alive, hook/gear in/around another single body part, *i.e.* 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 (e.g. a turtle is alive and released with gear around the left front flipper - choose code 05 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 01/01/10**

OBS/TRIP ID	A
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EVENT #	EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)				WEATHER CODE	WAVE HGT ft	COMMENTS? 0=N, 1=Y	SPECIES		#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
					Station 1	Latitude/ Bearing	Station 2	Longitude/ Bearing				NAME	CODE				
<u>2</u> 1	3	4	5	6	9960-	7	9960-		8	9	10	11	12	13	14	15	16
<u>2</u>	:				9960-		9960-										
<u>3</u>	:				9960-		9960-										
<u>4</u>	:				9960-		9960-										
<u>5</u>	:				9960-		9960-										
<u>6</u>	:				9960-		9960-										
<u>7</u>	:				9960-		9960-										
<u>8</u>	:				9960-		9960-										
<u>9</u>	:				9960-		9960-										
<u>10</u>	:				9960-		9960-										
<u>11</u>	:				9960-		9960-										
<u>12</u>	:				9960-		9960-										

<p>EVENT TYPE CODES:</p> <p>WATCH ONLY</p> <p>03 = Begin set watch 04 = End set watch 05 = Begin haul watch 06 = End haul watch</p> <p>GENERAL</p> <p>00 = Unknown 99 = Other</p>	<p>SIGHTING ONLY</p> <p>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 17 = Off-effort, waiting for J/V transfer 18 = Off-effort, taking J/V transfer</p>	<p>POSITION CODES:</p> <p>00 = Unknown 01 = Bow, facing wind 02 = Wheelhouse, facing forward 03 = Wheelhouse, facing backward 04 = Work deck, facing backward 05 = Work deck, facing sideways 06 = Starboard side, facing net 07 = Port side, facing net 99 = Other</p>	<p>SIGHT CUE CODES:</p> <p>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</p>	<p>ANIMAL CONDITION CODES:</p> <p>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</p> <p>NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal</p>	<p>ANIMAL BEHAVIOR CODES:</p> <p>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</p>
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OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>
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EVENT #	COMMENTS	EVENT #	COMMENTS
2	10		

**PROTECTED SPECIES SIGHTING LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSIG 01/01/10**

OBS/TRIP ID	A74010L
DATE LANDED mm/yy	01 / 09
PAGE #	1 OF 2
TODAY'S DATE mm/dd/yyyy	01 / 10 / 09

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		#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
					Station 1	Latitude/ Bearing Bearing	Station 2	Longitude/ Bearing				NAME	CODE				
<u>0</u> _1	10:10	08	06	3	9960-	42° 24.3	9960-	70° 41.2	03	4	1	Whitesided Dolphin		22	1	01	05
<u>0</u> _2	10:11	08	06	3	9960-	42° 24.7	9960-	70° 41.2	03	4	1	Humpback Whale		1	1	01	08
<u>0</u> _3	11:14	13	02	---	9960-	42° 25.1	9960-	70° 40.3	03	4	1	Finback Whale		3	2	01	08
<u> </u> _4	:				9960-		9960-										
<u> </u> _5	:				9960-		9960-										
<u> </u> _6	:				9960-		9960-										
<u> </u> _7	:				9960-		9960-										
<u> </u> _8	:				9960-		9960-										
<u> </u> _9	:				9960-		9960-										
<u> </u> _10	:				9960-		9960-										
<u> </u> _11	:				9960-		9960-										
<u> </u> _12	:				9960-		9960-										

<p>EVENT TYPE CODES:</p> <p>WATCH ONLY</p> <p>03 = Begin set watch 04 = End set watch 05 = Begin haul watch 06 = End haul watch</p> <p>GENERAL</p> <p>00 = Unknown 99 = Other</p>	<p>SIGHTING ONLY</p> <p>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 17 = Off-effort, waiting for J/V transfer 18 = Off-effort, taking J/V transfer</p>	<p>POSITION CODES:</p> <p>00 = Unknown 01 = Bow, facing wind 02 = Wheelhouse, facing forward 03 = Wheelhouse, facing backward 04 = Work deck, facing backward 05 = Work deck, facing sideways 06 = Starboard side, facing net 07 = Port side, facing net 99 = Other</p>	<p>SIGHT CUE CODES:</p> <p>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</p>	<p>ANIMAL CONDITION CODES:</p> <p>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</p> <p>NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal</p>	<p>ANIMAL BEHAVIOR CODES:</p> <p>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</p>
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OBS/TRIP ID *	A74010L
DATE LANDED mm/yy *	01 / 09
PAGE #	2 OF 2
TODAY'S DATE mm/dd/yyyy	01 / 10 / 09

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
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OBS/TRIP ID	
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TODAY'S DATE mm/dd/yyyy	/ /

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		#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
					Station 1	Latitude/ Bearing	Station 2				Longitude/ Bearing	NAME				
1					9960-		9960-									
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-									

<p>EVENT TYPE CODES:</p> <p>WATCH ONLY</p> <p>03 = Begin set watch 04 = End set watch 05 = Begin haul watch 06 = End haul watch</p> <p>GENERAL</p> <p>00 = Unknown 99 = Other</p>	<p>SIGHTING ONLY</p> <p>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 17 = Off-effort, waiting for J/V transfer 18 = Off-effort, taking J/V transfer</p>	<p>POSITION CODES:</p> <p>00 = Unknown 01 = Bow, facing wind 02 = Wheelhouse, facing forward 03 = Wheelhouse, facing backward 04 = Work deck, facing backward 05 = Work deck, facing sideways 06 = Starboard side, facing net 07 = Port side, facing net 99 = Other</p>	<p>SIGHT CUE CODES:</p> <p>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</p>	<p>ANIMAL CONDITION CODES:</p> <p>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</p> <p>NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal</p>	<p>ANIMAL BEHAVIOR CODES:</p> <p>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</p>
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OBS/TRIP ID *	
DATE LANDED mm/yy *	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>
TODAY'S DATE mm/dd/yyyy	/ /

EVENT #	COMMENTS	EVENT #	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 Sea Bird 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 R. Species List and Corresponding Logs for a list of species and the log(s) on which to record them.

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. HAUL NUMBER: Record the consecutive haul number assigned to the haul being sampled. This number must agree with the haul number recorded on the corresponding Haul Log.

2. GEAR NUMBER: Record the gear number assigned to this uniquely identified gear as specified on the corresponding Gear Characteristics Log.

3. SEQUENCE NUMBER: Consecutive numbers are assigned to each animal or debris item recorded on this log. If there are insufficient lines on one form, continue listing items on an additional Individual Animal Log, making sure to fill in the preceding number.

4. SPECIES NAME: Record the **complete** common name of each species/animal or debris item to record on this log, as listed in Appendix A. Species Names.

Examples: Swordfish.
Yellowfin Tuna.

5. SPECIES CODE: Leave this field blank.

6. 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.

7. 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.

8. FISH DISPOSITION: Indicate the disposition of each animal or item listed in SPECIES NAME (#4)

by the vessel by recording the most appropriate three digit code listed in [Appendix B. Fish Disposition Codes](#).

Example: A 47 lb swordfish is discarded because regulations prohibit its retention because it's too small (012).

9. 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.

10. WEIGHT: Record the dressed or round, actual or estimated weight for each species/animal or debris item listed in SPECIES NAME (#4). 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, i.e. swordfish, billfish, tuna, bonito, sharks, etc.

Discarded Pelagic Species: the observer's estimated round individual animal weight for those species discarded, i.e. 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 WEIGHT TYPE CLASSIFICATION (#11) and record the appropriate processing code for the shark carcass in PROCESSING TYPE (#9). 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 (#8). 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.

WEIGHT TYPE CLASSIFICATION

11. DRESSED OR ROUND: Indicate whether the weight recorded in WEIGHT (#10) is a dressed or round weight by recording the appropriate letter code:

- D = Dressed.
- R = Round.

12. ESTIMATION METHOD: Record the method used to estimate the catch weight of each species (including debris) by recording the appropriate number code:

- 01 = Actual.
- 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.
- 98 = Combination, describe in COMMENTS.
- 99 = Other, describe in COMMENTS.

13. TAG NUMBER(S): Record the complete alphanumeric numbers, 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.

Examples: M145697, R324061

- c) an **untagged fish or shark from which a biological sample is taken**. Record "SAM #" plus a consecutive number so the sample may be tracked to the animal record.

14. 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**.

Use codes 1 - 4 for swordfish, billfish, tuna, and sharks released alive.

Use code 5 only for fish and sharks processed and weighed at the dealer.

15. 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.

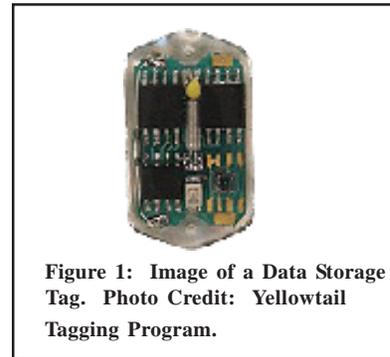


Figure 1: Image of a Data Storage Tag. Photo Credit: Yellowtail Tagging Program.

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, i.e. 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, but do try to record an ESTIMATED LENGTH (#18) for these animals.

Do not record any length information for only heads of animals.

All length measurements are recorded in whole centimeters.

16. STANDARD LENGTH #1: Record the measured length of the animal according to these standards:

Swordfish and Other Billfish (i.e. 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 (i.e. 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.

17. 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 (i.e. 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.

18. ESTIMATED LENGTH: Record the estimated **straight** length of the animal according to the standards listed under STANDARD LENGTH #1 (#16) if the animal is not brought onboard or whole.

NOTE: If unable to obtain required length, dash field and comment reason in the corresponding comments section.

19. 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.

NOTE: Leave this field blank when only the head of an animal is caught.

20. 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.

21. 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 species that are recorded on the IAL. If a species is to be listed on the IAL and more than one specimen is taken on a particular trip, **fully photograph at least the first specimen of that Species**. If time and common sense allow, photograph all (within reason) specimens recorded. Examples of species which photographs should be taken

of are: sharks, rays, sturgeons, pelagics, rare species, and all tagged fish.

COMMENTS

Record any additional information regarding the animal(s), i.e. samples collected, processing types, ID characteristics [particularly individual shark(s), ray(s) and sturgeon(s)], explanation for data that cannot be collected. 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, photos do not always develop 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 01/01/10**

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>
HAUL #	1 <input type="checkbox"/> <input type="checkbox"/>

GEAR #	SEQ #	SPECIES		INTL STAT- US CODE	END STAT- US CODE	FISH DISP CODE In Appert	PROC CODE	WEIGHT			TAG			LENGTHS cm			SEX 0=U 1=M 2=F	BIO- SAMP 0=N 1=Y	PHOTO TAKEN? 0=N 1=Y
		NAME	CODE					POUNDS	MKT D/R	EST. METH- OD	NUMBER(S)	CODE	DATA STORAGE TAG? 0=N, 1=Y	#1	#2	Est (#1)			
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
---	1																		
---	2																		
---	3																		
---	4																		
---	5																		
---	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.

STATUS CODES: 0=Unknown 1=Alive 2= Dead 3=Dead, Damaged 4=Dead, Head only	PROCESSING CODES: 00=Unknown 01=No Processing 02=Chunked 03=Filleted 04=Dressed (Gutted only) 05=Dressed (Finned only)	WEIGHT MARKET CODES: D=Dressed (1) R=Round (2)	TAG CODES: 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)	ESTIMATION METHOD CODES:	STANDARD LENGTHS:
				01 = Actual 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 98 = Combination, describe in COMMENTS 99 = Other, describe in COMMENTS	#1 #2 Swordfish (c) LJFL CK Billfish (c) LJFL PFL Tuna FL PFL Shark FL TL Sturgeon FL None Ray TL DW Terrapin TL NL Other FL None
WEIGHT TYPE CODES: A=Actual (1) E=Estimated (2)					

**INDIVIDUAL ANIMAL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBIAL 01/01/10**

OBS/TRIP ID	A74015C
DATE LANDED mm/yy	01 / 01
PAGE #	2 OF 5
HAUL #	0 d 1

GEAR #	SEQ #	SPECIES		INTL STAT- US CODE	END STAT- US CODE	FISH DISP CODE <small>In Appen</small>	PROC CODE	WEIGHT			TAG			LENGTHS cm			SEX 0=U 1=M 2=F	BIO- SAMP 0=N 1=Y	PHOTO TAKEN? 0=N 1=Y
		NAME	CODE					POUNDS	MKT D/R	EST. METH- OD	NUMBER(S)	CODE	DATA STORAGE TAG? 0=N, 1=Y	#1	#2	Est (#1)			
1	<u>0</u> 1	Swordfish		3	3	100	09	165	D	01	A2999	5	0	193	106	---	1	0	1
1	<u>0</u> 2	Blue Shark		2	2	100	06	170	D	01	A2318 M45392	5 4	0	201	240	---	2	1	1
1	<u>0</u> 3	Atlantic Sturgeon		1	1	001	01	180	R	04	BOS873	3	0	---	---	244	0	0	1
1	<u>0</u> 4	Torpedo Ray		1	2	001	01	28	R	01		2	---	82	46	---	1	0	1
1	<u>0</u> 5	Porbeagle Shark		2	2	100	08	40	R	06		2	---	114	---	---	2	0	0
	<u> </u> 6																		
	<u> </u> 7																		
	<u> </u> 8																		
	<u> </u> 9																		
	<u> </u> 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: 0=Unknown 1=Alive 2= Dead 3=Dead, Damaged 4=Dead, Head only	PROCESSING CODES: 00=Unknown 01=No Processing 02=Chunked 03=Filletted 04=Dressed (Gutted only) 05=Dressed (Finned only)	WEIGHT MARKET CODES: D=Dressed (1) R=Round (2)	TAG CODES: 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)	ESTIMATION METHOD CODES: 01 = Actual 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 98 = Combination, describe in COMMENTS 99 = Other, describe in COMMENTS	STANDARD LENGTHS: #1 #2 Swordfish (c) LJFL CK Billfish (c) LJFL PFL Tuna FL PFL Shark FL TL Sturgeon FL None Ray TL DW Terrapin TL NL Other FL None
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**INDIVIDUAL ANIMAL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBIAL 01/01/10**

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>
HAUL #	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

GEAR #	SEQ #	SPECIES		INTL STAT- US CODE	END STAT- US CODE	FISH DISP CODE In Apper	PROC CODE	WEIGHT			TAG			LENGTHS cm			SEX 0=U 1=M 2=F	BIO- SAMP 0=N 1=Y	PHOTO TAKEN? 0=N 1=Y
		NAME	CODE					POUNDS	MKT D/R	EST. METH- OD	NUMBER(S)	CODE	DATA STORAGE TAG? 0=N, 1=Y	#1	#2	Est (#1)			
	1																		
	2																		
	3																		
	4																		
	5																		
	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.

STATUS CODES: 0=Unknown 1=Alive 2= Dead 3=Dead, Damaged 4=Dead, Head only	PROCESSING CODES: 00=Unknown 01=No Processing 02=Chunked 03=Filleted 04=Dressed (Gutted only) 05=Dressed (Finned only)	WEIGHT MARKET CODES: D=Dressed (1) R=Round (2)	TAG CODES: 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)	ESTIMATION METHOD CODES: 01 = Actual 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 98 = Combination, describe in COMMENTS 99 = Other, describe in COMMENTS	STANDARD LENGTHS:		
						#1	#2
					Swordfish (c)	LJFL	CK
					Billfish (c)	LJFL	PFL
					Tuna	FL	PFL
					Shark	FL	TL
					Sturgeon	FL	None
					Ray	TL	DW
					Terrapin	TL	NL
					Other	FL	None

LENGTH FREQUENCY LOG

Length frequencies involve area-specific collection of lengths for a particular species. They are used in determining the composition of the catch for calculating length-weight relationships. When combined with the collection of age structures, they also aid in the determination of the age composition of the catch.

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, dredge, net (scallop, clam or quahog trips), 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.

NOTES: Sea scallop and clam/quahog heights are recorded in the right-hand section of this log.

Pelagic species sampling is recorded on the Individual Animal Log, unless otherwise instructed.

Crustacean sampling (i.e. lobster and crab sampling) is recorded on the Crustacean Sample Log.

Marine mammal and sea turtle sampling is recorded on the Marine Mammal Biological Sample Log or the Sea Turtle Biological Sample Log, respectively.

INSTRUCTIONS

For instructions on completing the Header fields A, B, C and E, refer to the Common Haul Log Data section of the manual.

1. DREDGE/NET POSITION: (for scallop trips only) Record the position of the dredge or net (port, starboard, both or aft) in which the *animals* being

sampled were caught by placing an "X" next to the appropriate position.

- 0 = Both
- 1 = Port
- 2 = Starboard
- 4 = Aft

NOTE: Sea scallops sampled must only be from one dredge/net, not both. However, fish sampled on a scallop trip should be from mixed dredges/nets.

NOTE: If there is length data for catch from different dredge/net positions, fill out a separate log for each position.

NOTE: For scallops fill out a separate log for each fish disposition code.

NOTE: Aft refers to a single net fished over the stern of the vessel.

Example: During a haul, if you were to sample cod from both the port and starboard dredges/nets and scallops from the port dredge/net only, the length data would need to be filled out on 2 separate Length Frequency Logs with an 'X' placed next to the appropriate dredge/net position.

2. 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 column(s) with arrows.

Example:

SPECIES NAME	ATL.COD	ATL.COD
SPECIES CODE		
FISH DISPOSITION CODE	100	— — — —>
SEX CODE	0	— — — —>
SAMPLE WEIGHT (R/A)	450	— — — —>
SAMPLE TYPE CODE	2	— — — —>
# SAMPLES	20	— — — —>

3. SPECIES CODE: Leave this field blank.

4. FISH DISPOSITION CODE: Indicate the disposition of each species listed in SPECIES NAME (#2) by recording the most appropriate three digit code listed in Appendix B. Fish Disposition Codes. The code must agree with the code recorded for this species on the corresponding Haul Log.

5. 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.

6. SAMPLE WEIGHT: Record, in whole pounds (or to the nearest tenth of a pound, if necessary), 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 100 scallops measured and used to obtain a volumetric measurement. If no volumetric measurement is obtained during a haul, dash this field.

NOTE: On foreign vessels, record weights in whole kilograms (kgs).

NOTE: If a sample from the same catch disposition is sampled by sex, be sure to record the appropriate sample weight for each sex.

7. 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.

8. 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.

9. 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**.

10. NUMBERS-AT-LENGTH: Record the **total** number of animals measured at each centimeter or

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		
MEASUREMENTS:	20	0		20	1	0
FINFISH, SQUID - cm	1	1		1		1
SHELLFISH - mm	2	2		2	3	2
SEX CODES:	3	1	3	3		3
0 = UNKNOWN	4	2	4	4		4

SEA SCALLOP SAMPLING

millimeter. Do not stroke tally in this field.

11. 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 this random sample of at least 100 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.

12. 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.

**LENGTH FREQUENCY LOG
NMFS FISHERIES OBSERVER PROGRAM
OBLNH OBLND 01/01/10**

OBS/TRIP ID	A
DATE LANDED mm/yy	B / /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>
HAUL # E <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	DREDGE/NET POSITION port (1)_ <input type="checkbox"/> _ starboard (2) ___ both (0)___ aft (4)___

SPECIES NAME	2																	
SPECIES CODE	3																	
FISH DISPOSITION CODE	4																	
SEX CODE	5																	
SAMPLE WEIGHT (R/A)	6														SAMPLE WEIGHT (D/A)			
AGE SAMPLE TYPE CODE	7														VOLUMETRIC MEASURE OF MEATS 11			
# SAMPLES	8														_____ nearest 50 ml			
MEASUREMENTS:	9	0	10	0	10 - 14	12	110 - 114											
Finfish, Squid - cm	1		1		1		1		1		1		1		15 - 19		115 - 119	
Shellfish - mm	2		2		2		2		2		2		2		20 - 24		120 - 124	
	3		3		3		3		3		3		3		25 - 29		125 - 129	
SEX CODES:	4		4		4		4		4		4		4		30 - 34		130 - 134	
0=Unknown	5		5		5		5		5		5		5		35 - 39		135 - 139	
1=Male	6		6		6		6		6		6		6		40 - 44		140 - 144	
2=Female	7		7		7		7		7		7		7		45 - 49		145 - 149	
	8		8		8		8		8		8		8		50 - 54		150 - 154	
AGE SAMPLE TYPE CODES:	9		9		9		9		9		9		9		55 - 59		155 - 159	
0=None	0		0		0		0		0		0		0		60 - 64		160 - 164	
1=Scales	1		1		1		1		1		1		1		65 - 69		165 - 169	
2=Otoliths	2		2		2		2		2		2		2		70 - 74		170 - 174	
3=Shells	3		3		3		3		3		3		3		75 - 79		175 - 179	
4=Whole	4		4		4		4		4		4		4		80 - 84		180 - 184	
5=Vertebra	5		5		5		5		5		5		5		85 - 89		185 - 189	
6=Dorsal Spines	6		6		6		6		6		6		6		90 - 94		190 - 194	
7=Scales & Otoliths	7		7		7		7		7		7		7		95 - 99		195 - 199	
8=Head	8		8		8		8		8		8		8		100 - 104		200 - 204	
9=Other	9		9		9		9		9		9		9		105 - 109		205 - 209	
COMMENTS																		

LENGTH FREQUENCY LOG
NMFS FISHERIES OBSERVER PROGRAM
OBLNH OBLND 01/01/10

OBS/TRIP ID	A74010-	
DATE LANDED mm/yy	01	/ 01
PAGE #	3	OF 3
HAUL #	005	DREDGE/NET POSITION port (1) ___ starboard (2) ___ both (0) ___ alt (4) ___

SPECIES NAME	Atlantic Cod			Haddock			Spiny Dogfish			Spiny Dogfish			Spiny Dogfish																												
SPECIES CODE																																									
FISH DISPOSITION CODE	100			100			100			100																															
SEX CODE	0			0			2			1																															
SAMPLE WEIGHT (R/A)	61			25			503			30			SAMPLE WEIGHT (D/A)																												
AGE SAMPLE TYPE CODE	2			2			0			0			VOLUMETRIC MEASURE OF MEATS																												
# SAMPLES	6			5									nearest 50 ml																												
MEASUREMENTS:	6	0		8	0		6	0	1		0			6	0		8	0	2		10	0	1		0			7	0		0			10	-	14		110	-	114	
Finfish, Squid - cm	1			1			1		1		1		1	1	1	1	1	1	1	1	1	2	1		1	2	1	15	-	19		115	-	119							
Shellfish - mm	2			2			2		2		2		2	2	4	2	2	3	2	2	2	3	2		2	3	2	20	-	24		120	-	124							
	3			3	1		3	1	3		3		3	3	9	3	3	1	3	3	3	1	3		3	1	3	25	-	29		125	-	129							
SEX CODES:	4			4			4	2	4		4		4	4	9	4	4		4	4	4		4		4		4	30	-	34		130	-	134							
0=Unknown	5			5			5	1	5		5		5	5	4	5	5		5	5	5		5		5		5	35	-	39		135	-	139							
1=Male	6	3		6			6		6		6		6	6	7	6	6		6	6	6		6		6		6	40	-	44		140	-	144							
2=Female	7			7			7		7		7		7	7	8	7	7		7	7	7		7		7		7	45	-	49		145	-	149							
	8	2		8			8		8		8	1	8	8	6	8	8		8	8	8		8		8		8	50	-	54		150	-	154							
AGE SAMPLE TYPE CODES:	9			9			9		9		9	1	9	9	6	9	9		9	9	9		9		9		9	55	-	59		155	-	159							
0=None	7	0	1	0			0		0		7	0	2	9	0	5	0		0	0	0		0		0		0	60	-	64		160	-	164							
1=Scales	1	1		1			1		1		1	1	1	1	4	1	1		1	1	1		1		1		1	65	-	69		165	-	169							
2=Otoliths	2	1		2			2		2		2		2	2		2	2		2	2	2		2		2		2	70	-	74		170	-	174							
3=Shells	3			3			3		3		3		3	3		3	3		3	3	3		3		3		3	75	-	79		175	-	179							
4=Whole	4			4			4		4		4		4	4	1	4	4		4	4	4		4		4		4	80	-	84		180	-	184							
5=Vertebra	5			5			5		5		5		5	5	1	5	5		5	5	5		5		5		5	85	-	89		185	-	189							
6=Dorsal Spines	6			6			6		6		6		6	6		6	6		6	6	6		6		6		6	90	-	94		190	-	194							
7=Scales & Otoliths	7			7			7		7		7		7	7	3	7	7		7	7	7		7		7		7	95	-	99		195	-	199							
8=Head	8			8			8		8		8	3	8	8		8	8		8	8	8		8		8		8	100	-	104		200	-	204							
9=Other	9			9			9		9		9	2	9	9		9	9		9	9	9		9		9		9	105	-	109		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 01/01/10**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	□ OF □
HAUL #	□ □ □
DREDGE/NET POSITION port (1) ___ starboard (2) ___ both (0) ___ aft (4) ___	

SPECIES NAME															
SPECIES CODE															
FISH DISPOSITION CODE															
SEX CODE															
SAMPLE WEIGHT (R/A)															SAMPLE WEIGHT (D/A)
AGE SAMPLE TYPE CODE															VOLUMETRIC MEASURE OF MEATS
# SAMPLES															_____ nearest 50 ml
MEASUREMENTS:	0	0	0	0	0	0	0	0	0	0	0	0	0	10 - 14	110 - 114
Finfish, Squid - cm	1	1	1	1	1	1	1	1	1	1	1	1	1	15 - 19	115 - 119
Shellfish - mm	2	2	2	2	2	2	2	2	2	2	2	2	2	20 - 24	120 - 124
	3	3	3	3	3	3	3	3	3	3	3	3	3	25 - 29	125 - 129
SEX CODES:	4	4	4	4	4	4	4	4	4	4	4	4	4	30 - 34	130 - 134
0=Unknown	5	5	5	5	5	5	5	5	5	5	5	5	5	35 - 39	135 - 139
1=Male	6	6	6	6	6	6	6	6	6	6	6	6	6	40 - 44	140 - 144
2=Female	7	7	7	7	7	7	7	7	7	7	7	7	7	45 - 49	145 - 149
	8	8	8	8	8	8	8	8	8	8	8	8	8	50 - 54	150 - 154
AGE SAMPLE TYPE CODES:	9	9	9	9	9	9	9	9	9	9	9	9	9	55 - 59	155 - 159
0=None	0	0	0	0	0	0	0	0	0	0	0	0	0	60 - 64	160 - 164
1=Scales	1	1	1	1	1	1	1	1	1	1	1	1	1	65 - 69	165 - 169
2=Otoliths	2	2	2	2	2	2	2	2	2	2	2	2	2	70 - 74	170 - 174
3=Shells	3	3	3	3	3	3	3	3	3	3	3	3	3	75 - 79	175 - 179
4=Whole	4	4	4	4	4	4	4	4	4	4	4	4	4	80 - 84	180 - 184
5=Vertebra	5	5	5	5	5	5	5	5	5	5	5	5	5	85 - 89	185 - 189
6=Dorsal Spines	6	6	6	6	6	6	6	6	6	6	6	6	6	90 - 94	190 - 194
7=Scales & Otoliths	7	7	7	7	7	7	7	7	7	7	7	7	7	95 - 99	195 - 199
8=Head	8	8	8	8	8	8	8	8	8	8	8	8	8	100 - 104	200 - 204
9=Other	9	9	9	9	9	9	9	9	9	9	9	9	9	105 - 109	205 - 209
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 10's or 100's of thousands of pounds, on a single haul. Due to the size of catches it is necessary to obtain subsamples from each haul in order to properly quantify the amount of fish caught. However, the method in which subsamples are collected is different from standard trips such as bottom otter trawl, gillnet and scallop dredge trips.

There are primarily two scenarios that are employed on midwater vessels for getting the fish onboard the vessels. One is to pump the fish onboard and the other is to haul the fish onboard into holding pens. The fish are then directed into fish holds and stored in running seawater tanks for transport back to port.

On vessels that are pumping fish onboard, subsamples must be collected prior to the fish entering the fish hold and should not have passed through any sorting device. 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. Observers must obtain samples from each of the chutes that lead to the fish holds on those vessels with multiple chutes.

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 the observer should make sure to collect samples each time fish are brought onboard.

Catch compositions (species name, weight and disposition) should be recorded for each basket along with the time at which each basket sample was collected. Weights for each species should be totaled for the ten baskets and extrapolated using the captain's catch estimation of the kept catch for the entire haul.

In between filling the basket subsamples, the observer should continue to observe the fish along the chutes and record any species other than the target species. If large individual fish are being hand picked from the catch (*i.e.*, dogfish, groundfish, lobster, etc.), those fish should be set aside for the observer to weigh and sample. The hand picked fish weights would be recorded on the Haul Log as a weight produced from a tally count or an actual weight. The species in the

subsample baskets would be extrapolated to the entire catch for that haul, and recorded on the Haul Log. The species in the basket subsamples should represent what is being pumped into the fish hold.

INSTRUCTIONS

For instructions on completing the Header fields A, B, C and E, refer to the Common Haul Log Data section of the manual.

1. ESTIMATED PUMPING TIME: Record, in minutes, the approximate amount of time it will take to pump the catch. This information should be obtained from the Captain. This value will aid in determining the time increments when obtaining a subsample.

2. BASKET NUMBER: Record the number assigned to a particular basket (*i.e.* subsample) of fish that is collected during the process of hauling fish onboard the vessel.

NOTE: A minimum of 10 basket samples should be collected.

NOTE: Basket samples should be evenly spaced out over the course of pumping the ENTIRE catch onboard the vessel.

3. TIME: Record the local time, using the 24 hour clock (0000-2359), at which each subsample is taken.

NOTE: Subsamples should be EVENLY spaced out throughout the pumping process to account for any stratification that may occur in the fishing net.

4. SPECIES NAME: Record the **complete** common name of the animals in the subsample baskets, as listed in Appendix A. Species Names. 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).

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 A. Species Names. 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: 0.0004

13. EXTRAPOLATED WEIGHT: Record in whole pounds the total estimated weight of each species by multiplying the proportion of total 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 ob-

tained, record the reason(s) in this section.

CATCH COMPOSITION LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCMP 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>
HAUL #	E <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

ESTIMATED PUMPING TIME 1 minutes

BASKET # 2 TIME 3 :

BASKET # _____ TIME _____ :

BASKET # _____ TIME _____ :

SPECIES	CODE	POUNDS (R/A)
<u>4</u>	<u>5</u>	<u>6</u> . _____
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		<u>7</u> . _____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____ :

BASKET # _____ TIME _____ :

BASKET # _____ TIME _____ :

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

COMMENTS

CATCH COMPOSITION LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCMP 01/01/10

OBS/TRIP ID	E99011-
DATE LANDED mm/yy	11 / 05
PAGE #	2 OF 3
HAUL #	003

ESTIMATED PUMPING TIME 45 minutes

BASKET # 1 TIME 22 : 30

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		65 . 0
Atlantic Mackerel		3 . 0
		. ____
		. ____
		. ____
SUBTOTAL		68 . 0

BASKET # 2 TIME 22 : 34

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		63 . 0
		. ____
		. ____
		. ____
SUBTOTAL		63 . 0

BASKET # 3 TIME 22 : 38

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		60 . 0
Atlantic Mackerel		7 . 0
Blueback Herring		4 . 0
		. ____
SUBTOTAL		71 . 0

BASKET # 4 TIME 22 : 42

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		73 . 0
Blueback Herring		1 . 0
		. ____
		. ____
SUBTOTAL		74 . 0

BASKET # 5 TIME 22 : 46

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		62 . 0
Atlantic Mackerel		8 . 0
		. ____
		. ____
SUBTOTAL		70 . 0

BASKET # 6 TIME 22 : 50

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		73 . 0
		. ____
		. ____
SUBTOTAL		73 . 0

COMMENTS

OBS/TRIP ID	E99011-
DATE LANDED mm/yy	11 / 05
PAGE #	3 OF 3
HAUL #	0 0 3

BASKET # 7 TIME 22 : 54

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		63 . 0
Silver Hake		0 . 5
Blueback Herring		3 . 0
		.
		.
SUBTOTAL		66 . 5

BASKET # 8 TIME 22 : 58

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		71 . 0
Atlantic Mackerel		5 . 0
		.
		.
SUBTOTAL		76 . 0

BASKET # 9 TIME 23 : 02

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		72 . 0
Silver Hake		2 . 0
		.
		.
SUBTOTAL		74 . 0

BASKET # 10 TIME 23 : 06

SPECIES	CODE	POUNDS (R/A)
Atlantic Herring		57 . 0
		.
		.
		.
		.
SUBTOTAL		57 . 0

SPECIES	POUNDS (R/A)	PROPORTION OF TOTAL BASKET WEIGHT (a/b)	EXTRAPOLATED WEIGHT (lbs) (c x d)
Atlantic Herring	(a) 659 . 0	(c) 0 . 9 5 1 6	190,320
Atlantic Mackerel	(a) 23 . 0	(c) 0 . 0 3 3 6	6,640
Blueback Herring	(a) 8 . 0	(c) 0 . 0 1 1 6	2,320
Silver Hake	(a) 2 . 5	(c) 0 . 0 0 3 6	720
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
	(a) .	(c) 0 .	
TOTAL	(b) 692 . 5	1	

(d) TOTAL WEIGHT OF PUMPED CATCH (Captain's Estimate) 200,000 lbs

CATCH ESTIMATION WORKSHEET

This worksheet contains detailed information about obtaining and recording catch weight information for sea life and/or debris taken by a scallop or trawl vessel. The worksheet also aids in the organization and illustration of observer's catch estimation methodology and work. The worksheet must be used for **every** haul to illustrate observer work or catch estimation methods. Actual weights are the observer's priority but may not always be possible to obtain. Critically important and managed species of Closed Areas and Special Area Programs have the highest priorities and the observer must take actual weights of these when possible. Therefore, if actual weights cannot be obtained this worksheet is used to organize catch estimation methods.

If actual weights are not possible, the observer should attempt a Tally or Basket/Tote Count. The observer should count the number of animals, baskets, or totes of a particular species and disposition code, then multiply by the average weight per animal, basket, or tote. 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.

As part of their required work, observers must first 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, the observer should measure the area of this pen before fishing operations begin. Standard measurements for some containers are given (1.47 ft³ for orange baskets and 2.65 ft³ for fish totes).

Once the catch is dumped on deck the observer should gauge the size of kept versus discards within the pile. Then if possible to facilitate catch management, the observer should first allow the crew to remove the kept catch. Working with the fishers to separate the catch to catch disposition will make catch estimation work easier. Next, the observer should judge the volume of discards. For example, if discard volume is large and many estimations are expected the observer

should estimate total catch weights through a subsample, and/or by using other catch estimation methods including taking actual weights (according to priority of species). Before sub-sampling the observer should try to remove few or manageable large and/or small sea life and debris and obtain actual weights. Taking as many actual weights as possible (before subsampling) will address priorities (actual weights), make subsampling easier (especially when removing larger species first) and reduce inflating weight estimations from choosing fish that occur at a low frequency too often. See Figure 1.

Because of stratification of sea life and debris, it is pertinent that a random and representative subsample of the pile is collected. The subsampling volume obtained should be $\geq 20\%$ of the total catch volume. Dividing the catch into a mental grid will facilitate random removal of subsampling material. The subsampling portion taken should come from the top, middle and bottom layers of the pile. To aid randomness, a shovel can be used to sort subsample materials into containers. The goal is to take many random small portions from numerous areas of the catch instead of large portions from few areas. Taking catch materials from few areas will skew weight estimates since the catch may stratify. Additionally, if a subsample is too small or not randomly picked, total weight estimates may result in being too large or small when visually compared to the catch, therefore not representing the catch composition accurately.

If the Tally or Basket/Tote Count methods are used then complete fields 4-7. If the Volume to Volume method is used then complete fields 4-12. Multiply the subsample weight by the sample weight multiplier to obtain the total estimated catch weight for the Haul Log. The weight recorded on the Haul Log is always an estimate.

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 E**).

DEFINITIONS

Area (ft²): The amount of space in a flat surface measured in square units. Record in square feet.

Basket or Tote Count (A x B + C): Estimates of catch can be calculated by basket or tote counts when the catch is separated by species into containers. [Note: Do not forget to tare or subtract the weight of container used to hold the catch.] To perform this method, take an average weight per container (A), multiply this average weight by the total number of containers filled to the same level (B) and add any container weight that may be different, i.e., 1/2 filled container (C).

Captain's Estimates: Sometimes due to safety concerns, weather conditions or large catch volumes, the total catch weights can be obtained from the captain. This method should **rarely** be used. Comments must be made as to why this method was chosen.

Catch Depth: The actual depth of the catch from which the observer intends to calculate a volume. If the catch is first sorted by catch disposition and/or if species and/or debris are removed in order to take actual weights before subsampling, the catch depth should be taken afterwards to obtain the actual depth in order to calculate an accurate volume. Record in 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. NEFOP standard flush volume of 2.65 ft³.

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. NEFOP standard flush volume of 1.47ft³.

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: Illustrates a comparative numeric proportion that is used to extrapolate total catch weights. Recorded to the hundredths.

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 ≥ 20% of the total catch size.

Subsampling Containers: Any container used to hold a subsample.

Tally: Stroke tally is a method where animals of similar size (i.e., dogfish) are accounted for by taking an average weight and multiplying by the total number of animals.

Total Subsample Volume: The total volume of the subsample. This number is obtained by multiplying the total number of subsampling containers collected by the flush volume of the container used (i.e., 10 orange baskets x 1.47ft³ flush). Record to the hundredths.

Volume (ft³): The amount of three dimensional space occupied by an object. Record in cubic feet.
Area (ft²) x Depth (ft) = Volume (ft³)

Volume to Volume: Uses a subsample from the catch, two comparative volumes, a sample weight multiplier and actual weights from sorted sea life and/or debris. Can be combined with actual weights or other catch estimation methods (i.e., basket or tote counts) to illustrate total catch weights and catch composition on a haul log.

Weighed (Actual): An actual weight taken of sea life and/or debris of a particular catch disposition and fish disposition code and catch disposition by NMFS issued scales.

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. Record in feet.

INSTRUCTIONS

For instructions on completing fields **A, B, and E** refer to the Common Haul Log Data section of the Northeast Fisheries Observer Program Manual.

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. HAUL NUMBERS WHERE DECKLOADING OCCURRED: Record the haul numbers in which the deckloading period took place.

3. ESTIMATION METHOD(S): Record the method used to estimate total catch weights of sea life and/or debris for this haul by placing an "X" next to the appropriate code:

- 01 = Weighed (Actual).
- 02 = Volume to Volume.
- 03 = Basket or Tote Count.
- 04 = Captain.
- 05 = Tally.
- 06 = Visually Estimated.
- 07 = Cumulative Sum Method.
- 98 = Combination, record all catch estimation methods on line 3A.
- 99 = Other, record the catch estimation method on line 3A. Illustrate why and how this method was used in the comment section of this worksheet.

NOTE: If the haul is unobserved but kept information is obtained from the Captain, then Captain (04), must be recorded as the Catch Estimation Method.

NOTE: Visual estimates 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. Comments must be provided when using this method.

TALLY/BASKET/TOTE COUNT METHOD

This section should be filled out when using the Tally or Basket/Tote Count methods. For more information on these methods, see the Catch Estimation Guidelines (Section A) in the NEFSC Biological Sampling Manual.

4. SPECIES: Record the name of the species being sampled. If the species has more than one catch disposition, record the disposition code as well.

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)

NOTE: If a different sampling unit is used (*i.e.*, milk crates) then record that in the comment section.

6. AVERAGE WEIGHT PER UNIT: Record the average weight of the sampling unit for this species/disposition. The average should be determined from actual weights from about 10 animals or 2-3 baskets or totes. Record in pounds.

7. NUMBER OF UNITS: Record the number of sampling units counted for this species/disposition. This should represent the total number of units observed in the catch.

NOTE: If a portion of catch for this species is actually weighed (*e.g.*, a partially full basket), record that weight in the comment section. Add the actual weight and the estimated weight together and record the total on the Haul Log as an estimated weight.

VOLUME TO VOLUME METHOD

This section should be filled out when using the Volume to Volume method. For more information on this method, see the Catch Estimation Guidelines (Section B) in the NEFSC Biological Sampling Manual.

8. CATCH SHAPE, MEASUREMENTS & VOLUME: Record the catch measurements for this

haul next to the appropriate shape. Record each measurement in feet and calculate the total catch volume as cubic feet. Round to the nearest tenths place. Use the appropriate equation to calculate the volume.

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.

NOTE: An observer 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.

9. DEPTHS: Record the individual depths measured from throughout the catch pile. The average depth should be recorded in the appropriate field in section 8.

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.

10. NUMBER OF SUBSAMPLING CONTAINERS USED: Record the number of subsampling containers used.

11. VOLUME OF ONE SUBSAMPLE CONTAINER: Record, to the nearest hundredths place in cubic feet (ft³), the volume of the subsampling con-

tainer used to organize the subsample by placing an "X" next to the appropriate container type.

Basket = 1.47 ft³

Tote = 2.65 ft³

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.

12. TOTAL SUBSAMPLE VOLUME: Calculate, to the nearest hundredths place in cubic feet (ft³), the subsample volume used for this haul.

13. SAMPLE WEIGHT MULTIPLIER: Calculate, to the nearest hundredths place, the sample weight multiplier used to estimate total catch weights.

14. PERCENT SUBSAMPLED: Calculate, to the nearest hundredths place, the percent of catch subsampled for this haul.

15. SPECIES: Record all species and/or debris of a particular disposition code within the subsample.

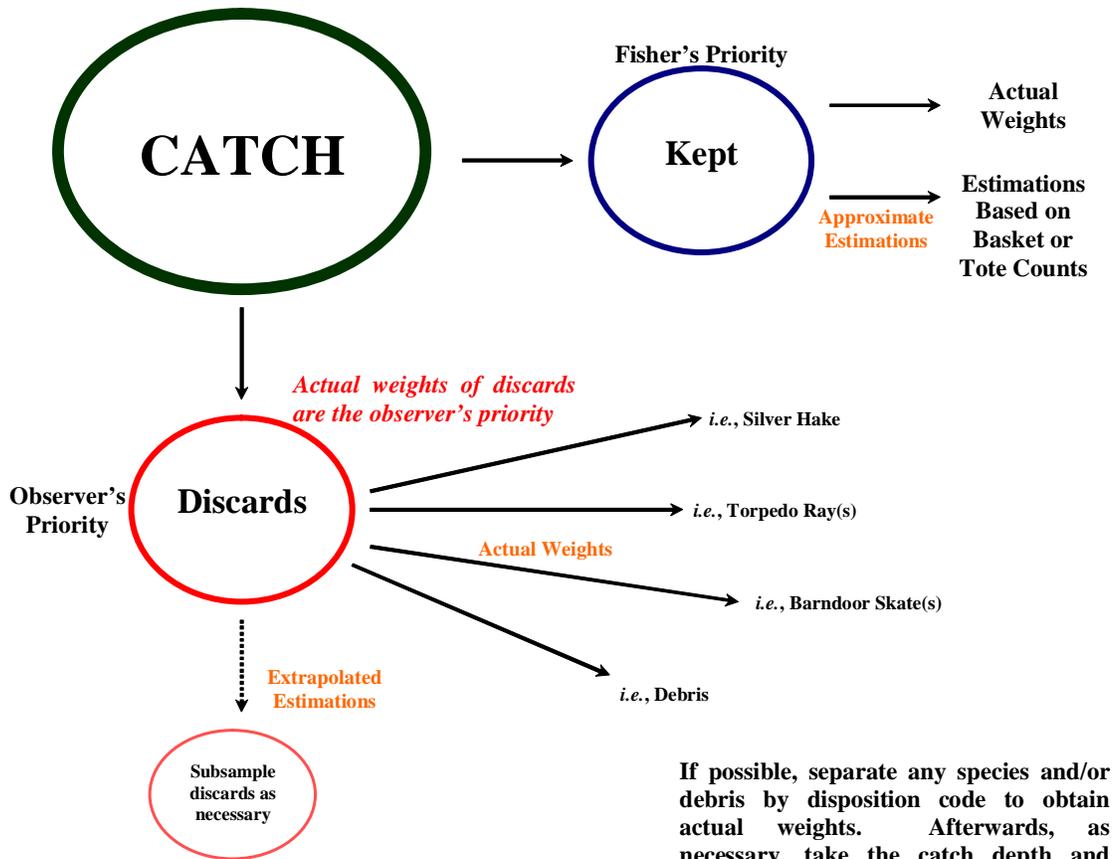
16. SUBSAMPLE WEIGHTS (LBS): Record the actual weight of each species or debris sorted from the subsample by disposition code.

NOTE: Remember to subtract or tare the container weight used to collect the subsample.

COMMENTS

Record any detailed additional information associated with this log (i.e., description of irregular shapes or other shapes, other catch estimation methods, safety concerns, or time constraints).

Round actual weights of the kept are the observer's priority, after discards



If or when actual weights cannot be obtained or other catch estimation methods cannot be used to obtain approximate estimations then extrapolate total catch weights by obtaining a random and representative subsample

If possible, separate any species and/or debris by disposition code to obtain actual weights. Afterwards, as necessary, take the catch depth and remove a subsample to estimate the remnants

Figure 1: Shows a schematic illustrating catch estimation and management.

Some other useful formulas:

- Area of a Triangle = Length x Width ÷ 2
- Volume of a Cylinder (e.g., bucket) = Depth x π x (Diameter ÷ 2)²
- Volume of a Rectangle (e.g., milk crate) = Depth x Length x Width

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
01/01/10

OBS/TRIP ID	A13012-
DATE LANDED mm/yy	06 / 10
HAUL #	8

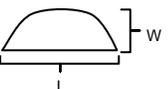
SORTING METHOD		ESTIMATION METHOD(S)	
Picked	1	<input checked="" type="checkbox"/>	Weighed (Actual) 01
Shoveled	2	<input type="checkbox"/>	Volume-to-Volume 02
Deckloaded	3	<input type="checkbox"/>	Basket or Tote Count 03
Conveyor System	4	<input type="checkbox"/>	Captain 04
Combination (comment)	8	<input type="checkbox"/>	Tally 05
Other (comment)	9	<input type="checkbox"/>	Visually Estimated 06
		<input type="checkbox"/>	Cumulative Sum 07
HAUL NUMBERS WHERE DECKLOADING OCCURRED		<input checked="" type="checkbox"/>	Combination (comment) 98
		<input type="checkbox"/>	Other (comment) 99

TALLY/BASKET/TOTE COUNTS			
Unit Types: B = basket, T = tote, I = individual (tally)			
Species:	Unit Type	Avg Weight/Unit	# of Units
Haddock (Kept)	B	71 lbs	9
Spiny Dogfish	I	7.0 lbs	60
		lbs	

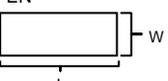
VOLUME TO VOLUME METHOD
VOLUME MEASUREMENTS

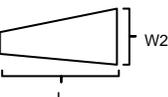
PILE ON DECK - as seen from above

Oval  $\text{Length} \times \text{Width} \times \text{Depth}^{**} \times \frac{3.14}{4} = \text{ft}^3$

Half-Oval  $\text{Length} \times \text{Width} \times \text{Depth}^{**} \times \frac{3.14}{4} = \text{ft}^3$

CHECKER PEN

Rectangle  $7.0 \text{ ft} \times 4.5 \text{ ft} \times 1.2 \text{ ft} = 37.80 \text{ ft}^3$

Trapezoid  $\text{Length} \times \left(\frac{\text{Width1} + \text{Width2}}{2} \right) \times \text{Depth}^{**} = \text{ft}^3$

OTHER SHAPE or COMBINATION - draw and show all dimensions below Volume = ft^3

**10 random depths from throughout pile: (Pile on deck: include one depth of 0.0ft)

1.3 ft	1.4 ft	1.6 ft	1.5 ft	1.6 ft	1.2 ft	1.0 ft	0.8 ft	0.7 ft	0.9 ft
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

A) # of Subsampling Containers Used	B) Volume of One Container Basket <input checked="" type="checkbox"/> 1.47 ft ³ Tote ___ 2.65 ft ³ Other: ___ ft ³	C) Total Subsample Volume (A x B) 17.64 ft ³	D) Sample Weight Multiplier (Tot. Vol / C) 2.14	E) Percent Subsampled (C / Tot. Vol) x 100 46.67 %
-------------------------------------	--	---	---	--

COMMENTS

Took actual weights of Yellowtail Flid, discarded Haddock, discarded Atl Cod, Barndoor Skates, Silver Hake, Lumpfish, and Longhorn Sculpin.

Average basket weight of haddock: (70 + 71 + 72) / 3 = 71 lbs
Total haddock weight = 9 x 71 = 639 + 30 lbs (actually weighed) = 669 lbs

Average weight of dogfish: (6 + 6 + 7 + 6.5 + 7 + 7 + 8.5 + 8 + 8 + 7 + 5 + 8) / 12 = 7 lbs

SPECIES	SUBSAMP WGT (lbs)
Skate, Little	400
Skate, Thorny	82
Skate, Winter	164
Ocean Pout	75
Crab, Jonah	45
Am. Lobster	38
Shells, NK	20
Atl Mackerel	31
Atl Herring	49

DISCARD LOG

This log has been designed to systematically capture discarding events and the associated data describing the event. This log should be used for all hauls in which pumping occurs, regardless of target species or gear type observed. Generally, these are high-volume fisheries in which discarding information is critical to collect. This log should be completed in addition to the Haul Log for each particular gear type. Be familiar with the following definition:

DEFINITIONS

Operational Discards: Fish that cannot be suctioned by the pump, and remain in the net at completion of pumping.

FISH PUMPING

For vessels that are pumping fish onboard, subsamples must be collected prior to the fish entering the fish hold. 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. Observers must obtain samples from each of the chutes that lead to the fish holds on those vessels with multiple chutes. Please review the Catch Composition Log protocols for details on sampling.

The observer should notify the Captain that the codend needs to be viewed by the observer regardless of whether it is brought onboard the vessel or not. This will allow the observer the opportunity to comment on species remaining in the codend at the end of the pumping process and to observe for the presence of any marine mammals that have been entangled or caught in the gear.

DISCARD AT COMPLETION OF PUMPING:

At the completion of the pumping process occasionally there may be some catch left in the net. This catch is generally referred to as operational discards. Observers should be documenting the weight of this discard by species, as accurately as possible. Record this

weight on the species section of the Haul Log as "Fish, nk" if accurate speciation of the catch is not possible. If the catch is identified the observer must document methods for identifying the fish to species (see question #10).

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 or pump or gear related problems.

Any catch that is discarded, regardless of the weight or reason, must be recorded in the species section of the Haul Log as "Fish, nk" if the observer cannot accurately speciate the catch. If the catch is identified, the observer must document methods for identifying the fish to species.

INSTRUCTIONS

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

1. GEAR NUMBER: Record the gear number used for this haul as uniquely identified on the associated Haul Log(s).

2. 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.

3. SEE CONTENTS OF CODEND?: Record whether you saw the contents of the codend when the pumping process was completed by placing an "X" next to the appropriate code:

- 0 = No (possibly redeploying or released).
- 1 = Yes, contents seen on deck.
- 2 = Yes, contents seen in water.

NOTE: Check "Yes" (code 1 or 2) if partial or full contents were seen.

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?).

4. REASON CATCH DISCARDED?: Record the reason why the catch was discarded on this haul by placing an "X" in the box of all reason(s) that apply:

- 0 = Unknown.
- 1 = Non-desired species.
- 2 = Gear problems (*i.e.*, clogged pump).
- 3 = Vessel capacity filled.
- 4 = Quality of fish (feedy, spawning).
- 5 = Operational discards (leftover after pumping).
- 6 = Not enough fish to pump.
- 9 = Other, specify in COMMENTS.

NOTE: Check off all that apply.

5. 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).

6. 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.

7. OBSERVER ONBOARD OTHER VESSEL?: Record whether an observer was onboard the vessel that received catch by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

NOTE: If yes, include the TRIPID and HAUL NUMBER.

8. DISCARD EVENT: Record what the discard event was by placing an "X" in the box of all reasons that apply: This information should be obtained from the Captain.

- 1 = Discards left in net at completion of pumping (operational discards).
- 2 = Tow was partially discarded (released).

3 = Tow was fully discarded (released).

4 = Discarded catch after pumping onboard.

Example: Dogfish that are pumped onboard and hand tossed overboard.

9 = Other, specify in COMMENTS.

NOTE: Partial release would be for fish not pumped or brought onboard.

9. CATCH PUMPED ONBOARD?: If the catch was unable to be pumped then provide a reason in the COMMENT section, otherwise leave this field blank.

10. CATCH COMPOSITION OF DISCARDED CATCH: Describe the catch composition of the discarded catch and how those determinations were made. Discards should be recorded as "Fish, nk" on the Haul Log, however, it is still important for observers to document what they saw discarded and to record on the Haul Log any discards that can be properly identified and estimated.

11. 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 and/or gear related issues.

DISCARD LOG
NMFS FISHERIES OBSERVER PROGRAM
01/01/10

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

GEAR CODE D [][]	GEAR # 1 [][]	HAUL # E [][]	Why was the catch discarded on this haul? (CHECK ALL THAT APPLY) 4	Who estimated the weight of the discarded catch? 5	Was there an observer onboard the other vessel? If yes, provide the Tripid and Haul Number. 7	Check off the discard event. (CHECK ALL THAT APPLY) 8	If catch was unable to be pumped then describe reason here: 9
Were there discards for this tow? 2 ___ No (0) ___ Yes (1)	When the pumping process was complete were you able to see the contents of the codend? 3 ___ No (0) ___ Yes, contents seen on deck (1) ___ Yes, contents seen in water (2)	<input type="checkbox"/> Unknown (0) <input type="checkbox"/> Non-desired species (1) <input type="checkbox"/> Gear problems (including pumping) (2) <input type="checkbox"/> Vessel capacity filled (3) <input type="checkbox"/> Quality of fish (4) <input type="checkbox"/> Operational discards (5) (leftover fish) <input type="checkbox"/> Not enough fish to pump (6) <input type="checkbox"/> Other (9) (comment)	___ Observer (1) ___ Captain (2) ___ Combination (8) Was any of the catch pumped to another vessel? 6 ___ No (0) ___ Yes (1)	___ No (0) ___ Yes (1) TRIPID: _____ HAUL #: _____	<input type="checkbox"/> Discards left in net at completion of pumping (1) (operational discards) <input type="checkbox"/> Tow was partially discarded (released) (2) <input type="checkbox"/> Tow was fully discarded (released) (3) <input type="checkbox"/> Discarded after pumping onboard (4) <input type="checkbox"/> Other (9) (comment)	Comments: _____ _____ _____ _____ _____ _____ _____ _____ _____	
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 11			

DISCARD LOG
NMFS FISHERIES OBSERVER PROGRAM
01/01/10

OBS/ TRIP ID	A04029-
DATE LAND (mm/yy)	10 / 09
PAGE #	2 OF 4

GEAR CODE <table border="1"><tr><td>1</td><td>7</td><td>0</td></tr></table>	1	7	0	GEAR # <table border="1"><tr><td>0</td><td>1</td></tr></table>	0	1	HAUL # <table border="1"><tr><td>0</td><td>0</td><td>1</td></tr></table>	0	0	1	Why was the catch discarded on this haul? (CHECK ALL THAT APPLY) <input type="checkbox"/> Unknown (0) <input checked="" type="checkbox"/> Non-desired species (1) <input type="checkbox"/> Gear problems (including pumping) (2) <input type="checkbox"/> Vessel capacity filled (3) <input type="checkbox"/> Quality of fish (4) <input type="checkbox"/> Operational discards (5) (leftover fish) <input type="checkbox"/> Not enough fish to pump (6) <input type="checkbox"/> Other (9) (comment)	Who estimated the weight of the discarded catch? <input checked="" type="checkbox"/> Observer (1) <input type="checkbox"/> Captain (2) <input type="checkbox"/> Combination (8)	Was there an observer onboard the other vessel? If yes, provide the Tripid and Haul Number. <input checked="" type="checkbox"/> No (0) <input type="checkbox"/> Yes (1) TRIPID: _____ HAUL #: _____	Check off the discard event. (CHECK ALL THAT APPLY) <input type="checkbox"/> Discards left in net at completion of pumping (1) (operational discards) <input type="checkbox"/> Tow was partially discarded (released) (2) <input checked="" type="checkbox"/> Tow was fully discarded (released) (3) <input type="checkbox"/> Discarded after pumping onboard (4) <input type="checkbox"/> Other (9) (comment)	If catch was unable to be pumped then describe reason here: Comments: Not enough catch to pump. Catch was released on deck and sampled. 100% of the catch was discarded.
1	7	0													
0	1														
0	0	1													
Were there discards for this tow? <input type="checkbox"/> No (0) <input checked="" type="checkbox"/> Yes (1)	When the pumping process was complete were you able to see the contents of the codend? <input type="checkbox"/> No (0) <input checked="" type="checkbox"/> Yes, contents seen on deck (1) <input type="checkbox"/> Yes, contents seen in water (2)	Was any of the catch pumped to another vessel? <input checked="" type="checkbox"/> No (0) <input type="checkbox"/> Yes (1)	CATCH COMPOSITION OF DISCARDED CATCH: Describe the catch composition of the discarded catch and how those determinations were made The catch was not pumped - was released on deck. Four baskets of catch subsampled (see Catch Composition Log). Estimated the catch to be about 1000 lbs.		CHALLENGES OBSERVING THIS HAUL: Describe any challenges that occurred with observing this haul Unable to measure catch pile or depth when catch dumped on deck - and the rest spread all over the deck. Catch was estimated by observer.										

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 crabs in the priority order listed in Tables 1a-h. 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**, **E**, **R** and **S**, 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".

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. Use calipers for these measurements. See Appendix O. Vernier Caliper Instructions for further information.

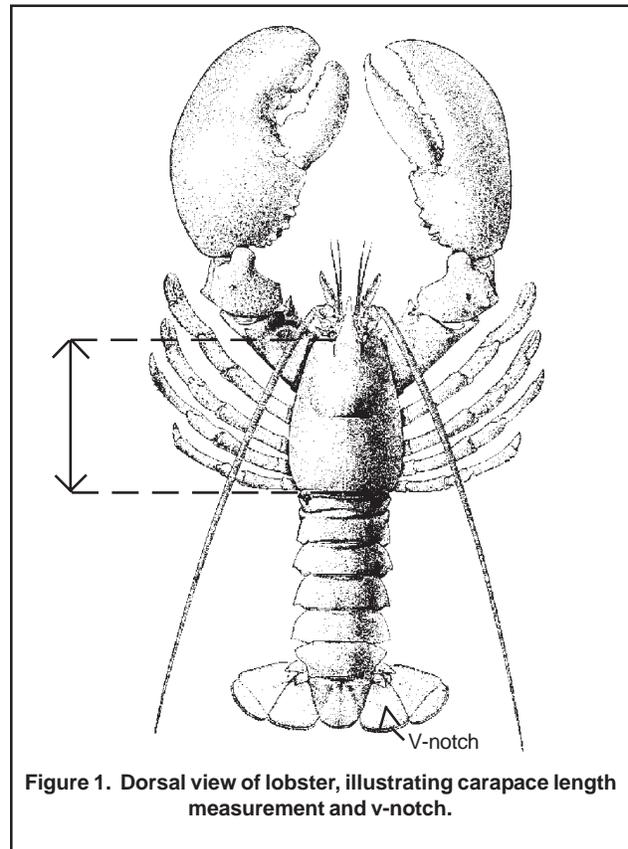
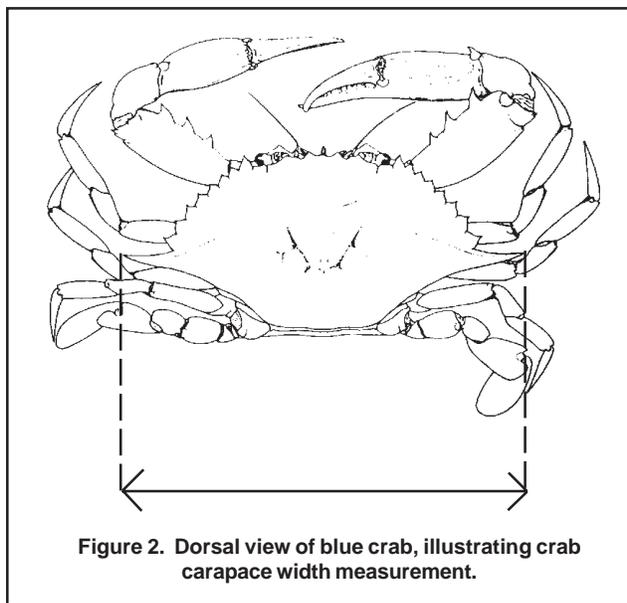


Figure 1. Dorsal view of lobster, illustrating carapace length measurement and v-notch.



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.)
- 3 = Yes, new. (Clean edges with distinctive V shape.)

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.

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.)
- 2 = Paper. (Crinkles under lateral pressure.)
- 3 = Hard. (Withstands lateral pressure.)
- 4 = Splitter. (Stage just before molt. Shell is hard and split.) - splits 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 with no shell.

COMMENTS

Record information regarding this sample or your sampling methods (*i.e.* 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 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>
HAUL #	E <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

SPECIES								ANIMALS CAUGHT							SHELL DISEASE
NAME				CODE	NUMBER				A / E	PERCENTAGE					
R				S	1				2	3					
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	#
LENGTH- LOBSTER	WIDTH- CRAB	(K / D)				C L A W	LENGTH- LOBSTER	WIDTH- CRAB	(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							
8								33							
9								34							
10								35							
11								36							
12								37							
13								38							
14								39							
15								40							
16								41							
17								42							
18								43							
19								44							
20								45							
21								46							
22								47							
23								48							
24								49							
25								50							

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

CRUSTACEAN SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCRU 01/01/10

OBS/TRIP ID	B72036-
DATE LANDED mm/yy	01 / 01
PAGE #	3 OF 4
HAUL #	044

SPECIES								ANIMALS CAUGHT							SHELL DISEASE
NAME				CODE	NUMBER			A / E	PERCENTAGE						
American Lobster					33			A	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	# 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		
LENGTH- LOBSTER WIDTH- CRAB							LENGTH- LOBSTER WIDTH- CRAB								
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
8	122	K	1	1	1	3	2	33	132	D	2	2	1	3	2
9	118	K	2	1	1	3	2	34							
10	100	K	1	1	1	3	2	35							
11	132	K	2	1	1	3	2	36							
12	148	K	2	1	1	3	2	37							
13	134	K	1	1	1	3	2	38							
14	101	D	2	2	1	3	2	39							
15	102	K	2	1	1	3	2	40							
16	116	K	2	1	1	3	2	41							
17	108	K	2	1	1	3	2	42							
18	105	K	1	1	1	3	2	43							
19	103	K	2	1	1	3	2	44							
20	123	K	2	1	1	3	2	45							
21	138	K	1	1	1	3	2	46							
22	99	K	1	1	1	3	2	47							
23	116	K	1	1	1	3	1	48							
24	107	K	1	1	1	3	2	49							
25	108	D	2	2	1	3	2	50							

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

About 10% of the lobster had a brown, spotting shell disease. Females w/eggs were discarded.

CRUSTACEAN SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCRU 01/01/10

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 (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	#	
LENGTH- LOBSTER WIDTH- CRAB						C L A W	LENGTH- LOBSTER WIDTH- CRAB						C L A W	
1							26							
2							27							
3							28							
4							29							
5							30							
6							31							
7							32							SEX CODES:
8							33							0= Unknown
9							34							1=Male
10							35							2=Female
11							36							EGG CODES:
12							37							0=Unknown
13							38							1=No
14							39							2=Yes
15							40							V-NOTCH CODES:
16							41							0=Unknown
17							42							1=No
18							43							2=Yes, old
19							44							3=Yes, new
20							45							MOLT CODES:
21							46							0=Unknown
22							47							1=Soft
23							48							2=Paper
24							49							3=Hard
25							50							4=Splitter
COMMENTS														

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. For more detailed instructions on incidental take sample collection, refer to the Marine Mammal Incidental Take and Biological Sampling Guidelines section of the NEFSC Observer Program Training Manual.

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 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 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, *i.e.* baleen whale, unidentified dolphin, seal *etc.*
DO NOT GUESS AT SPECIES IDENTIFICATION.

3. SEX: Indicate the sex of the marine mammal by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Male.
- 2 = Female.

4. BODY TEMPERATURE: Record, to the nearest tenth of a degree Fahrenheit, the 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 D 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.

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.

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 the right side, *i.e.* **measurements taken on the left side**. The body measurements are diagramed and specified in Figures 1-3. 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:

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. 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.

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.

PINNIPED: No measurements taken; record a dash (-) in this field.

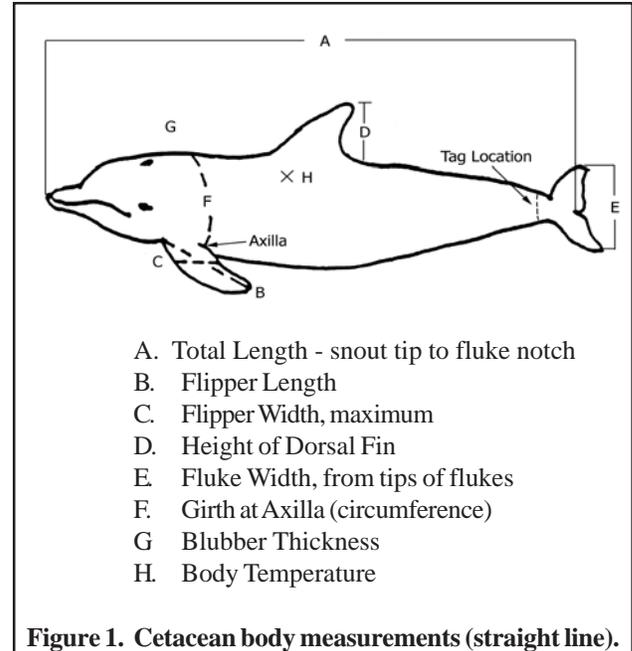


Figure 1. Cetacean body measurements (straight line).

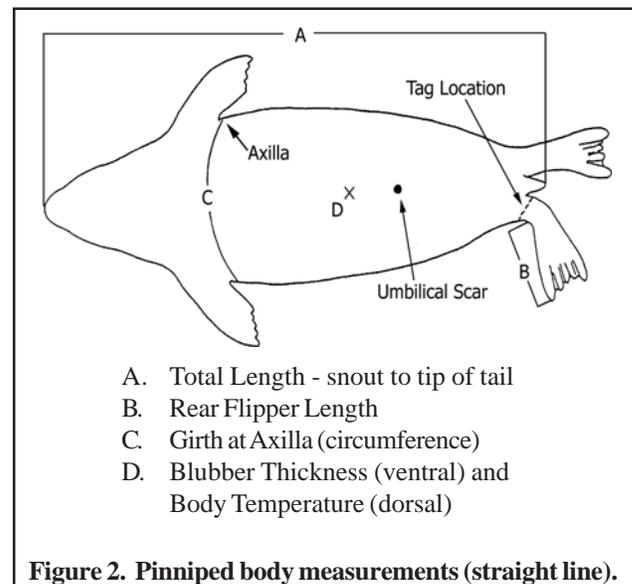


Figure 2. Pinniped body measurements (straight line).

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

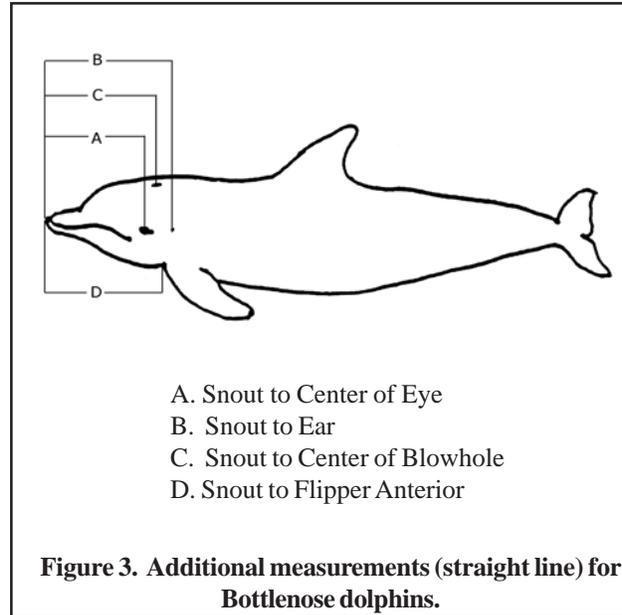
20. OTHER: Record the number of additional samples collected.

NOTE: If any additional sample(s) is (are) collected from this animal, 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**. All measurements are **straight**, made parallel to longitudinal body axis. See Figure 3.

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 (i.e. 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 (i.e. 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.

MARINE MAMMAL BIOLOGICAL SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBMM 01/01/10

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

PSID#	SPECIES NAME	SEX 0=U 1=M 2=F	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY			NUMBER OF SAMPLES TAKEN								
			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	Other list in comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

General Comments:

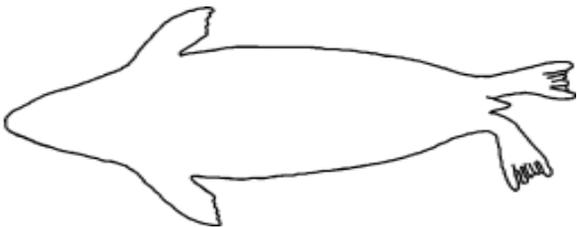
BOTTLENOSE DOLPHIN
 PSID # _____
 A. Snout-eye (cm) _____
 B. Snout-ear (cm) _____
 C. Snout-blow (cm) _____
 D. Snout-flip (cm) _____

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# _____



Circle one: Left / Right



Circle one: Dorsal / Ventral

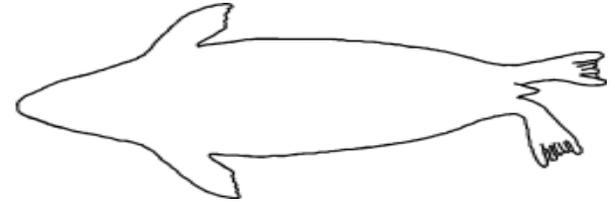
OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

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



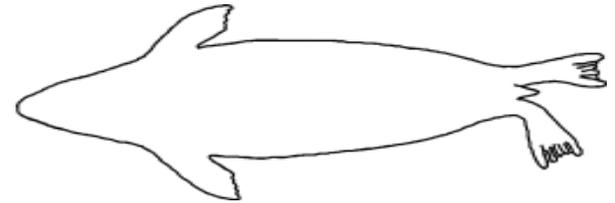
Circle one: Dorsal / Ventral

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



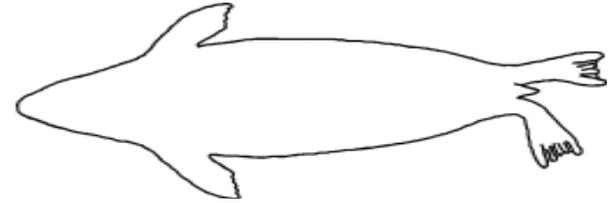
Circle one: Dorsal / Ventral

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



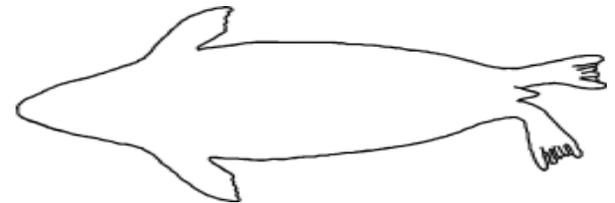
Circle one: Dorsal / Ventral

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

MARINE MAMMAL BIOLOGICAL SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBMM 01/01/10

OBS/TRIP ID	A81025C	
DATE LANDED mm/yy	01	/ 01
PAGE #	1	OF 2

PSID#	SPECIES NAME	SEX 0=U 1=M 2=F	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY			NUMBER OF SAMPLES TAKEN								
			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	Other list in comments
01	Harbor Porpoise	2	87.6	3.5	123	84	19	8	10	30	1	1	0	0	0	0	0	0	0
04	Harbor Seal	1	46.7	2.1	111	77	27	---	---	---	0	0	1	1	1	1	0	0	0
05	Bottlenose Dolphin	2	75.8	2.6	202	116	32	16	19	50	0	1	1	1	1	1	1	0	3

General Comments:

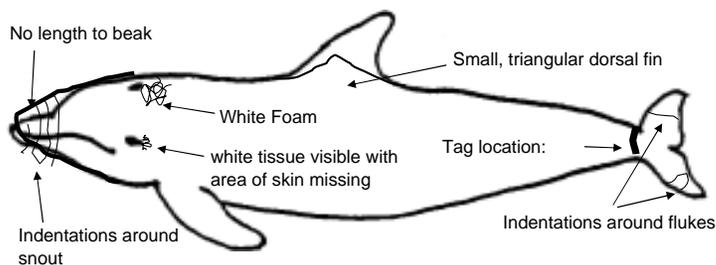
PSID05- Other samples = fetus, heart, and liver

BOTTLENOSE DOLPHIN	
PSID #	<u>05</u>
A. Snout-eye (cm)	<u>30</u>
B. Snout-ear (cm)	<u>34</u>
C. Snout-blow (cm)	<u>32</u>
D. Snout-flip (cm)	<u>48</u>
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# 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



Circle one: Left Right



Circle one: Dorsal Ventral

OBS/TRIP ID	A81025C	
DATE LANDED mm/yy	01	/ 01
PAGE #	2	OF 2

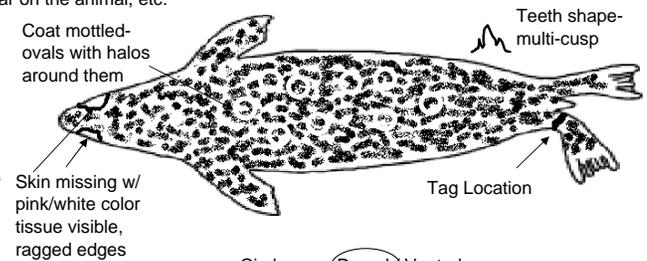
Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

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



Circle one: Left / Right



Circle one: (Dorsal) / Ventral

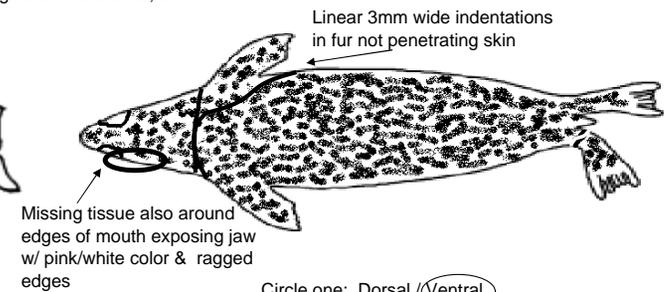
Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # 04

Skin tissue around R jaw missing and exposing pink/white undertissue with ragged edges= 8cm x 4cm x 1 cm depth; bone not visible



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 # 05

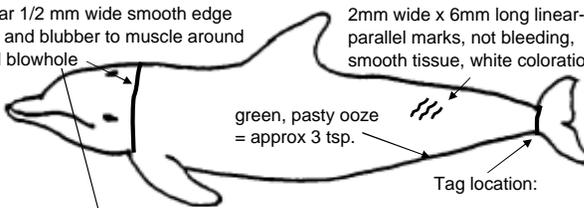
Cut around entire head behind blowhole; 3 linear marks on L peduncle; no other visible damage or wounds on L side of body; green pasty substance oozing from anal slit

Uniform linear 1/2 mm wide smooth edge cut thru skin and blubber to muscle around head behind blowhole

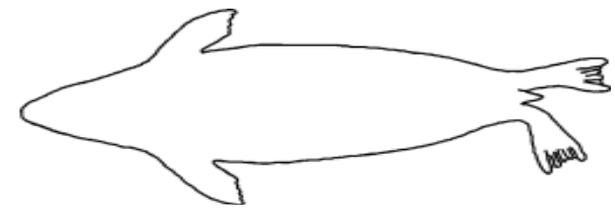
2mm wide x 6mm long linear-parallel marks, not bleeding, smooth tissue, white coloration

green, pasty ooze = approx 3 tsp.

Tag location:



Circle one: Left / (Right)

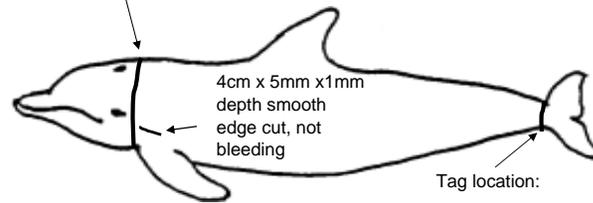


Circle one: Dorsal / Ventral

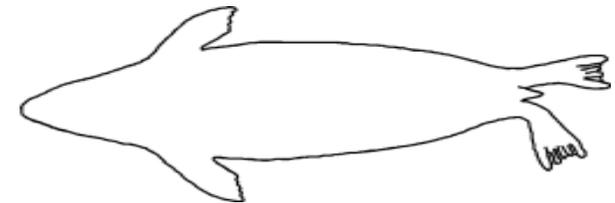
Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # 05

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



Circle one: Left / (Right)



Circle one: Dorsal / Ventral

MARINE MAMMAL BIOLOGICAL SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBMM 01/01/10

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

PSID#	SPECIES NAME	SEX 0=U 1=M 2=F	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY			NUMBER OF SAMPLES TAKEN								
			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	Other list in comments

General Comments:

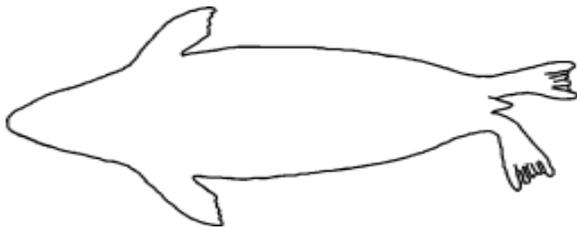
BOTTLENOSE DOLPHIN
 PSID # _____
 A. Snout-eye (cm) _____
 B. Snout-ear (cm) _____
 C. Snout-blow (cm) _____
 D. Snout-flip (cm) _____

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

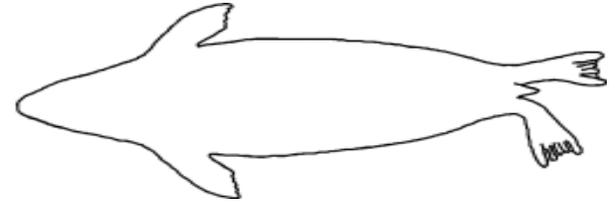
OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

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



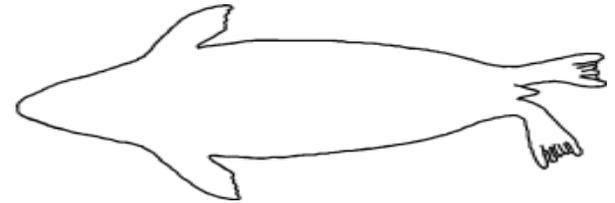
Circle one: Dorsal / Ventral

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



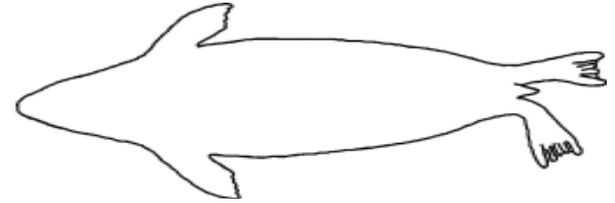
Circle one: Dorsal / Ventral

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



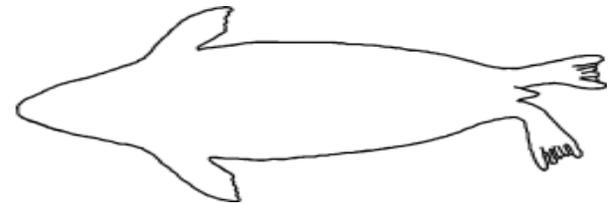
Circle one: Dorsal / Ventral

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

SEA TURTLE BIOLOGICAL SAMPLE LOG

The purpose of this log is to record body measurements, scute counts and biological samples taken from all incidentally taken sea turtles. 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 [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 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. 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

Measurements are taken to the nearest **tenth** of a centimeter, over the curvature of the carapace (curvilinear), using a tape. If epibiota 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 nuchal notch to the posterior marginal **tip**. See Figure 1.

6. NOTCH TO NOTCH LENGTH: Record the curvilinear length measurement of the carapace from the nuchal notch to the posterior marginal **notch**. See Figure 1.

7. WIDTH: Record the curvilinear width measurement of the carapace across the widest part of the shell. See Figure 1.

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 2.

9. LATERAL SCUTE COUNT: Record the number of lateral 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 2.

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 2.

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 2.

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.

SAMPLES

For the following fields, record the **total number** of samples taken. If a sample is not taken, or if the sea turtle is retained whole, record a "0" (zero).

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.

16. OTHER: Record the number of additional samples collected.

NOTE: If any additional sample(s) is (are) collected from this sea turtle, record which ones in COMMENTS.

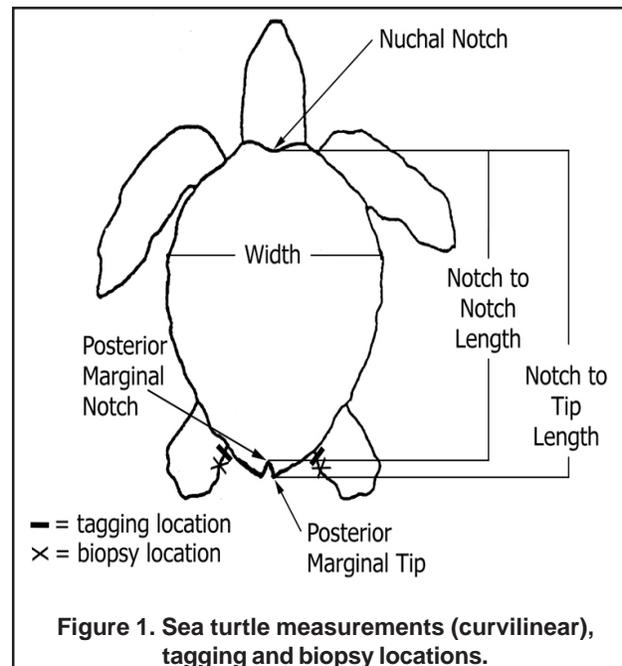


Figure 1. Sea turtle measurements (curvilinear), tagging and biopsy locations.

COMMENTS

Animal specific:

For **each animal**, document how much of the animal was examined (i.e. 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). Also record the amount and location of gear remaining on the animal, and the time required for resuscitation. Reference each description with the animal's unique PSID # (#1).

General:

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.

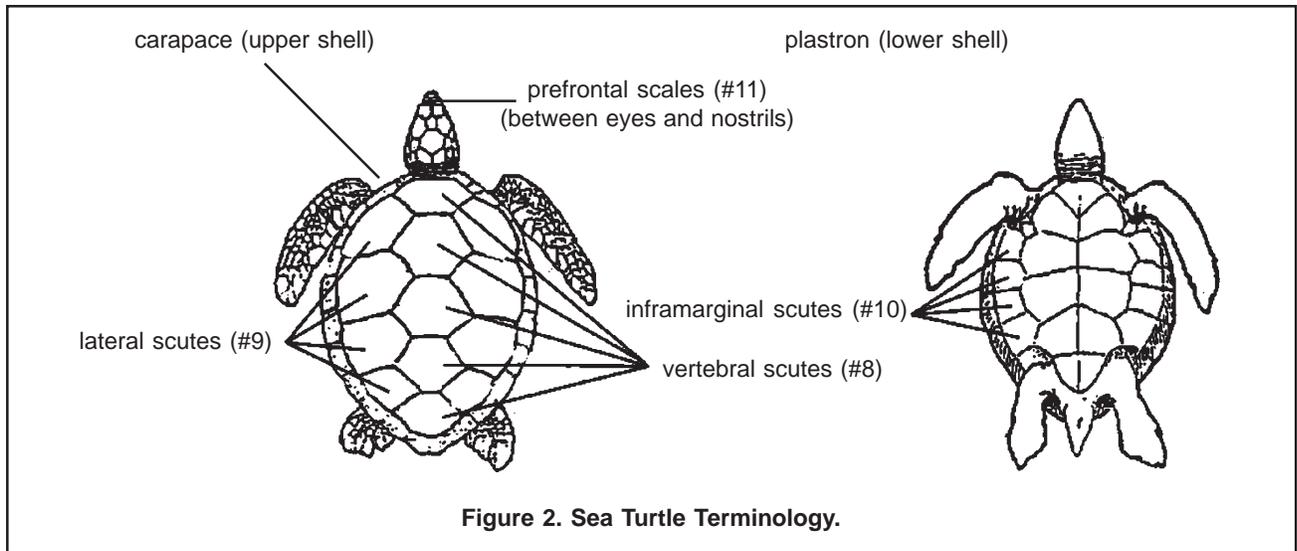


Figure 2. Sea Turtle Terminology.

**SEA TURTLE BIOLOGICAL SAMPLE LOG
 NMFS FISHERIES OBSERVER PROGRAM
 OBBTU 01/01/10**

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

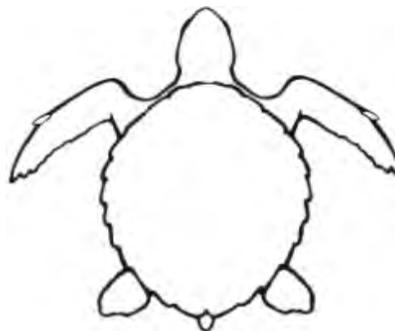
PSID #	SPECIES NAME	TAGS		MEASUREMENTS (Curv)			IDENTIFICATION CRITERIA						NUMBER OF SAMPLES		
		Scan? 0=N 1=Y	Pit Tag Number	Notch-to- Tip Length cm	Notch-to- Notch Length cm	Width cm	Vertebral Scute Count	Lateral (Costal) Scute Count	Infra- marginal Scute Count	1 Pair Pre- frontals? 0=N,1=Y	Overlap Scutes? 0=N,1=Y	Dorsal Color Code	Whole? 0=N,1=Y	Biopsy/ Skin	Other list in comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				.	.	.									
				.	.	.									
				.	.	.									
				.	.	.									

General Comments

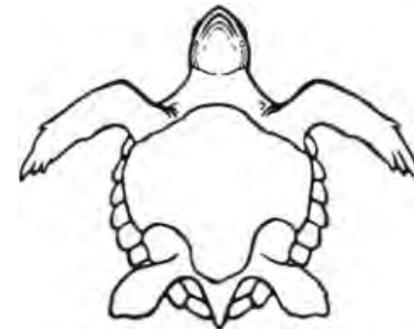
DORSAL COLOR CODES:
 01 = Black
 02 = Gray-Green
 03 = Orange/Red-Brown
 04 = Brown
 99 = Other
 00 = Unknown

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



Dorsal View

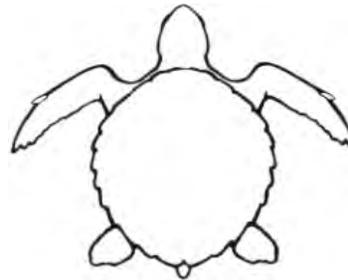


Ventral View

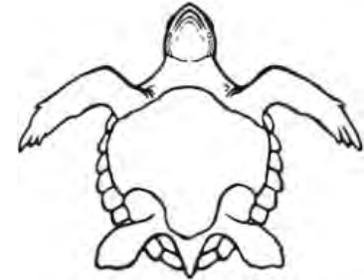
OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C <input type="checkbox"/> OF <input type="checkbox"/>

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



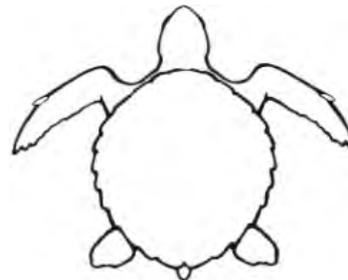
Dorsal View



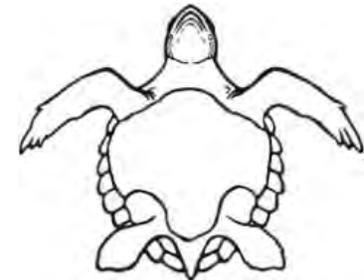
Ventral View

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



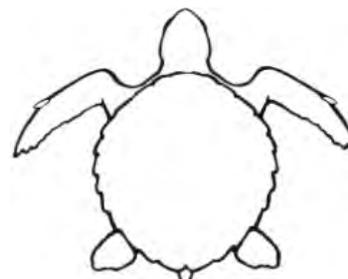
Dorsal View



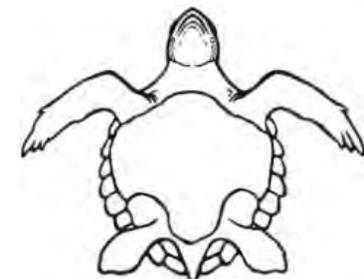
Ventral View

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



Dorsal View



Ventral View

**SEA TURTLE BIOLOGICAL SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBTU 01/01/10**

OBS/TRIP ID	A74021-	
DATE LANDED mm/yy	01	/ 01
PAGE #	1	OF 2

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 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	Dorsal Color Code	Whole? 0=N,1=Y	Biopsy/ Skin	Other list in comments
03	Kemps Ridley Turtle	1	----	33.1	32.2	27.5	5	5	4	0	0	02	1	2	0
05	Loggerhead Turtle	0	----	61.3	60.8	58.1	5	5	3	0	0	03	0	0	0
06	Green Turtle	1	----	38.5	38.1	33.2	5	4	4	1	0	04	0	2	0

General Comments

Comments on initial sighting, release, and behavior of all animals can be found on Inc. Take Log.

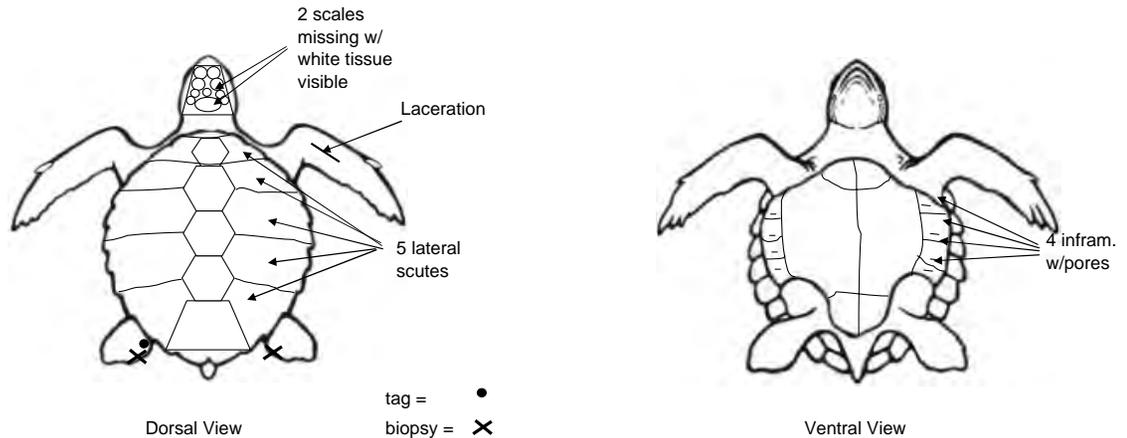
DORSAL COLOR CODES:

- 01 = Black
- 02 = Gray-Green
- 03 = Orange/Red-Brown
- 04 = Brown
- 99 = Other
- 00 = Unknown

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# 03

Pores on inframarginal scutes. Cut on R foreflipper w/ smooth edges (5cm long X 1cm deep) actively bleeding like slow trickle. Body limp and non-responsive when tagged and biopsied. Put on a board at angle w/end 6in height - 24 hrs for resuscitation. No movement observed when flipper tugged for reflex or moved after 24 hrs. Body still limp. No fluid visible draining from nose or mouth during resuscitation. Rear flippers & neck w/ no cuts or visible damage. No bloating of tissues. 2 scales on top of head missing with white tissue visible-not bleeding. No cracks seen in carapace or plastron.



OBS/TRIP ID	A74021-	
DATE LANDED mm/yy	01	/ 01
PAGE #	2	OF 2

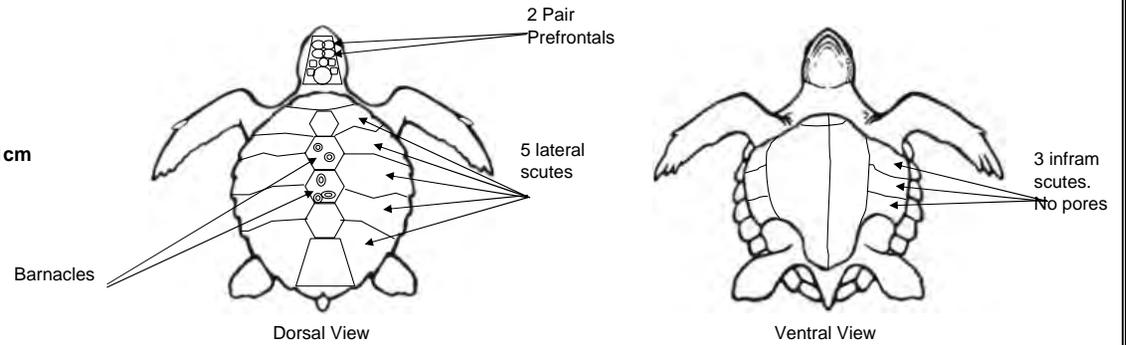
Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# 05

No damage to tissue seen on soft tissues. Barnacles approx. 2 cm in diameter on 2nd & 3rd vertebral scutes; No visible cracks or chips to carapace. Plastron had 1cm diameter areas of raised, pink tissue along center ridge.

Weather was too rough to safely complete tagging and biopsies (see Haul Log for conditions).

Released immediately (see Inc. Take log for details)

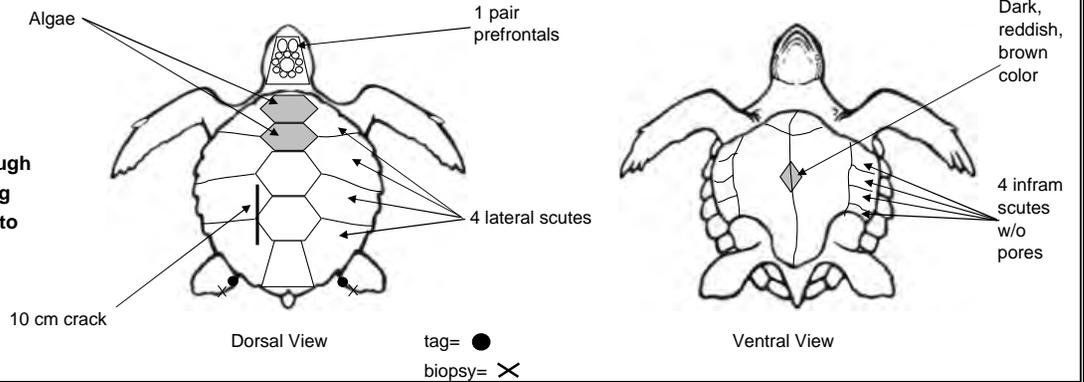


Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# 06

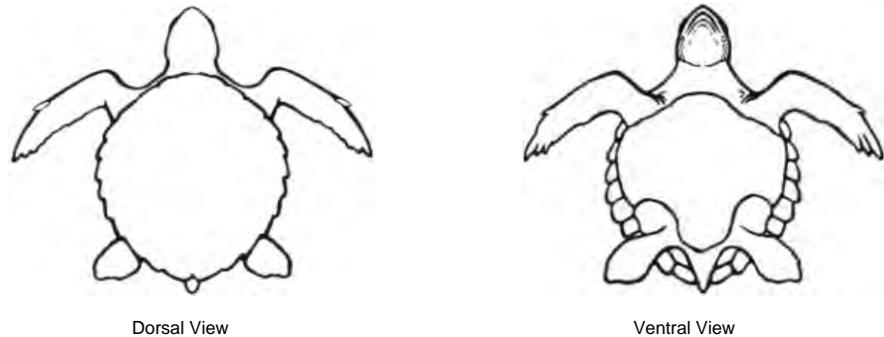
Carapace had a 10cm long x 1 cm wide x crack that went through lateral scutes 4 & 5. Organs visible through crack. Vertebral scutes 1 & 2 covered with green algae.

Plastron has 4cm diameter round area of indented tissue- brownish coloration and rough texture. Forelimbs had one claw each. Appeared very lethargic and was barely moving limbs. Put on large board raised 6 in. up on 1 end w/ body flat for 5 hrs; animal began to lift head, open mouth, flapping flippers. Was then released (see details of release and behavior on Inc Take log) Tagging and biopsy sites actively bleed small trickle (< 1tsp each).



Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



**SEA TURTLE BIOLOGICAL SAMPLE LOG
 NMFS FISHERIES OBSERVER PROGRAM
 OBBTU 01/01/10**

OBS/TRIP ID	
DATE LANDED mm/yy	/ /
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

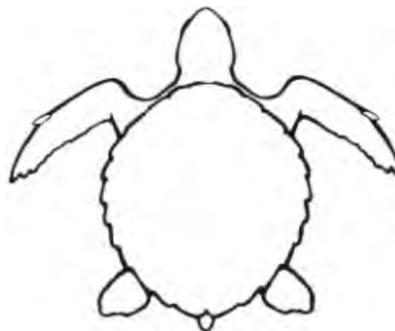
PSID #	SPECIES NAME	TAGS		MEASUREMENTS (Curv)			IDENTIFICATION CRITERIA					NUMBER OF SAMPLES			
		Scan? 0=N 1=Y	Pit Tag Number	Notch-to- Tip Length cm	Notch-to- Notch Length cm	Width cm	Vertebral Scute Count	Lateral (Costal) Scute Count	Infra- marginal Scute Count	1 Pair Pre- frontals? 0=N,1=Y	Overlap Scutes? 0=N,1=Y	Dorsal Color Code	Whole? 0=N,1=Y	Biopsy/ Skin	Other list in comments
				.	.	.									
				.	.	.									
				.	.	.									
				.	.	.									
				.	.	.									

General Comments

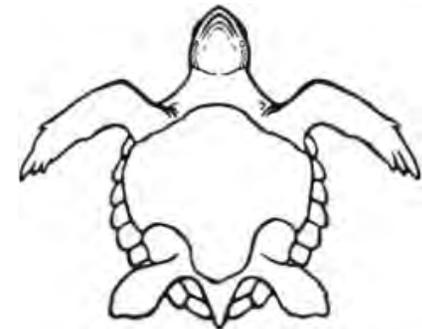
DORSAL COLOR CODES:
 01 = Black
 02 = Gray-Green
 03 = Orange/Red-Brown
 04 = Brown
 99 = Other
 00 = Unknown

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



Dorsal View

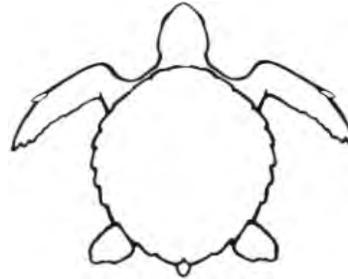


Ventral View

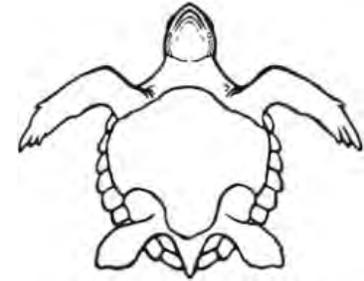
OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	<input type="checkbox"/> OF <input type="checkbox"/>

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



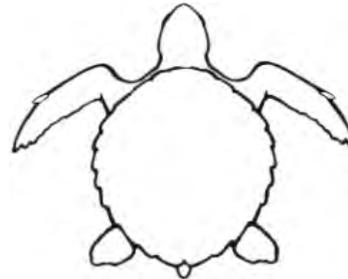
Dorsal View



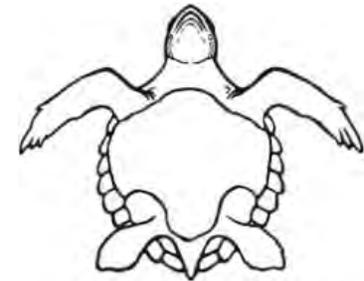
Ventral View

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



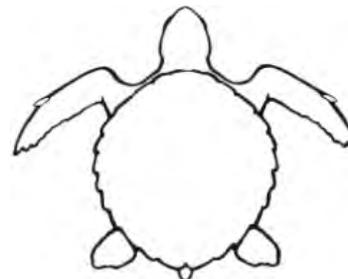
Dorsal View



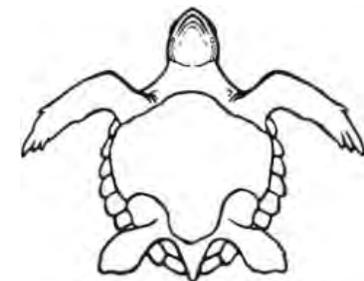
Ventral View

Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID# _____



Dorsal View



Ventral View

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 of this log, with the exception of items 4, 18, and 19, must be filled out prior to departing on a trip. For your safety, and the safety of others, it is imperative that you record the correct expiration dates for safety equipment. Safety examination decal and equipment expiration dates are compared with previous trips so that a consistent and accurate database for individual vessels can be maintained. 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, if any of the following required safety items are missing or expired, **you may not deploy** on the vessel. Immersion suits (enough for everyone onboard), flares, fire extinguishers, EPIRB, survival craft, ring buoy. 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 complete a Safety Deficiency Report (SDR).

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 (-) between the boxes when recording any of the 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 WALK THROUGH: 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.

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 number or a portion of the number you must ask the captain for another form of documentation to complete the field(s). If the captain does not have any other form of documentation you may contact NEFOP 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.

You must physically see the EPIRB in order to mark the "Y" checkbox. 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). If the EPIRB does not have a hydrostatic release (Category II, manual activation), record '0000'. Only vessels that are less than 36 feet may use a Category II EPIRB. If the "not required" field is checked leave expiration dates blank.

8. 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). Note raft capacity (sufficient for everyone onboard?). If the life raft is considered "float free" and does not have a hydrostatic release, record '0000'. 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.

9. 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.

NR = Not Required.

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

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

Y = Yes.

N = No.

NR = Not Required.

11. 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.

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

Y = Yes.

N = No.

NR = Not Required.

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.

13. 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.

NR = Not Required.

14. 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.

15. ARE SAFETY DRILLS CONDUCTED ON THIS VESSEL?: Ask the captain if safety drills are regularly conducted on the vessel and mark the appropriate checkbox:

Y = Yes.

N = No.

16. WILL ONE BE CONDUCTED WHILE YOU ARE ONBOARD?: Ask the captain if a safety drill will be conducted while you are onboard and mark the appropriate checkbox:

Y = Yes.

N = No.

17. WILL AN UNDERWAY WHEELWATCH BE MAINTAINED DURING THIS TRIP?:

Ask the captain if a wheel watch will be maintained throughout the duration of the entire trip and mark the appropriate checkbox:

Y = Yes.

N = No.

If you answered "N", do not deploy the vessel until the issue can be resolved.

18. WERE THERE ANY STABILITY CONCERNS/ISSUES, EITHER BECAUSE OF BEHAVIOR OR VESSEL DESIGN, DURING THE TRIP?: On the back of the log are examples of things to consider when assessing the stability of a vessel. Mark the appropriate checkbox if you had or did not have stability concerns during your trip:

Y = Yes.

N = No.

If you answered "Y", you must provide comments in the stability comments section on the back of the log.

19. DID YOU PROVIDE ADDITIONAL COMMENTS?: 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. Mark the appropriate box if you had or did not have stability concerns during your trip:

Y = Yes.

N = No.

*The following is a list of examples that you should/could check while doing a vessel walk through. They are listed here to 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?
- 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?

***Required to conduct at least 1 of the following: 1) orientation, 2) safety instructions or 3) safety drills.**

*The following are examples of things to consider related to the vessel design or fishing practices in determining general concerns with vessel stability.

- Note the roll period of the vessel. Generally a boat with a quick, snappy roll is more stable than a boat that has a slow or sluggish roll period. A boat that seems to hesitate on its side, before righting, could be unstable.
- 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?

Comments

Stability

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

Observer signature

Date

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Comments

Stability

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

Joe Smith

08/19/09

Observer signature

Date

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Comments

Stability

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

Observer signature

Date

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 & Trip Information Log by checking the "Y" box next to the Fishermen 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: 08/26/09.

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?:

Indicate 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
01/01/10

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

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?
2	3	NO 0 _____ YES 1 _____ 4

COMMENTS

5

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, Northeast Fisheries Observer Program, 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 09/30/2012.

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

COMMENTS

5

**FISHERMEN'S COMMENT LOG
 NMFS FISHERIES OBSERVER PROGRAM
 01/01/10**

OBS/ TRIP ID	E03715-
DATE LAND (mm/yy)	11 / 05
PAGE #	1 OF 1
EVENT DATE (mm/dd/yy)	11 / 12 / 05

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

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.

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COMMENTS

Appendix A. Species Names

0010	ALEWIFE	<i>Alosa pseudoharengus</i>
6632	ALLIGATORFISH	<i>Aspidophoroides monoptyerygius</i>
0030	AMBERJACK, NK	<i>Seriola</i> sp
0060	ANCHOVY, BAY	<i>Anchoa mitchilli</i>
6860	ANCHOVY, NK	Engraulidae
6645	ANCHOVY, STRIPED	<i>Anchoa hepsetus</i>
6878	ANEMONE, NK	Anthozoa
1710	ARGENTINE, ATLANTIC	<i>Argentina silus</i>
0180	BARRACUDA, NK	<i>Sphyræna</i> sp
6627	BARRELFISH	<i>Hyperoglyphe perciformis</i>
4180	BASS, STRIPED	<i>Morone saxatilis</i>
6611	BATFISH, ATLANTIC	<i>Dibranchius atlanticus</i>
6610	BATFISH, NK	Ogcocephalidae
6626	BEARDFISH	<i>Polymixia lowei</i>
6100	BIRD, NK	Aves
6629	BLENNY, NK (Fish)	Blenniidae
0230	BLUEFISH	<i>Pomatomus saltatrix</i>
6623	BOARFISH, DEEPBODY	<i>Antigonia capros</i>
6607	BOARFISH, NK	Caproidae
6624	BOARFISH, SHORTSPINE	<i>Antigonia combatia</i>
0330	BONITO, ATLANTIC	<i>Sarda sarda</i>
6101	BOOBY, BROWN	<i>Sula leucogaster</i>
6102	BOOBY, MASKED	<i>Sula dactylatra</i>
6136	BUFFLEHEAD	<i>Bucephala albeola</i>
0511	BUTTERFISH	<i>Peprilus triacanthus</i>
3610	CAPELIN	<i>Mallotus villosus</i>
0630	CARP	<i>Cyprinus carpio</i>
7430	CLAM, BLOODARC	<i>Anadara ovalis</i>
7640	CLAM, NK	Bivalvia
7600	CLAM, RAZOR	<i>Ensis directus</i>
7630	CLAM, SOFT-SHELLED	<i>Mya arenaria</i>
7650	CLAM, STIMPSONS SURF (Arctic)	<i>Spisula polynyma</i>
7690	CLAM, SURF	<i>Spisula solidissima</i>
6894	CLAPPER, NK	
6895	CLAPPER, CLAM	
6896	CLAPPER, SCALLOP	
0570	COBIA	<i>Rachycentron canadum</i>
0818	COD, ATLANTIC	<i>Gadus morhua</i>
6605	CODLING, METALLIC	<i>Physiculus fulvus</i> (Hakeling)
6880	CORAL, STONY, NK	Astrangiidae
6111	CORMORANT, DBL CREST	<i>Phalacrocorax auritus</i>
6112	CORMORANT, GREAT	<i>Phalacrocorax carbo</i>
6113	CORMORANT, NK	<i>Phalacrocorax</i> sp
7000	CRAB, BLUE	<i>Callinectes sapidus</i>
7140	CRAB, CANCER, NK	<i>Cancer</i> sp
7100	CRAB, DEEP SEA, RED	<i>Chaceon quinque-dens</i>
7080	CRAB, GREEN	<i>Carcinus maenas</i>

6868	CRAB, HERMIT, NK	Paguroidea
7240	CRAB, HORSESHOE	<i>Limulus polyphemus</i>
7110	CRAB, JONAH	<i>Cancer borealis</i>
7010	CRAB, LADY	<i>Ovalipes ocellatus</i>
6866	CRAB, NORTHERN STONE	<i>Lithodes maja</i>
7120	CRAB, ROCK	<i>Cancer irroratus</i>
7185	CRAB, SNOW (Queen)	<i>Chionoecetes opilio</i>
6865	CRAB, SPECKLED	<i>Arenaeus cribrarius</i>
7150	CRAB, SPIDER, NK	<i>Libinia, Pelia</i> sp
7151	CRAB, SPIDER, PORTLY	<i>Libinia emarginata</i>
7130	CRAB, TRUE, NK	Brachyura
0840	CRAPPIE, NK	<i>Pomoxis</i> sp
0900	CROAKER, ATLANTIC	<i>Micropogonias undulatus</i>
0930	CUNNER (Yellow Perch)	<i>Tautoglabrus adspersus</i>
0960	CUSK	<i>Brosme brosme</i>
6861	CUSK-EEL, NK	Ophidiidae
6640	CUTLASSFISH, ATL	<i>Trichiurus lepturus</i>
0985	DEALFISH (Ribbonfish)	<i>Trachipterus arcticus</i>
3460	DOGFISH, CHAIN	<i>Scyliorhinus retifer</i>
3501	DOGFISH, NK	<i>Mustelus, Squalus</i> sp
3511	DOGFISH, SMOOTH	<i>Mustelus canis</i>
3521	DOGFISH, SPINY	<i>Squalus acanthias</i>
6941	DOLPHIN, BOTTLENOSE	<i>Tursiops truncatus</i>
6961	DOLPHIN, CLYMENE	<i>Stenella clymene</i>
6962	DOLPHIN, FRASER'S	<i>Lagenodelphis hosei</i>
6997	DOLPHIN, NK (Mammal)	Delphinidae
6963	DOLPHIN, PANTROPICAL SPOTTED	<i>Stenella attenuata</i>
6942	DOLPHIN, RISSO'S	<i>Grampus griseus</i>
6957	DOLPHIN, ROUGH TOOTH	<i>Steno bredanensis</i>
6940	DOLPHIN, COMMON(Saddleback)	<i>Delphinus delphis</i>
6944	DOLPHIN, SPINNER	<i>Stenella longirostris</i>
6901	DOLPHIN, SPOTTED, ATL	<i>Stenella plagiodon</i>
6902	DOLPHIN, SPOTTED, BRID	<i>Stenella frontalis</i>
6943	DOLPHIN, SPOTTED, NK	<i>Stenella</i> sp
6952	DOLPHIN, STRIPED	<i>Stenella coeruleoalba</i>
6951	DOLPHIN, WHITEBEAKED	<i>Lagenorhynchus albirostris</i>
6936	DOLPHIN, WHITESIDED	<i>Lagenorhynchus acutus</i>
1050	DOLPHINFISH (Mahi Mahi)	<i>Coryphaena hippurus</i>
1880	DORY, BUCKLER (John)	<i>Zenopsis conchifera</i>
1890	DORY, NK	Zeidae
6131	DOVEKIE	<i>Alle alle</i>
6609	DRAGONFISH, BOA	<i>Stomias boa</i>
1060	DRUM, BLACK	<i>Pogonias cromis</i>
6797	DRUM, NK	Sciaenidae
1070	DRUM, RED	<i>Sciaenops ocellatus</i>
6892	ECHINODERM, NK	Echinodermata
1150	EEL, AMERICAN	<i>Anguilla rostrata</i>
1160	EEL, CONGER	<i>Conger oceanicus</i>
6862	EEL, GARDEN, NK	<i>Heteroconger</i> sp
1170	EEL, NK	Anguilliformes

6863	EEL, ROCK (GUNNEL)	<i>Pholis gunnellus</i>
6859	EEL, SLENDER SNIPE	<i>Nemichthys scolopaceus</i>
6875	EELGRASS	<i>Zostera marina</i>
6613	EELPOUT, NK	<i>Lycenchelys, Lycodes</i> sp
6135	EIDER, COMMON	<i>Somateria mollissima</i>
3850	ESCOLAR	<i>Lepidocybium flavobrunneum</i>
6796	FILEFISH, NK	Monacanthidae
	FISH, DEEP-WATER, NK	
5260	FISH, NK	Osteichthyes
1240	FLOUNDER, AMERICAN PLAICE	<i>Hippoglossoides platessoides</i>
1270	FLOUNDER, FOURSPOT	<i>Paralichthys oblongus</i>
1290	FLOUNDER, GULFSTREAM	<i>Citharichthys arctifrons</i>
6886	FLOUNDER, LEFTEYE, NK	Bothidae
1260	FLOUNDER, NK	Pleuronectiformes
1250	FLOUNDER, SAND DAB (Windowpane)	<i>Scophthalmus aquosus</i>
1300	FLOUNDER, SOUTHERN	<i>Paralichthys lethostigma</i>
1219	FLOUNDER, SUMMER (Fluke)	<i>Paralichthys dentatus</i>
1200	FLOUNDER, WINTER (Blackback)	<i>Pleuronectes americanus</i>
1220	FLOUNDER, WITCH (Grey Sole)	<i>Glyptocephalus cynoglossus</i>
1230	FLOUNDER, YELLOWTAIL	<i>Pleuronectes ferrugineus</i>
6141	FRIGATEBIRD, MAGNIFICENT	<i>Fregata magnificens</i>
6161	FULMAR, NORTHERN	<i>Fulmarus glacialis</i>
6171	GANNET, NORTHERN	<i>Sula bassanus</i>
6660	GAPER, RED EYE	<i>Chaunax stigmaeus</i>
1330	GARFISH (Needlefish)	Belonidae
6152	GREBE, HORNED	<i>Podiceps auritus</i>
6150	GREBE, NK	Podicipedidae
6153	GREBE, PIED BILLED	<i>Podilymbus podiceps</i>
6154	GREBE, RED NECKED	<i>Podiceps grisegena</i>
6671	GRENADIER, COMMON (Marlin spike)	<i>Nezumia bairdi</i>
6672	GRENADIER, LONG-NOSED	<i>Caelorinchus carminatus</i>
1380	GRENADIER, NK	Macrouridae
6673	GRENADIER, ROUGHEAD	<i>Macrourus berglax</i>
1410	GROUPE, NK	<i>Epinephelus, Mycteroperca</i> sp
1414	GROUPE, SNOWY	<i>Epinephelus niveatus</i>
1440	GRUNT, NK	<i>Haemulon, Anisotremus</i> sp
6181	GUILLEMOT, BLACK	<i>Cepphus grylle</i>
6201	GULL, BLACK-HEADED	<i>Larus ridibundus</i>
6202	GULL, BONAPARTE'S	<i>Larus philadelphia</i>
6203	GULL, FRANKLIN'S	<i>Larus pipixcan</i>
6204	GULL, GLAUCOUS	<i>Larus hyperboreus</i>
6205	GULL, GREAT BLACK-BACK	<i>Larus marinus</i>
6206	GULL, HERRING	<i>Larus argentatus</i>
6207	GULL, ICELAND	<i>Larus glaucoides</i>
6215	GULL, IVORY	<i>Pagophila eburnea</i>
6208	GULL, LAUGHING	<i>Larus atricilla</i>
6209	GULL, LESS BLACK-BACK	<i>Larus fuscus</i>
6210	GULL, LITTLE	<i>Larus minutus</i>
6211	GULL, MEW	<i>Larus canus</i>
6200	GULL, NK	Laridae

6212	GULL, RING BILLED	<i>Larus delawarensis</i>
6216	GULL, ROSS'S	<i>Rhodostethia rosea</i>
6213	GULL, SABINE'S	<i>Xema sabini</i>
6214	GULL, THAYER'S	<i>Larus thayeri</i>
1477	HADDOCK	<i>Melanogrammus aeglefinus</i>
1500	HAGFISH, ATLANTIC	<i>Myxine glutinosa</i>
6604	HAKE, BLUE	<i>Antimora rostrata</i>
6603	HAKE, LONGFIN	<i>Urophycis chesteri</i>
6600	HAKE, NK	<i>Urophycis, Merluccius, Physiculus</i> sp
5080	HAKE, OFFSHORE (BLACK WHITING)	<i>Merluccius albidus</i>
1520	HAKE, RED (Ling)	<i>Urophycis chuss</i>
5090	HAKE, SILVER (Whiting)	<i>Merluccius bilinearis</i>
6615	HAKE, SOUTHERN	<i>Urophycis floridana</i>
6602	HAKE, SPOTTED	<i>Urophycis regia</i>
1539	HAKE, WHITE	<i>Urophycis tenuis</i>
1590	HALIBUT, ATLANTIC	<i>Hippoglossus hippoglossus</i>
1580	HALIBUT, GREENLAND	<i>Reinhardtius hippoglossoides</i>
1656	HARVESTFISH	<i>Peprilus alepidotus</i>
1685	HERRING, ATLANTIC	<i>Clupea harengus</i>
1120	HERRING, BLUEBACK	<i>Alosa aestivalis</i>
1670	HERRING, NK	Clupeidae
1280	HOGCHOCKER	<i>Trinectes maculatus</i>
1790	HOGFISH, ATLANTIC	<i>Lachnolaimus maximus</i>
6690	HOUNDFISH	<i>Tylosurus crocodilus</i>
8990	INVERTEBRATE, NK	Invertebrata
0870	JACK, CREVALLE	<i>Caranx hippos</i>
6780	JACK, NK	Carangidae
6301	JAEGER, LONG TAILED	<i>Stercorarius longicaudus</i>
6300	JAEGER, NK	Stercorariidae
6302	JAEGER, PARASITIC	<i>Stercorarius parasiticus</i>
6303	JAEGER, POMARINE	<i>Stercorarius pomarinus</i>
6305	JAEGER, SOUTH POLAR	<i>Catharacta maccormicki</i>
6871	JELLYFISH, NK	Scyphozoa
6618	KINGFISH, GULF	<i>Menticirrhus littoralis</i>
1970	KINGFISH, NK (Sea mullet)	<i>Menticirrhus</i> sp
6616	KINGFISH, NORTHERN	<i>Menticirrhus saxatilis</i>
6617	KINGFISH, SOUTHERN	<i>Menticirrhus americanus</i>
6311	KITTIWAKE, BLK-LEGGD	<i>Rissa tridactyla</i>
2680	LADYFISH	<i>Elops saurus</i>
6631	LAMPREY, NK	Petromyzontidae
6872	LAMPSHELL, NK	Brachiopoda
2060	LANCE, SAND, NK	<i>Ammodytes</i> sp
6774	LANCETFISH, NK	Alepisauridae
6608	LANTERNFISH, NK	Myctophidae
6787	LEATHERJACKET	<i>Oligoplites saurus</i>
6647	LIZARDFISH, NK	Synodontidae
7270	LOBSTER, AMERICAN	<i>Homarus americanus</i>
6786	LOOKDOWN	<i>Selene vomer</i>
6322	LOON, ARCTIC	<i>Gavia arctica</i>
6323	LOON, COMMON	<i>Gavia immer</i>
6321	LOON, NK	Gaviidae

6324	LOON, RED-THROATED	<i>Gavia stellata</i>
6760	LOUVAR	<i>Luvarus imperialis</i>
2100	LUMPFISH	<i>Cyclopterus lumpus</i>
6635	LUMPSUCKER, ATLANTIC SPINY	<i>Eumicrotremus spinosus</i>
2120	MACKEREL, ATLANTIC	<i>Scomber scombrus</i>
2150	MACKEREL, CHUB	<i>Scomber japonicus</i>
1320	MACKEREL, FRIGATE	<i>Auxis thazard</i>
1940	MACKEREL, KING	<i>Scomberomorus cavalla</i>
6649	MACKEREL, NK	Scombridae
6638	MACKEREL, SNAKE, NK	Gempylidae
3840	MACKEREL, SPANISH	<i>Scomberomorus maculatus</i>
6964	MANATEE, WEST INDIAN	<i>Trichechus manatus</i>
6991	MARINE MAMMAL, NK	Cetacea/Pinnipedia
2171	MARLIN, BLUE	<i>Makaira nigricans</i>
2181	MARLIN, NK	Istiophoridae
2161	MARLIN, WHITE	<i>Tetrapturus albidus</i>
2210	MENHADEN, ATLANTIC (Bunker)	<i>Brevoortia tyrannus</i>
6103	MERGANSER, NK	Merginae
6770	MOLA, NK	Molidae
6772	MOLA, OCEAN SUNFISH	<i>Mola mola</i>
6771	MOLA, SHARPTAIL	<i>Mola lanceolata</i>
6773	MOLA, SLENDER	<i>Ranzania laevis</i>
8040	MOLLUSK, NK	Mollusca
0124	MONKFISH (Angler, Goosefish)	<i>Lophius americanus</i>
6785	MOONFISH, ATLANTIC	<i>Selene setapinnis</i>
2341	MULLET, NK	Mugilidae
2350	MULLET, STRIPED (Jumping)	<i>Mugil cephalus</i>
6636	MUMMICHOG	<i>Fundulus heteroclitus</i>
6330	MURRE, NK	<i>Uria</i> sp
6332	MURRE, THICK-BILLED	<i>Uria lomvia</i>
6331	MURRE, THIN-BILLED	<i>Uria aalge</i>
7810	MUSSEL, NK	<i>Mytilus, Modiolus</i> sp
6966	NARWHAL	<i>Monodon monoceros</i>
0190	NEEDLEFISH, ATLANTIC	<i>Strongylura marina</i>
6341	NODDY, BROWN	<i>Anous stolidus</i>
2500	OCEAN POUT	<i>Macrozoarces americanus</i>
7860	OCTOPUS, NK	Cephalopoda
6639	OILFISH	<i>Ruvettus pretiosus</i>
2490	OPAH	<i>Lampris guttatus</i>
7898	OYSTER, COMMON	<i>Crassostrea virginica</i>
7921	OYSTER, EUROPEAN FLAT	<i>Ostrea edulis</i>
5250	PELAGIC FISH, NK	
6351	PELICAN, BROWN	<i>Pelecanus occidentalis</i>
3110	PERCH, SAND	<i>Diplectrum formosum</i>
5060	PERCH, WHITE	<i>Morone americana</i>
5170	PERCH, YELLOW	<i>Perca flavescens</i>
7980	PERIWINKLE, COMMON	<i>Littorina littorea</i>
6791	PERMIT	<i>Trachinotus falcatus</i>
6362	PETREL, BERMUDA	<i>Pterodroma cahow</i>
6363	PETREL, BLACK-CAPPED	<i>Pterodroma hastita</i>

6364	PETREL, FEA'S	<i>Pterodroma feae</i>
6361	PETREL, TRINIDADE (Herald)	<i>Pterodroma arminjoniana</i>
6371	PHALAROPE, RED	<i>Phalaropus fulicarius</i>
6372	PHALAROPE, RED-NECKED	<i>Phalaropus lobatus</i>
2580	PIGFISH	<i>Orthopristis chrysoptera</i>
6781	PILOTFISH	<i>Naucrates ductor</i>
2670	PINFISH	<i>Lagodon rhomboides</i>
6621	PIPEFISH/SEAHORSE, NK	Syngnathidae
2695	POLLOCK	<i>Pollachius virens</i>
6777	POMFRET, ATLANTIC	<i>Brama brama</i>
6776	POMFRET, BIGSCALE	<i>Taratichthys longipinnis</i>
6578	POMFRET, NK	Bramidae
6788	POMPANO, AFRICAN	<i>Alectis ciliaris</i>
2720	POMPANO, FLORIDA	<i>Trachinotus carolinus</i>
6646	PORCUPINEFISH	<i>Diodon hystrix</i>
3320	PORGY, NK	Sparidae
3300	PORGY, RED	<i>Pagrus pagrus</i>
6960	PORPOISE, HARBOR	<i>Phocoena phocoena</i>
6998	PORPOISE/DOLPHIN, NK	Phocoenidae/Delphinidae
4300	PUFFER, NK (Burrfish, nk)	Tetraodontidae/Diodontidae
4290	PUFFER, NORTHERN	<i>Sphoeroides maculatus</i>
6381	PUFFIN, ATLANTIC	<i>Fratercula arctica</i>
7488	QUAHOG, HARD SHELL CLAM	<i>Mercenaria mercenaria, M.campechiensis</i>
7540	QUAHOG, OCEAN (Black clam)	<i>Artica islandica</i>
3270	RAVEN, SEA	<i>Hemitripteris americanus</i>
6739	RAY, BULLNOSE	<i>Myliobatis freminvillei</i>
6741	RAY, BUTTERFLY, NK	<i>Gymnura sp</i>
6742	RAY, BUTTERFLY, SMOOTH	<i>Gymnura micrura</i>
6743	RAY, BUTTERFLY, SPINY	<i>Gymnura altavela</i>
6740	RAY, COWNOSE	<i>Rhinoptera bonasus</i>
6745	RAY, DEVIL	<i>Mobula hypostoma</i>
6700	RAY, EAGLE, NK	Myliobatidae
6753	RAY, NK	Rajiformes
6730	RAY, TORPEDO	<i>Torpedo nobiliana</i>
6720	RAY,MANTA, ATLANTIC	<i>Manta birostris</i>
6715	RAY,MANTA,NK	Mobulidae
6391	RAZORBILL	<i>Alca torda</i>
2400	REDFISH, NK (Ocean Perch)	<i>Sebastes sp</i>
6750	REMORA, NK	Echeneidae
6644	RIBBONFISH, NK	Trachipteridae
6643	RIBBONFISH,POLKA-DOT	<i>Desmodema polystictum</i>
6642	RIBBONFISH,SCALLOPED	<i>Zu cristatus</i>
6606	ROCKLING, FOURBEARD	<i>Enchelyopus cimbrius</i>
6876	ROCKWEED, NK	<i>Fucus sp</i>
2420	ROSEFISH, BLACK BELLY	<i>Helicolenus dactylopterus</i>
6778	ROUGHY, BIG	<i>Gephyroberyx darwini</i>
6779	ROUGHY, NK	Trachichthyidae
2130	RUNNER, BLUE	<i>Caranx crysos</i>
6630	SAILFISH	<i>Istiophorus platypterus</i>
3050	SALMON, ATLANTIC	<i>Salmo salar</i>

3090	SALMON, NK	Salmonidae
3060	SALMON, PINK	<i>Oncorhynchus gorbuscha</i>
6874	SAND DOLLAR	<i>Echinarachnius parma</i>
3196	SAURY, ATLANTIC	<i>Scomberesox saurus</i>
6784	SCAD, BIGEYE	<i>Selar crumenophthalmus</i>
6782	SCAD, MACKEREL	<i>Decapterus macarellus</i>
	SCAD, NK	<i>Decapterus, Selur, Trachurus</i> sp
3310	SCAD, ROUGH	<i>Trachurus lathami</i>
7990	SCALLOP, BAY	<i>Argopecten irradians</i>
7970	SCALLOP, CALICO	<i>Aequipecten gibbus</i>
7950	SCALLOP, ICELANDIC	<i>Chlamys islandica</i>
7960	SCALLOP, NK	Pectinidae
8009	SCALLOP, SEA	<i>Placopecten magellanicus</i>
6612	SCORPIONFISH, NK	Scorpaenidae
6521	SCOTER, BLACK	<i>Melanitta nigra</i>
6520	SCOTER, NK	<i>Melanitta</i> sp
6523	SCOTER, SURF	<i>Melanitta perspicillata</i>
6522	SCOTER, WHITE-WINGED	<i>Melanitta deglandi</i>
6678	SCULPIN, LONGHORN	<i>Myoxocephalus octodecimspinosus</i>
3260	SCULPIN, NK	Cottidae
3295	SCUP	<i>Stenotomus chrysops</i>
3350	SEA BASS, BLACK	<i>Centropristis striata</i>
3330	SEA BASS, NK	Serranidae
8060	SEA CUCUMBER, NK	Holothuroidea
6873	SEA PANSY	<i>Renilla reniformis</i>
6884	SEA PEN	<i>Pennatula aculeata</i>
6869	SEA POTATO	<i>Leathesia difformis</i>
3430	SEA ROBIN, ARMORED	<i>Peristedion miniatum</i>
3410	SEA ROBIN, NK	Triglidae
3400	SEA ROBIN, NORTHERN	<i>Prionotus carolinus</i>
3420	SEA ROBIN, STRIPED	<i>Prionotus evolans</i>
6879	SEA SQUIRT, NK	Ascidiacea
8050	SEA URCHIN, NK	Echinoidea
6984	SEAL, BEARDED	<i>Erignathus barbatus</i>
6996	SEAL, GRAY	<i>Halichoerus grypus</i>
6995	SEAL, HARBOR	<i>Phoca vitulina</i>
6981	SEAL, HARP	<i>Phoca groenlandica</i>
6982	SEAL, HOODED	<i>Crystophora cristata</i>
6985	SEAL, LARGA (SPOTTED)	<i>Phoca largha</i>
6994	SEAL, NK	Phocidae
6986	SEAL, RIBBON	<i>Phoca fasciata</i>
6983	SEAL, RINGED	<i>Phoca hispida</i>
3340	SEATROUT, NK	<i>Cynoscion</i> sp
3450	SEATROUT, SPOTTED (Speckled trout)	<i>Cynoscion nebulosus</i>
8171	SEAWEED, NK	Phaeophyta
3474	SHAD, AMERICAN	<i>Alosa sapidissima</i>
1340	SHAD, GIZZARD	<i>Dorosoma cepedianum</i>
1730	SHAD, HICKORY	<i>Alosa mediocris</i>
6864	SHANNY, NK	<i>Lumpenus, Stichaeus, Ulvaria</i> sp
4771	SHARK, ATL ANGEL	<i>Squatina dumerili</i>

4941	SHARK, ATL SHARPNOSE	<i>Rhizoprionodon terraenovae</i>
4961	SHARK, BASKING	<i>Cetorhinus maximus</i>
4831	SHARK, BIGNOSE	<i>Carcharhinus altimus</i>
4871	SHARK, BLACK TIP	<i>Carcharhinus limbatus</i>
4931	SHARK, BLUE (Blue Dog)	<i>Prionace glauca</i>
	SHARK, BONNETHEAD	<i>Sphyrna tiburo</i>
4891	SHARK, BULL	<i>Carcharhinus leucas</i>
4971	SHARK, CARCHARHIN, NK	<i>Carcharhinus</i> sp
	SHARK, DEEP-WATER, NK	
4841	SHARK, DUSKY	<i>Carcharhinus obscurus</i>
4990	SHARK, FINETOOTH	<i>Carcharhinus isodon</i>
3860	SHARK, HAMMERHEAD, GREAT	<i>Sphyrna mokarran</i>
4781	SHARK, HAMMERHEAD, SCALLOPED	<i>Sphyrna lewini</i>
4791	SHARK, HAMMERHEAD, SMOOTH	<i>Sphyrna zygaena</i>
4951	SHARK, HAMMERHEAD, NK	Sphyrnidae
4921	SHARK, LEMON	<i>Negaprion brevirostris</i>
3581	SHARK, MAKO, LONG FIN	<i>Isurus paucus</i>
3571	SHARK, MAKO, NK	<i>Isurus</i> sp
3551	SHARK, MAKO, SHORTFIN	<i>Isurus oxyrinchus</i>
4861	SHARK, NIGHT	<i>Carcharhinus signatus</i>
3591	SHARK, NK	Elasmobranchii
3481	SHARK, NURSE	<i>Ginglymostoma cirratum</i>
4901	SHARK, OCEANIC WHITETIP	<i>Carcharhinus longimanus</i>
4981	SHARK, PELAGIC	
4811	SHARK, PORBEAGLE (Mackerel Shark)	<i>Lamna nasus</i>
3491	SHARK, SAND TIGER	<i>Odontaspis taurus</i>
4821	SHARK, SANDBAR (Brown Shark)	<i>Carcharhinus plumbeus</i>
4851	SHARK, SILKY	<i>Carcharhinus falciformis</i>
4881	SHARK, SPINNER	<i>Carcharhinus brevipinna</i>
3531	SHARK, THRESHER	<i>Alopias vulpinus</i>
3541	SHARK, THRESHER, BIGEYE	<i>Alopias superciliosus</i>
4911	SHARK, TIGER	<i>Galeocerdo cuvier</i>
4801	SHARK, WHITE	<i>Carcharodon carcharias</i>
6401	SHEARWATER, AUDUBON'S	<i>Puffinus lherminieri</i>
6407	SHEARWATER, CORY'S	<i>Puffinus diomedea</i>
6402	SHEARWATER, GREATER	<i>Puffinus gravis</i>
6403	SHEARWATER, LITTLE	<i>Puffinus assimilis</i>
6405	SHEARWATER, MANX	<i>Puffinus puffinus</i>
6400	SHEARWATER, NK	<i>Puffinus</i> sp
6406	SHEARWATER, SOOTY	<i>Puffinus griseus</i>
3560	SHEEPSHEAD	<i>Archosargus probatocephalus</i>
6893	SHELLFISH, NK	
7370	SHRIMP, MANTIS	<i>Squilla empusa</i>
7350	SHRIMP, NK	Caridea
7360	SHRIMP, PANDALID, NK (Northern)	<i>Pandalus</i> sp
7380	SHRIMP, PENAEID, NK (Southern)	<i>Penaeus</i> sp
7330	SHRIMP, ROYAL RED	<i>Pleoticus robustus</i>
7340	SHRIMP, SCARLET	<i>Plesiopenaeus edwardsianus</i>
6881	SHRIMP, SHORE, NK	<i>Palaemonetes</i> sp
3620	SILVERSIDE, ATLANTIC	<i>Menidia menidia</i>

3630	SILVERSIDE, NK	Atherinidae
3680	SKATE, BARNDOOR	<i>Dipturus laevis</i>
3720	SKATE, CLEARNOSE	<i>Raja eglanteria</i>
3660	SKATE, LITTLE	<i>Leucoraja erinacea</i>
3650	SKATE, NK	Rajidae
3640	SKATE, ROSETTE	<i>Leucoraja garmani</i>
3690	SKATE, SMOOTH	<i>Malacoraja senta</i>
3700	SKATE, THORNY	<i>Amblyraja radiata</i>
3670	SKATE, WINTER (Big)	<i>Leucoraja ocellata</i>
6411	SKIMMER, BLACK	<i>Rynchops niger</i>
6304	SKUA, GREAT	<i>Catharacta skua</i>
3710	SMELT, RAINBOW	<i>Osmerus mordax</i>
6870	SNAIL, MOONHELL, NK	Naticidae
6877	SNAIL, NK	Gastropoda
6628	SNAKEBLENNY	<i>Lumpenus lumpretaeformis</i>
3754	SNAPPER, DOG	<i>Lutjanus jocu</i>
3360	SNAPPER, NK	Lutjanidae
3764	SNAPPER, RED	<i>Lutjanus campechanus</i>
3740	SNAPPER, VERMILLION	<i>Rhomboplites aurorubens</i>
6633	SNIPEFISH, LONGSPINE	<i>Macrorhamphosus scolopax</i>
6622	SNIPEFISH, NK	Centriscidae
6634	SNIPEFISH, SLENDER	<i>Macrorhamphosus gracilis</i>
3810	SPADEFISH	<i>Chaetodipterus faber</i>
6641	SPEARFISH, LONGBILL	<i>Tetrapturus pfluegeri</i>
6867	SPONGE, NK	Porifera
4060	SPOT	<i>Leiostomus xanthurus</i>
8010	SQUID, ATL LONG-FIN	<i>Loligo pealei</i>
8030	SQUID, NK	Cephalopoda
8020	SQUID, SHORT-FIN (Boreal)	<i>Illex illecebrosus</i>
0240	SQUIRRELFISH, NK	Holocentridae
6891	STARFISH, BRITTLE, NK	Ophiuroidea
8280	STARFISH, SEASTAR, NK	Asteroidea
6620	STARGAZER, NK	Uranoscopidae
6712	STINGRAY, ATLANTIC	<i>Dasyatis sabina</i>
6711	STINGRAY, BLUNTNOSE	<i>Dasyatis say</i>
6705	STINGRAY, NK	Dasyatidae
6775	STINGRAY, PELAGIC	<i>Dasyatis violacea</i>
6710	STINGRAY, ROUGHTAIL	<i>Dasyatis centroura</i>
6431	STORM PETREL, BAND-RUMPED	<i>Oceanodroma castro</i>
6432	STORM PETREL, LEACHS	<i>Oceanodroma leucorhoa</i>
6430	STORM PETREL, NK	Hydrobatidae
6433	STORM PETREL, WHITE-FACED	<i>Pelagodroma marina</i>
6434	STORM PETREL, WILSON	<i>Oceanites oceanicus</i>
4200	STURGEON, ATLANTIC	<i>Acipenser oxyrhynchus</i>
4211	STURGEON, NK	Acipenseridae
4220	STURGEON, SHORTNOSE	<i>Acipenser brevirostrum</i>
4328	SWORDFISH	<i>Xiphias gladius</i>
4350	TARPON	<i>Megalops atlanticus</i>
4380	TAUTOG (Blackfish)	<i>Tautoga onitis</i>
6501	TERN, ARCTIC	<i>Sterna paradisaea</i>

6513	TERN, BLACK	<i>Chlidonias niger</i>
6502	TERN, BRIDLED	<i>Sterna anaethetus</i>
6503	TERN, CASPIAN	<i>Sterna caspia</i>
6505	TERN, COMMON	<i>Sterna hirundo</i>
6506	TERN, FORSTER'S	<i>Sterna forsteri</i>
6507	TERN, GULL-BILLED	<i>Gelochelidon nilotica</i>
6508	TERN, LITTLE	<i>Sterna albifrons</i>
6500	TERN, NK	Sterninae
6509	TERN, ROSEATE	<i>Sterna dougallii</i>
6510	TERN, ROYAL	<i>Sterna maxima</i>
6511	TERN, SANDWICH	<i>Sterna sandvicensis</i>
6512	TERN, SOOTY	<i>Sterna fuscata</i>
4470	TILEFISH, NK	<i>Malacanthidae</i>
4440	TILEFISH, BLUELINE	<i>Caulolatilus microps</i>
4460	TILEFISH, GOLDEN	<i>Lopholatilus chamaeleonticeps</i>
6637	TOADFISH, NK	Batrachoididae
4510	TOADFISH, OYSTER	<i>Opsanus tau</i>
4530	TOMCOD, ATLANTIC	<i>Microgadus tomcod</i>
4560	TRIGGERFISH, NK (Leatherjackets)	Balistidae
4590	TRIPLETAIL	<i>Lobotes surinamensis</i>
6443	TROPICBIRD, NK	<i>Phaethon</i> sp.
6442	TROPICBIRD, RED-BILLED	<i>Phaethon aethereus</i>
6441	TROPICBIRD, WHITE-TAILED	<i>Phaethon lepturus</i>
4700	TUNA, ALBACORE	<i>Thunnus alalunga</i>
4691	TUNA, BIG EYE	<i>Thunnus obesus</i>
4641	TUNA, BLACKFIN	<i>Thunnus atlanticus</i>
4670	TUNA, BLUEFIN	<i>Thunnus thynnus</i>
4681	TUNA, LITTLE (False Albacore, Little Tunny)	<i>Euthynnus alletteratus</i>
4657	TUNA, NK	<i>Euthynnus, Thunnus</i> sp
4661	TUNA, SKIPJACK	<i>Katsuwonus pelamis</i>
4711	TUNA, YELLOWFIN	<i>Thunnus albacares</i>
8090	TURTLE, GREEN	<i>Chelonia mydas</i>
8140	TURTLE, HAWKSBILL	<i>Eretmochelys imbricata</i>
8100	TURTLE, KEMP'S RIDLEY	<i>Lepidochelys kempii</i>
8120	TURTLE, LEATHERBACK	<i>Dermochelys coriacea</i>
8130	TURTLE, LOGGERHEAD	<i>Caretta caretta</i>
8161	TURTLE, NK, HARDSHELL	Cheloniidae
8160	TURTLE, SEA, NK	Cheloniidae
8180	TURTLE, OLIVE RIDLEY	<i>Lepidochelys olivacea</i>
8110	TURTLE, SLIDER, POND	<i>Trachemys scripta</i>
8150	TURTLE, SNAPPER	<i>Chelydra serpentina</i>
8081	TURTLE, TERRAPIN (DIAMONDBACK)	<i>Malaclemys terrapin</i>
4720	WAHOO	<i>Acanthocybium solanderi</i>
6965	WALRUS	<i>Odobenus rosmarus</i>
3446	WEAKFISH (Squeteague sea trout/Grey trout)	<i>Cynoscion regalis</i>
6993	WHALE, BALEEN, NK	Mysticeti
6958	WHALE, BELUGA	<i>Delphinapterus leucas</i>
6908	WHALE, BK, BLAINVILLE'S (Dense)	<i>Mesoplodon densirostris</i>
6954	WHALE, BK, CUVIER'S (Goosebeaked)	<i>Ziphius cavirostris</i>
6907	WHALE, BK, GERVAIS' (Antillean)	<i>Mesoplodon europaeus</i>
6953	WHALE, BK, MESOP, NK	<i>Mesoplodon</i> sp

6909	WHALE, BK, SOWERBY'S (North Sea)	<i>Mesoplodon bidens</i>
6910	WHALE, BK, TRUE'S	<i>Mesoplodon mirus</i>
6947	WHALE, BLUE	<i>Balaenoptera musculus</i>
6988	WHALE, BRYDE'S	<i>Balaenoptera brydei</i>
6905	WHALE, DWARF SPERM	<i>Kogia sima</i>
6930	WHALE, FALSE KILLER	<i>Pseudorca crassidens</i>
6931	WHALE, FINBACK	<i>Balaenoptera physalus</i>
6933	WHALE, HUMPBACK	<i>Megaptera novaeangliae</i>
6950	WHALE, KILLER	<i>Orcinus orca</i>
6987	WHALE, MELON-HEADED	<i>Peponocephala electra</i>
6945	WHALE, MINKE	<i>Balaenoptera acutorostrata</i>
6999	WHALE, NK	Cetacea
6911	WHALE, NORTHERN BOTTLENOSE	<i>Hyperoodon ampullatus</i>
6904	WHALE, PILOT, LONG-FIN	<i>Globicephala melas</i>
6992	WHALE, PILOT, NK	<i>Globicephala</i> sp
6903	WHALE, PILOT, SHORT-FIN	<i>Globicephala macrorhynchus</i>
6955	WHALE, PYGMY KILLER	<i>Feresa attenuata</i>
6956	WHALE, PYGMY SPERM	<i>Kogia breviceps</i>
6946	WHALE, RIGHT, NORTHERN	<i>Balaena glacialis</i>
6932	WHALE, SEI	<i>Balaenoptera borealis</i>
6948	WHALE, SPERM	<i>Physeter macrocephalus</i>
6980	WHALE, TOOTHED, NK	Odontoceti
7760	WHELK, CHANNELED (Smooth)	<i>Busycon canaliculatum</i>
7770	WHELK, KNOBBED	<i>Busycon carica</i>
7780	WHELK, LIGHTNING	<i>Busycon contrarium</i>
7750	WHELK, NK, CONCH	Melongenidae
5120	WOLFFISH, ATLANTIC	<i>Anarhichas lupus</i>
6681	WOLFFISH, NORTHERN	<i>Anarhichas denticulatus</i>
8230	WORM, BLOOD	<i>Glycera</i> sp
8250	WORM, NK	Annelida
5130	WRECKFISH	<i>Polyprion americanus</i>
6790	WRYMOUTH	<i>Cryptacanthodes maculatus</i>

Appendix B. Fish Disposition Codes

Used on all Haul Logs and the Individual Animal Log.

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.

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.
- 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.
- 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 C. Port Codes- Sorted by State Name, Port Name

050913	LOS ANGELES	CA	LOS ANGELES
960999	CANADA	CN	CANADA
076209	BRANFORD	CT	NEW HAVEN
078201	BRIDGEPORT	CT	FAIRFIELD
073607	CHESTER	CT	MIDDLESEX
074107	CLINTON	CT	MIDDLESEX
071001	COS COB	CT	FAIRFIELD
073307	CROMWELL	CT	MIDDLESEX
078601	DARIEN	CT	FAIRFIELD
073707	DEEP RIVER	CT	MIDDLESEX
077009	DERBY	CT	NEW HAVEN
073007	EAST HADDAM	CT	MIDDLESEX
074207	EAST HAMPTON	CT	MIDDLESEX
076309	EAST HAVEN	CT	NEW HAVEN
071911	EAST LYME	CT	NEW LONDON
073807	ESSEX	CT	MIDDLESEX
078301	FAIRFIELD	CT	FAIRFIELD
075003	GLASTONBURY	CT	HARTFORD
078801	GREENWICH	CT	FAIRFIELD
071211	GROTON	CT	NEW LONDON
076109	GUILFORD	CT	NEW HAVEN
073507	HADDAM	CT	MIDDLESEX
075203	HARTFORD	CT	HARTFORD
072111	LYME	CT	NEW LONDON
076009	MADISON	CT	NEW HAVEN
073407	MIDDLETOWN	CT	MIDDLESEX
076809	MILFORD	CT	NEW HAVEN
071611	MONTVILLE	CT	NEW LONDON
072211	MYSTIC	CT	NEW LONDON
076409	NEW HAVEN	CT	NEW HAVEN
071811	NEW LONDON	CT	NEW LONDON
072311	NIANTIC	CT	NEW LONDON
071111	NOANK	CT	NEW LONDON
078501	NORWALK	CT	FAIRFIELD
071511	NORWICH	CT	NEW LONDON
072011	OLD LYME	CT	NEW LONDON
073907	OLD SAYBROOK	CT	MIDDLESEX
070999	OTHER CONNECTICUT	CT	NOT-SPECIFIED
070901	OTHER FAIRFIELD	CT	FAIRFIELD
070903	OTHER HARTFORD	CT	HARTFORD
070907	OTHER MIDDLESEX	CT	MIDDLESEX
070909	OTHER NEW HAVEN	CT	NEW HAVEN
070911	OTHER NEW LONDON	CT	NEW LONDON
073207	PORTLAND	CT	MIDDLESEX
075403	ROCKY HILL	CT	HARTFORD
078701	STAMFORD	CT	FAIRFIELD

071011	STONINGTON		CT	NEW LONDON
078101	STRATFORD		CT	FAIRFIELD
071711	WATERFORD		CT	NEW LONDON
076709	WEST HAVEN		CT	NEW HAVEN
074007	WESTBROOK		CT	MIDDLESEX
078401	WESTPORT		CT	FAIRFIELD
075303	WHETHERSFIELD		CT	HARTFORD
075503	WINDSOR LOCKS		CT	HARTFORD
090999	WASHINGTON		DC	CITY OF WASHINGTON
080401	BOWERS BEACH		DE	KENT
080305	INDIAN RIVER		DE	SUSSEX
080205	LEWES		DE	SUSSEX
080501	MISPILLION		DE	KENT
080999	OTHER DELAWARE		DE	NOT-SPECIFIED
080901	OTHER KENT		DE	KENT
080903	OTHER NEW CASTLE		DE	NEW CASTLE
080905	OTHER SUSSEX		DE	SUSSEX
080105	PORT MAHON		DE	SUSSEX
100905	GREEN COVE		FL	CLAY
110901	OTHER BAY		FL	BAY
100901	OTHER BREVARD		FL	BREVARD
100903	OTHER BROWARD		FL	BROWARD
110903	OTHER CHARLOTTE		FL	CHARLOTTE
110905	OTHER CITRUS		FL	CITRUS
110907	OTHER COLLIER		FL	COLLIER
100907	OTHER DADE		FL	DADE
110909	OTHER DIXIE		FL	DIXIE
100908	OTHER DUVAL		FL	DUVAL
110911	OTHER ESCAMBIA		FL	ESCAMBIA
110992	OTHER ESCAMBIA/SANTA ROSA		FL	ESCAMBIA/SANTA ROSA
100909	OTHER FLAGLER		FL	FLAGLER
110913	OTHER FRANKLIN		FL	FRANKLIN
110914	OTHER GADSDEN		FL	GADSDEN
100911	OTHER GLADES		FL	GLADES
110915	OTHER GULF		FL	GULF
100913	OTHER HENRY		FL	HENRY
110917	OTHER HERNANDO		FL	HERNANDO
110994	OTHER HERNANDO/PASCO		FL	HERNANDO/PASCO
110919	OTHER HILLSBOROUGH		FL	HILLSBOROUGH
100915	OTHER INDIAN RIVER		FL	INDIAN RIVER
110921	OTHER JEFFERSON		FL	JEFFERSON
100916	OTHER LAKE		FL	LAKE
100991	OTHER LAKE (INLAND)		FL	LAKE
110923	OTHER LEE		FL	LEE
110925	OTHER LEVY		FL	LEVY
110927	OTHER MANATEE		FL	MANATEE
100917	OTHER MARION		FL	MARION
100919	OTHER MARTIN		FL	MARTIN
110929	OTHER MONORE		FL	MONORE

100921	OTHER NASSAU	FL	NASSAU
100993	OTHER OCEOLA (INLAND)	FL	OCEOLA
110931	OTHER OKALOOSA	FL	OKALOOSA
110993	OTHER OKALOOSA/WALTON	FL	OKALOOSA/WALTON
100922	OTHER OKEECHOBEE	FL	OKEECHOBEE
100923	OTHER PALM BEACH	FL	PALM BEACH
110933	OTHER PASCO	FL	PASCO
110935	OTHER PINELLAS	FL	PINELLAS
100924	OTHER POLK	FL	POLK
100925	OTHER PUTHAM	FL	PUTHAM
110937	OTHER SANTA ROSA	FL	SANTA ROSA
110939	OTHER SARASOTA	FL	SARASOTA
100927	OTHER ST JOHNS	FL	ST JOHNS
100929	OTHER ST LUCIE	FL	ST LUCIE
110941	OTHER TAYLOR	FL	TAYLOR
100933	OTHER VOLUSIA	FL	VOLUSIA
110943	OTHER WAKULLA	FL	WAKULLA
110945	OTHER WALTON	FL	WALTON
970999	DOMESTIC JOINT VENTURE	JV	
980999	FOREIGN JOINT VENTURE	JV	
240307	AMESBURY	MA	ESSEX
241201	BARNSTABLE	MA	BARNSTABLE
240407	BEVERLY	MA	ESSEX
241407	BEVERLY/SALEM	MA	ESSEX
240115	BOSTON	MA	SUFFOLK
240301	CHATHAM	MA	BARNSTABLE
240105	CHILMARK	MA	DUKES
242511	COHASSET	MA	NORFOLK
241401	COTUIT	MA	BARNSTABLE
242405	CUTTYHUNK	MA	DUKES
240507	DANVERS	MA	ESSEX
241803	DARTMOUTH	MA	BRISTOL
240101	DENNIS	MA	BARNSTABLE
242713	DUXBURY	MA	PLYMOUTH
241701	EASTHAM	MA	BARNSTABLE
240205	EDGARTOWN	MA	DUKES
243007	ESSEX	MA	ESSEX
242203	FAIRHAVEN	MA	BRISTOL
240903	FALL RIVER	MA	BRISTOL
241001	FALMOUTH	MA	BARNSTABLE
240103	FREETOWN	MA	BRISTOL
240207	GLOUCESTER	MA	ESSEX
242901	HARWICHPORT	MA	BARNSTABLE
240111	HINGHAM	MA	NORFOLK
244013	HULL	MA	PLYMOUTH
241507	IPSWICH	MA	ESSEX
241607	LYNN	MA	ESSEX
240607	MANCHESTER	MA	ESSEX
243107	MARBLEHEAD	MA	ESSEX

240113	MARION	MA	PLYMOUTH
240213	MARSHFIELD	MA	PLYMOUTH
240313	MATTAPOISETT	MA	PLYMOUTH
243207	NAHANT	MA	ESSEX
240909	NANTUCKET	MA	NANTUCKET
241501	NAUSET	MA	BARNSTABLE
240403	NEW BEDFORD	MA	BRISTOL
240707	NEWBURY	MA	ESSEX
241907	NEWBURYPORT	MA	ESSEX
240305	OAK BLUFFS	MA	DUKES
243913	ONSET	MA	PLYMOUTH
241601	ORLEANS	MA	BARNSTABLE
240901	OTHER BARNSTABLE	MA	BARNSTABLE
240905	OTHER DUKES	MA	DUKES
240907	OTHER ESSEX	MA	ESSEX
240999	OTHER MASS	MA	NOT-SPECIFIED
240911	OTHER NORFOLK	MA	NORFOLK
240913	OTHER PLYMOUTH	MA	PLYMOUTH
240915	OTHER SUFFOLK	MA	SUFFOLK
240513	PLYMOUTH	MA	PLYMOUTH
240601	PROVINCETOWN	MA	BARNSTABLE
240211	QUINCY	MA	NORFOLK
240415	REVERE	MA	SUFFOLK
241707	ROCKPORT	MA	ESSEX
240807	SALEM	MA	ESSEX
241007	SALISBURY	MA	ESSEX
240701	SANDWICH	MA	BARNSTABLE
241107	SAUGUS	MA	ESSEX
240813	SCITUATE	MA	PLYMOUTH
241207	SWAMPSCOTT	MA	ESSEX
240405	TISBURY	MA	DUKES
241101	WELLFLEET	MA	BARNSTABLE
241903	WESTPORT	MA	BRISTOL
240215	WEYMOUTH	MA	SUFFOLK
240315	WINTHROP	MA	SUFFOLK
241901	WOODS HOLE	MA	BARNSTABLE
241301	YARMOUTH	MA	BARNSTABLE
233011	AQUALAND	MD	CHARLES
235123	BLAKE CREEK	MD	ST. MARY'S
236023	BRETON BAY	MD	ST. MARY'S
233019	BROAD CREEK	MD	PRINCE GEORGE'S
237223	CANOE NECK CREEK	MD	ST. MARY'S
233223	CARTHEGENA CREEK	MD	ST. MARY'S
237011	CHICAMUXEN CREEK	MD	CHARLES
236123	COMBS CREEK	MD	ST. MARY'S
233323	COOPER CREEK	MD	ST. MARY'S
231511	CUCKOLDS CREEK	MD	CHARLES
237523	DUKEHART CREEK	MD	ST. MARY'S
235323	FLOOD CREEK	MD	ST. MARY'S

234111	GOOSE BAY	MD	CHARLES
235023	HERRING CREEK	MD	ST. MARY'S
234123	ISLAND CREEK	MD	ST. MARY'S
231023	LAKE CONOY	MD	ST. MARY'S
236011	MALLOWS BAY	MD	CHARLES
238511	MARSHALL HALL	MD	CHARLES
237511	MATTAWOMAN CREEK	MD	CHARLES
232511	MORGANTOWN	MD	CHARLES
234511	NANJEMOY CREEK	MD	CHARLES
231011	NEALE SOUND	MD	CHARLES
230131	OCEAN CITY	MD	WORCESTER
230905	OTHER CALVERT	MD	CALVERT
230911	OTHER CHARLES COUNTY	MD	CHARLES
230913	OTHER DORCHESTER	MD	DORCHESTER
230999	OTHER MARYLAND	MD	NOT-SPECIFIED
230919	OTHER PRINCE GEORGE'S	MD	PRINCE GEORGE'S
230925	OTHER SOMERSET	MD	SOMERSET
230923	OTHER ST. MARY'S	MD	ST. MARY'S
230931	OTHER WORCESTER	MD	WORCESTER
234019	OXON COVE	MD	PRINCE GEORGE'S
232011	PICCOWAXEN CREEK	MD	CHARLES
234223	PINEY POINT	MD	ST. MARY'S
231019	PISCATAWAY CREEK	MD	PRINCE GEORGE'S
238011	POMONKEY CREEK	MD	CHARLES
233511	POPES CREEK	MD	CHARLES
235223	POPLAR HILL CREEK	MD	ST. MARY'S
234011	PORT TOBBACO	MD	CHARLES
231111	POTOMAC VIEW	MD	CHARLES
235011	RIVERSIDE	MD	CHARLES
236511	SANDY POINT (MD)	MD	CHARLES
232023	SMITH CREEK	MD	ST. MARY'S
235511	SMITH POINT (MD)	MD	CHARLES
238023	ST. CATHERINE SOUND	MD	ST. MARY'S
237023	ST. CLEMENTS BAY	MD	ST. MARY'S
234023	ST. GEORGES CREEK	MD	ST. MARY'S
233123	ST. INIGOES CREEK	MD	ST. MARY'S
233023	ST. MARY'S RIVER	MD	ST. MARY'S
237123	ST. PATRICK'S CREEK	MD	ST. MARY'S
232019	SWANN CREEK	MD	PRINCE GEORGE'S
232111	WAVERLY CREEK	MD	CHARLES
238123	WHITE NECK CREEK	MD	ST. MARY'S
235423	WHITE POINT BEACH	MD	ST. MARY'S
230511	WICOMICO RIVER (C)	MD	CHARLES
239023	WICOMICO RIVER (S.M.)	MD	ST. MARY'S
226619	ADDISON	ME	WASHINGTON
225615	ARROWSIC	ME	SAGAHADOC
220301	BAILEY ISLAND	ME	CUMBERLAND
222403	BAR HARBOR	ME	HANCOCK
225715	BATH	ME	SAGAHADOC

225815	BAY POINT	ME	SAGAHADOC
225619	BEALS ISLAND	ME	WASHINGTON
221217	BELFAST	ME	KNOX
222603	BERNARD	ME	HANCOCK
226620	BIDDEFORD POOL	ME	YORK
225003	BIRCH HARBOR	ME	HANCOCK
225103	BLUE HILL	ME	HANCOCK
224109	BOOTHBAY HARBOR	ME	LINCOLN
224209	BREMEN	ME	LINCOLN
225009	BRISTOL	ME	LINCOLN
224203	BROOKLIN	ME	HANCOCK
225203	BROOKSVILLE	ME	HANCOCK
222001	BRUNSWICK	ME	CUMBERLAND
225719	BUCKS HARBOR	ME	WASHINGTON
222703	BUNKERS HARBOR	ME	HANCOCK
222407	CAMDEN	ME	KNOX
226720	CAMP ELLIS	ME	YORK
222101	CAPE ELIZABETH	ME	CUMBERLAND
226820	CAPE PORPOISE	ME	YORK
224403	CAPE ROSIER	ME	HANCOCK
220401	CHEBEAGUE ISLAND	ME	CUMBERLAND
222803	COREA	ME	HANCOCK
221201	CUMBERLAND	ME	CUMBERLAND
220501	CUNDYS HARBOR	ME	CUMBERLAND
221307	CUSHING	ME	KNOX
225819	CUTLER	ME	WASHINGTON
225919	DYERS BAY	ME	WASHINGTON
224309	EAST BOOTHBAY	ME	LINCOLN
220601	EAST HARPSWELL	ME	CUMBERLAND
226719	EASTERN HARBOR	ME	WASHINGTON
226819	EASTPORT	ME	WASHINGTON
227320	ELIOT	ME	YORK
221901	FALMOUTH	ME	CUMBERLAND
225015	FIVE ISLANDS	ME	SAGAHADOC
220701	FREEPORT	ME	CUMBERLAND
222903	FRENCHBORO	ME	HANCOCK
221407	FRIENDSHIP	ME	KNOX
221507	FRIENDSHIP HARBOR	ME	KNOX
225915	GEORGETOWN	ME	SAGAHADOC
221301	HARPSWELL	ME	CUMBERLAND
226919	HARRINGTON	ME	WASHINGTON
225115	HERMIT ISLAND	ME	SAGAHADOC
222507	ISLE AU HAUT	ME	KNOX
221017	ISLEBORO	ME	WALDO
223003	ISLESFORD	ME	HANCOCK
226019	JONESPORT	ME	WASHINGTON
226920	KENNEBUNKPORT	ME	YORK
227020	KITTERY	ME	YORK
221401	LONG ISLAND	ME	CUMBERLAND

227019	LUBEC	ME	WASHINGTON
227119	MACHIAS	ME	WASHINGTON
221607	MATINICUS	ME	KNOX
223103	MCKINLEY	ME	HANCOCK
224409	MEDOMAK	ME	LINCOLN
226119	MILBRIDGE	ME	WASHINGTON
225109	MONHEGAN	ME	LINCOLN
224509	NEW HARBOR	ME	LINCOLN
221707	NORTH HAVEN	ME	KNOX
224503	NORTHEAST HARBOR	ME	HANCOCK
224603	NORTHWEST HARBOR	ME	HANCOCK
227420	OGUNQUIT	ME	YORK
221501	ORRS ISLAND	ME	CUMBERLAND
220901	OTHER CUMBERLAND	ME	CUMBERLAND
220903	OTHER HANCOCK	ME	HANCOCK
220905	OTHER KENNEBEC	ME	KENNEBEC
220907	OTHER KNOX	ME	KNOX
220909	OTHER LINCOLN	ME	LINCOLN
220999	OTHER MAINE	ME	NOT-SPECIFIED
220911	OTHER OXFORD	ME	OXFORD
220913	OTHER PENOBSCOT	ME	PENOBSCOT
220915	OTHER SAGAHADOC	ME	SAGAHADOC
220917	OTHER WALDO	ME	WALDO
220919	OTHER WASHINGTON	ME	WASHINGTON
220920	OTHER YORK	ME	YORK
221807	OWLS HEAD	ME	KNOX
224609	PEMAQUID	ME	LINCOLN
221601	PERKINS COVE	ME	CUMBERLAND
225215	PHIPPSBURG	ME	SAGAHADOC
226219	PIGEON HILL	ME	WASHINGTON
220801	PINE POINT	ME	CUMBERLAND
226015	POPHAM	ME	SAGAHADOC
221907	PORT CLYDE	ME	KNOX
220101	PORTLAND	ME	CUMBERLAND
223203	PROSPECT HARBOR	ME	HANCOCK
220207	ROCKLAND	ME	KNOX
226319	ROGUE BLUFFS	ME	WASHINGTON
224709	ROUND POND	ME	LINCOLN
227520	SACO	ME	YORK
224703	SALISBURY COVE	ME	HANCOCK
221701	SCARBOROUGH	ME	CUMBERLAND
224803	SEAL HARBOR	ME	HANCOCK
221117	SEARSPORT	ME	WALDO
225315	SEBASCO ESTATES	ME	SAGAHADOC
225415	SMALL POINT	ME	SAGAHADOC
223303	SORRENTO	ME	HANCOCK
226419	SOUTH ADDISON	ME	WASHINGTON
224809	SOUTH BRISTOL	ME	LINCOLN
221801	SOUTH FREPORT	ME	CUMBERLAND

224903	SOUTH GOULDSBORO	ME	HANCOCK
221001	SOUTH HARPSWELL	ME	CUMBERLAND
224909	SOUTHPORT	ME	LINCOLN
223403	SOUTHWEST HARBOR	ME	HANCOCK
222007	SPRUCEHEAD	ME	KNOX
222107	ST. GEORGE	ME	KNOX
223503	STONINGTON	ME	HANCOCK
227319	STUEBEN	ME	WASHINGTON
223603	SUNSHINE/DEER ISLE	ME	HANCOCK
223803	SWANS ISLAND	ME	HANCOCK
222207	TENANTS HARBOR	ME	KNOX
222503	TREMONT	ME	HANCOCK
222307	VINALHAVEN	ME	KNOX
227620	WELLS	ME	YORK
223903	WEST GOULDSBORO	ME	HANCOCK
226519	WEST JONESPORT	ME	WASHINGTON
225515	WEST POINT	ME	SAGAHADOC
225209	WESTPORT	ME	LINCOLN
224003	WINTER HARBOR	ME	HANCOCK
225309	WISCASSET	ME	LINCOLN
221101	YARMOUTH	ME	CUMBERLAND
227120	YORK	ME	YORK
227220	YORK HARBOR	ME	YORK
360109	ATLANTIC	NC	CARTERET
360119	AVON	NC	DARE
360137	BAYBORO	NC	PAMLICO
360209	BEAUFORT	NC	CARTERET
361001	BELHAVEN	NC	BEAUFORT
360127	ENGELHARD	NC	HYDE
360319	HATTERAS	NC	DARE
360237	HOBUCKEN	NC	PAMLICO
361005	HOLDEN BEACH	NC	BRUNSWICK
360337	LOWLAND	NC	PAMLICO
361119	MANTEO	NC	DARE
360309	MOREHEAD CITY	NC	CARTERET
360227	OCRACOKE	NC	HYDE
360419	OREGON INLET	NC	DARE
360437	ORIENTAL	NC	PAMLICO
360901	OTHER BEAUFORT	NC	BEAUFORT
360903	OTHER BERTIE	NC	BERTIE
360905	OTHER BRUNSWICK	NC	BRUNSWICK
360907	OTHER CAMDEN	NC	CAMDEN
360909	OTHER CARTERET	NC	CARTERET
360911	OTHER CHOWAN	NC	CHOWAN
360913	OTHER CRAVEN	NC	CRAVEN
360915	OTHER CUMBERLAND	NC	CUMBERLAND
360917	OTHER CURRITUCK	NC	CURRITUCK
360919	OTHER DARE	NC	DARE
360921	OTHER GATES	NC	GATES

360923	OTHER HALIFAX	NC	HALIFAX
360925	OTHER HERTFORD	NC	HERTFORD
360927	OTHER HYDE	NC	HYDE
360929	OTHER LENOIR	NC	LENOIR
360931	OTHER MARTIN	NC	MARTIN
360933	OTHER NEW HANOVER	NC	NEW HANOVER
360999	OTHER NORTH CAROLINA	NC	NOT-SPECIFIED
360935	OTHER ONSLOW	NC	ONSLOW
360937	OTHER PAMLICO	NC	PAMLICO
360939	OTHER PASQUOTANK	NC	PASQUOTANK
360941	OTHER PENDER	NC	PENDER
360943	OTHER PERQUIMANS	NC	PERQUIMANS
360945	OTHER PITT	NC	PITT
360947	OTHER TYRRELL	NC	TYRRELL
360949	OTHER WASHINGTON	NC	WASHINGTON
360951	OTHER WAYNE	NC	WAYNE
361037	PAMLICO	NC	PAMLICO
360409	SALTER PATH	NC	CARTERET
361035	SNEADS FERRY	NC	ONSLOW
361027	SWAN QUARTER	NC	HYDE
360135	SWANSBORO	NC	ONSLOW
360537	VANDEMERE	NC	PAMLICO
360219	WANCHESE	NC	DARE
320102	DURHAM	NH	STRAFFORD
320501	GREAT BAY	NH	ROCKINGHAM
320801	HAMPTON	NH	ROCKINGHAM
320301	HAMPTON/SEABROOK	NH	ROCKINGHAM
320601	NEW CASTLE	NH	ROCKINGHAM
320101	NEW HAMPSHIRE	NH	ROCKINGHAM
320701	NEWINGTON	NH	ROCKINGHAM
320201	PORTSMOUTH	NH	ROCKINGHAM
320401	RYE	NH	ROCKINGHAM
320901	SEABROOK	NH	ROCKINGHAM
330201	ATLANTIC CITY	NJ	ATLANTIC
331009	AVALON	NJ	CAPE MAY
330227	BARNEGAT	NJ	OCEAN
331627	BARNEGAT LIGHT/LONG BEACH	NJ	OCEAN
330327	BAYVILLE	NJ	OCEAN
331125	BELFORD	NJ	MONMOUTH
331325	BELMAR	NJ	MONMOUTH
331011	BIVALVE	NJ	CUMBERLAND
330427	BRICK	NJ	OCEAN
331525	BRIELLE	NJ	MONMOUTH
331909	BURLEIGH	NJ	CAPE MAY
330309	CAPE MAY	NJ	CAPE MAY
331033	ELIZABETH	NJ	UNION
330527	FORKED RIVER	NJ	OCEAN
331225	HIGHLANDS	NJ	MONMOUTH
331017	JERSEY CITY	NJ	HUDSON

330125	KEYPORT	NJ	MONMOUTH
331001	LEEDS POINT	NJ	ATLANTIC
330225	MANASQUAN	NJ	MONMOUTH
330627	MANTALOKING	NJ	OCEAN
330325	MIDDLETOWN	NJ	MONMOUTH
330425	MONMOUTH	NJ	MONMOUTH
330727	MYSTIC ISLANDS	NJ	OCEAN
331425	NEPTUNE	NJ	MONMOUTH
331101	NORTHFIELD	NJ	ATLANTIC
331109	OCEAN CITY	NJ	CAPE MAY
331023	OLD BRIDGE	NJ	MIDDLESEX
330901	OTHER ATLANTIC	NJ	ATLANTIC
330903	OTHER BERGEN	NJ	BERGEN
330905	OTHER BURLINGTON	NJ	BURLINGTON
330907	OTHER CAMDEN	NJ	CAMDEN
330909	OTHER CAPE MAY	NJ	CAPE MAY
330911	OTHER CUMBERLAND	NJ	CUMBERLAND
330913	OTHER ESSEX	NJ	ESSEX
330915	OTHER GLOUCESTER	NJ	GLOUCESTER
330917	OTHER HUDSON	NJ	HUDSON
330919	OTHER HUNTERDON	NJ	HUNTERDON
330921	OTHER MERCER	NJ	MERCER
330923	OTHER MIDDLESEX	NJ	MIDDLESEX
330925	OTHER MONMOUTH	NJ	MONMOUTH
330999	OTHER NJ	NJ	NOT-SPECIFIED
330927	OTHER OCEAN	NJ	OCEAN
330929	OTHER PASSAIC	NJ	PASSAIC
330931	OTHER SALEM	NJ	SALEM
330933	OTHER UNION	NJ	UNION
330827	PINE BEACH	NJ	OCEAN
330127	POINT PLEASANT	NJ	OCEAN
331711	PORT NORRIS	NJ	CUMBERLAND
331201	PORT REPUBLIC	NJ	ATLANTIC
330525	RED BANK	NJ	MONMOUTH
331209	REEDS BEACH	NJ	CAPE MAY
331309	RUMSON	NJ	CAPE MAY
330625	SEA BRIGHT	NJ	MONMOUTH
330509	SEA ISLE CITY	NJ	CAPE MAY
330725	SHARK RIVER	NJ	MONMOUTH
331409	STONE HARBOR	NJ	CAPE MAY
331027	TOMS RIVER	NJ	OCEAN
331227	TUCKERTON	NJ	OCEAN
331811	VINELAND	NJ	CUMBERLAND
331127	WARETOWN	NJ	OCEAN
330409	WILDWOOD	NJ	CAPE MAY
331123	WOODBIDGE	NJ	MIDDLESEX
350835	AMMAGANSETT	NY	SUFFOLK
350211	BROOKLYN	NY	KINGS
350315	FREEPORT	NY	NASSAU

350535	GREENPORT	NY	SUFFOLK
350735	HAMPTON BAY	NY	SUFFOLK
350435	ISLIP	NY	SUFFOLK
351035	MATTITUCK	NY	SUFFOLK
350635	MONTAUK	NY	SUFFOLK
350117	NEW YORK CITY	NY	NEW YORK
350903	OTHER BRONX	NY	BRONX
350905	OTHER COLUMBIA	NY	COLUMBIA
350907	OTHER DUCHESS	NY	DUCHESS
350909	OTHER GREENE	NY	GREENE
350911	OTHER KINGS	NY	KINGS
350915	OTHER NASSAU	NY	NASSAU
350999	OTHER NY	NY	NOT-SPECIFIED
350923	OTHER QUEENS	NY	QUEENS
350927	OTHER RICHMOND	NY	RICHMOND
350929	OTHER ROCKLAND	NY	ROCKLAND
350935	OTHER SUFFOLK	NY	SUFFOLK
350937	OTHER ULSTER	NY	ULSTER
350939	OTHER WESTCHESTER	NY	WESTCHESTER
351215	POINT LOOKOUT	NY	NASSAU
351135	SHINNECOCK	NY	SUFFOLK
410107	CHESTER	PA	DELAWARE
410117	PHILADELPHIA	PA	PHILADELPHIA
421001	BARINGTON	RI	BRISTOL
420601	BRISTOL	RI	BRISTOL
421209	CHARLESTOWN	RI	WASHINGTON
421605	JAMESTOWN	RI	NEWPORT
421805	LITTLE COMPTON	RI	NEWPORT
420705	MELVILLE	RI	NEWPORT
421705	MIDDLETOWN	RI	NEWPORT
421309	NEW SHOREHAM	RI	WASHINGTON
420105	NEWPORT	RI	NEWPORT
421509	NORTH KINGSTOWN	RI	WASHINGTON
420901	OTHER BRISTOL	RI	BRISTOL
420903	OTHER KENT	RI	KENT
420905	OTHER NEWPORT	RI	NEWPORT
420907	OTHER PROVIDENCE	RI	PROVIDENCE
420999	OTHER R.I.	RI	NOT-SPECIFIED
420909	OTHER WASHINGTON	RI	WASHINGTON
420209	POINT JUDITH	RI	WASHINGTON
420505	PORTSMOUTH	RI	NEWPORT
421007	PROVIDENCE	RI	PROVIDENCE
421409	SOUTH KINGSTOWN	RI	WASHINGTON
420405	TIVERTON	RI	NEWPORT
420301	WARREN	RI	BRISTOL
421003	WARWICK	RI	KENT
421109	WESTERLEY	RI	WASHINGTON
430913	GEORGETOWN	SC	GEORGETOWN
490902	ALEXANDRIA	VA	CITY OF ALEXANDRIA

492061	AQUIA CREEK	VA	STAFFORD
499201	ATLANTIC	VA	ACCOMAC
493029	BARNESFIELD	VA	KING GEORGE
491117	BELMOUNT BAY	VA	FAIRFAX
498029	BELVEDERE BEACH	VA	KING GEORGE
492067	BONUMS CREEK	VA	WESTMORELAND
495167	BRANSON COVE	VA	WESTMORELAND
495367	CABIN POINT CREEK	VA	WESTMORELAND
490345	CAPE CHARLES	VA	NORTHAMPTON
492053	CHERRY HILL	VA	PRINCE WILLIAM
490701	CHINCOTEAGUE	VA	ACCOMAC
497047	COAN RIVER	VA	NORTHUMBERLAND
496047	COD CREEK	VA	NORTHUMBERLAND
493047	CUBITT CREEK	VA	NORTHUMBERLAND
496167	CURRIOMAN BAY	VA	WESTMORELAND
493017	DOUGE CREEK	VA	FAIRFAX
497029	FAIRVIEW BEACH	VA	KING GEORGE
493167	GARDNER CREEK	VA	WESTMORELAND
491001	GREENBACKVILLE	VA	ACCOMAC
492017	GUNSTON COVE	VA	FAIRFAX
492047	HACK CREEK	VA	NORTHUMBERLAND
490118	HAMPTON	VA	CITY OF HAMPTON
498347	HAMPTON HALL BRANCH	VA	NORTHUMBERLAND
496567	HORNER BEACH	VA	WESTMORELAND
494047	HULL CREEK	VA	NORTHUMBERLAND
495017	HUNTING CREEK	VA	FAIRFAX
493067	JACKSON CREEK	VA	WESTMORELAND
497347	KILLNECK CREEK	VA	NORTHUMBERLAND
497147	KINGSCOTE CREEK	VA	NORTHUMBERLAND
491267	KINSALE	VA	WESTMORELAND
494017	LITTLE HUNTING CREEK	VA	FAIRFAX
491047	LITTLE WICOMICO RIVER	VA	NORTHUMBERLAND
498247	LODGE CREEK	VA	NORTHUMBERLAND
495067	LOWER MACHODOC CREEK	VA	WESTMORELAND
499301	MAPPSVILLE	VA	ACCOMAC
494029	MATHAIS POINT	VA	KING GEORGE
497067	MATTOX CREEK	VA	WESTMORELAND
498067	MONROE BAY	VA	WESTMORELAND
498147	MUNDY POINT	VA	NORTHUMBERLAND
494053	NEABSCO CREEK	VA	PRINCE WILLIAM
490910	NEWPORT NEWS	VA	CITY OF NEWPORT NEWS
496067	NOMINI BAY	VA	WESTMORELAND
490213	NORFOLK	VA	CITY OF NORFOLK
491017	OCCOQUAN BAY (F)	VA	FAIRFAX
495053	OCCOQUAN BAY (P.W.)	VA	PRINCE WILLIAM
490901	OTHER ACCOMAC	VA	ACCOMAC
490905	OTHER CAROLINE	VA	CAROLINE
490907	OTHER CHARLES CITY	VA	CHARLES CITY
490909	OTHER CHESTERFIELD	VA	CHESTERFIELD

490903	OTHER CITY OF ARLINGTON	VA	CITY OF ARLINGTON
490916	OTHER CITY OF CHESAPEAKE	VA	CITY OF CHESAPEAKE
490918	OTHER CITY OF HAMPTON	VA	CITY OF HAMPTON
490913	OTHER CITY OF NORFOLK	VA	CITY OF NORFOLK
490914	OTHER CITY OF PORTSMOUTH	VA	CITY OF PORTSMOUTH
490912	OTHER CITY OF RICHMOND	VA	CITY OF RICHMOND
490939	OTHER CITY OF SUFFOLK	VA	CITY OF SUFFOLK
490911	OTHER DINWIDDIE	VA	DINWIDDIE
490915	OTHER ESSEX	VA	ESSEX
490917	OTHER FAIRFAX	VA	FAIRFAX
490919	OTHER GLOUCESTER	VA	GLOUCESTER
490920	OTHER HANOVER	VA	HANOVER
490921	OTHER HENRICO	VA	HENRICO
490923	OTHER ISLE OF WIGHT	VA	ISLE OF WIGHT
490925	OTHER JAMES CITY	VA	JAMES CITY
490927	OTHER KING & QUEEN	VA	KING & QUEEN
490929	OTHER KING GEORGE	VA	KING GEORGE
490931	OTHER KING WILLIAM	VA	KING WILLIAM
490933	OTHER LANCASTER	VA	LANCASTER
490935	OTHER MATHEWS	VA	MATHEWS
490937	OTHER MIDDLESEX	VA	MIDDLESEX
490941	OTHER NEW KENT	VA	NEW KENT
490945	OTHER NORTHAMPTON	VA	NORTHAMPTON
490947	OTHER NORTHUMBERLAND	VA	NORTHUMBERLAND
490949	OTHER PRINCE GEORGE	VA	PRINCE GEORGE
490953	OTHER PRINCE WILLIAM	VA	PRINCE WILLIAM
490955	OTHER RICHMOND	VA	RICHMOND
490957	OTHER SOUTHAMPTON	VA	SOUTHAMPTON
490959	OTHER SPOTSYLVANIA	VA	SPOTSYLVANIA
490961	OTHER STAFFORD	VA	STAFFORD
490963	OTHER SURRY	VA	SURRY
490999	OTHER VA	VA	NOT-SPECIFIED
490967	OTHER WESTMORELAND	VA	WESTMORELAND
490969	OTHER YORK	VA	YORK
490645	OYSTER	VA	NORTHAMPTON
499029	POTOMAC CREEK (K.G.)	VA	KING GEORGE
491061	POTOMAC CREEK (S)	VA	STAFFORD
493053	POWELLS CREEK	VA	PRINCE WILLIAM
495047	PRESELY CREEK	VA	NORTHUMBERLAND
491053	QUANTICO CREEK	VA	PRINCE WILLIAM
491101	QUINBY	VA	ACCOMAC
494067	RAGGED POINT HOLLOW	VA	WESTMORELAND
491029	ROSIERS CREEK (K.G.)	VA	KING GEORGE
499067	ROSIERS CREEK (W)	VA	WESTMORELAND
499101	SANFORD	VA	ACCOMAC
490869	SEAFORD	VA	YORK
491167	SHANNON BRANCH	VA	WESTMORELAND
496029	SOMERSET BEACH	VA	KING GEORGE
497247	THE GLEBE	VA	NORTHUMBERLAND

495267	TIDWELLS	VA	WESTMORELAND
493061	TOLSONS LANDING	VA	STAFFORD
492029	UPPER MACHODOC CREEK	VA	KING GEORGE
490951	VIRGINIA BEACH/LYNNHAVEN	VA	CITY OF VIRGINIA BEACH
490401	WACHAPREAGUE	VA	ACCOMAC
495029	WATERLOO	VA	KING GEORGE
494061	WIDEWATER	VA	STAFFORD
492129	WILLIAMS CREEK	VA	KING GEORGE
490845	WILLIS WHARF	VA	NORTHAMPTON
498047	YEOCOMICO RIVER (N)	VA	NORTHUMBERLAND
491067	YEOCOMICO RIVER (W)	VA	WESTMORELAND
990999	UNKNOWN	NK	UNKNOWN

Appendix D. 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
 105 GILLNET, ANCHORED-FLOATING, FISH¹
 116 GILLNET, DRIFT-FLOATING, FISH²
 115 GILLNET, DRIFT, LARGE PELAGIC
 117 GILLNET, DRIFT-SINK, FISH³
 100 GILLNET, FIXED OR ANCHORED, SINK, OTHER/NK SPECIES⁴
 102 GILLNET, STAKE, OTHER
 020 HANDLINE (ROD & REEL)
 030 HARPOON, OTHER
 031 HARPOON, SWORDFISH
 070 HAUL SEINE, BEACH, COMMON
 071 HAUL SEINE, LONG
 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
 121 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
 052 TRAWL, OTTER, BOTTOM, SCALLOP
 058 TRAWL, OTTER, BOTTOM, SHRIMP
 370 TRAWL, OTTER, MIDWATER
 170 TRAWL, OTTER, MIDWATER PAIRED
 054 TRAWL, OTTER, BOTTOM, RUHLE
 053 TRAWL, TWIN
 060 TROLLLINE, OTHER

¹ An anchored-float gillnet is defined as a vertical wall of netting that is anchored or fixed to the substrate and is fished off the ocean bottom.

² A drift-float gillnet is defined as a vertical wall of netting that is not anchored or fixed to the substrate and is fished off the ocean bottom.

³ A drift-sink gillnet is defined as a vertical wall of netting that is not anchored or fixed to the substrate and is fished on the ocean bottom.

⁴ An anchored or fixed sink gillnet is defined as a vertical wall of netting that is anchored or fixed to the substrate and is fished on the ocean bottom.

Chart 1. Overview of the Northeast Statistical Areas

Do not use for navigation

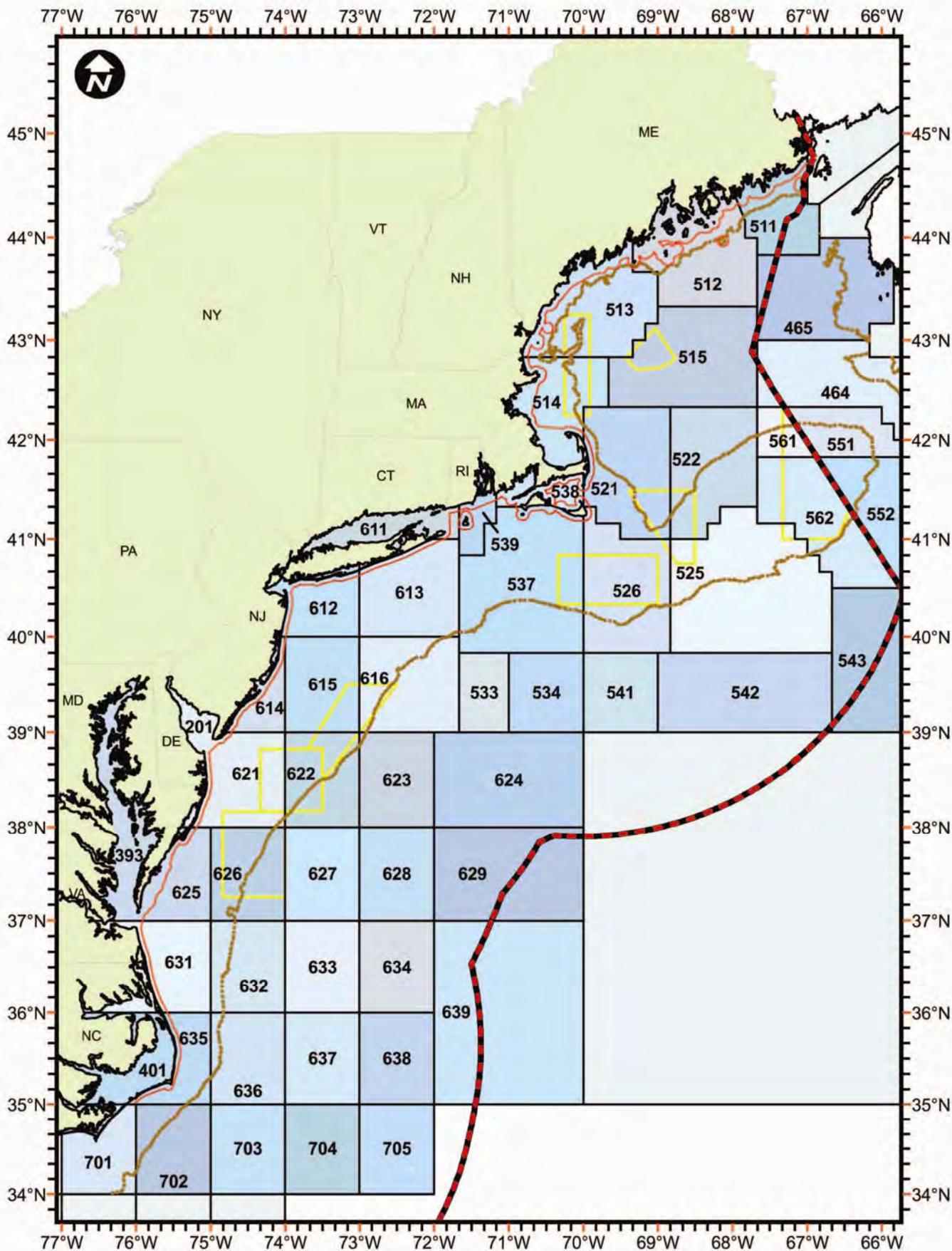


Chart 3a. Georges Bank

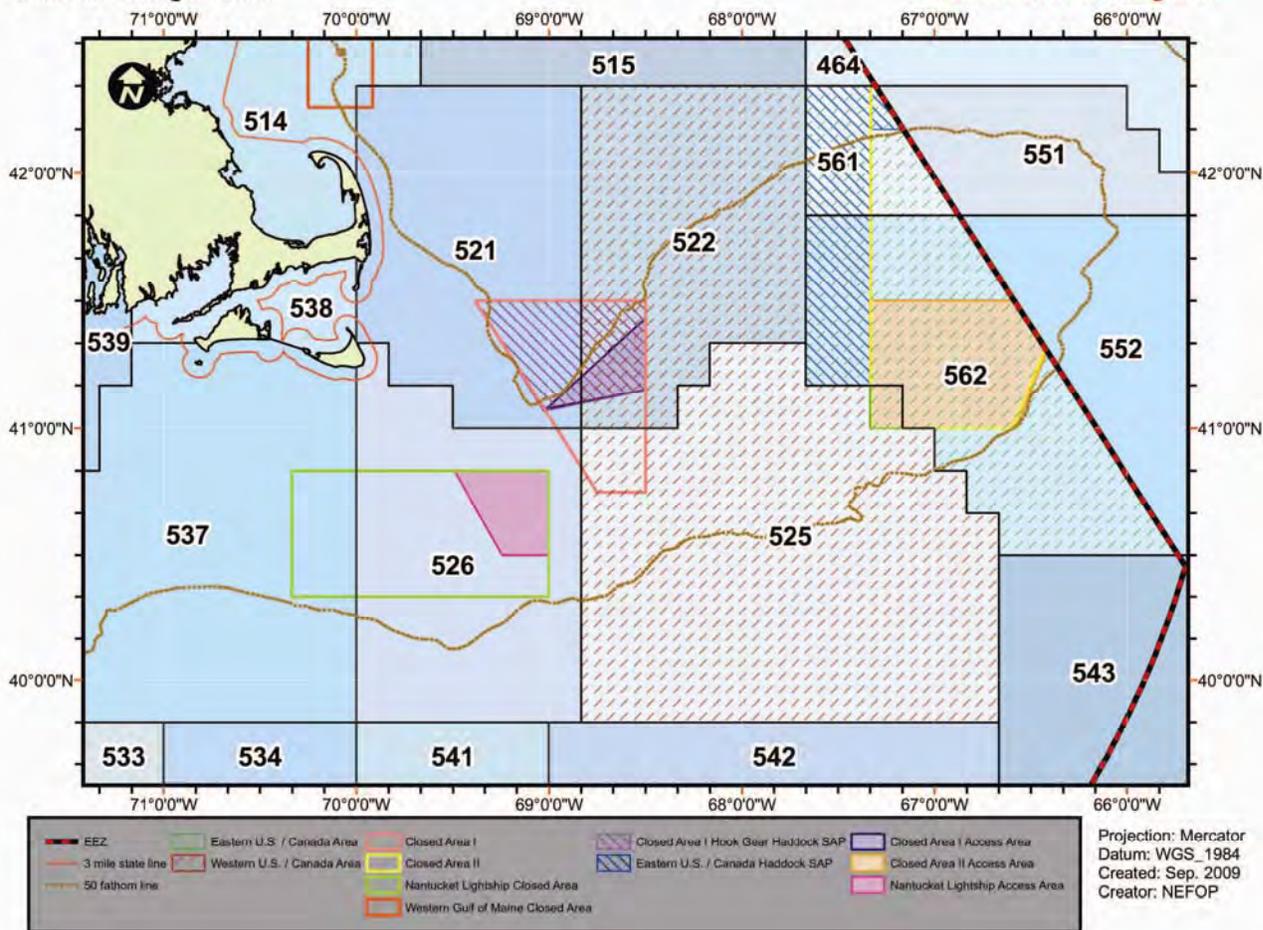


Chart 3b. Georges Bank with Loran Lines

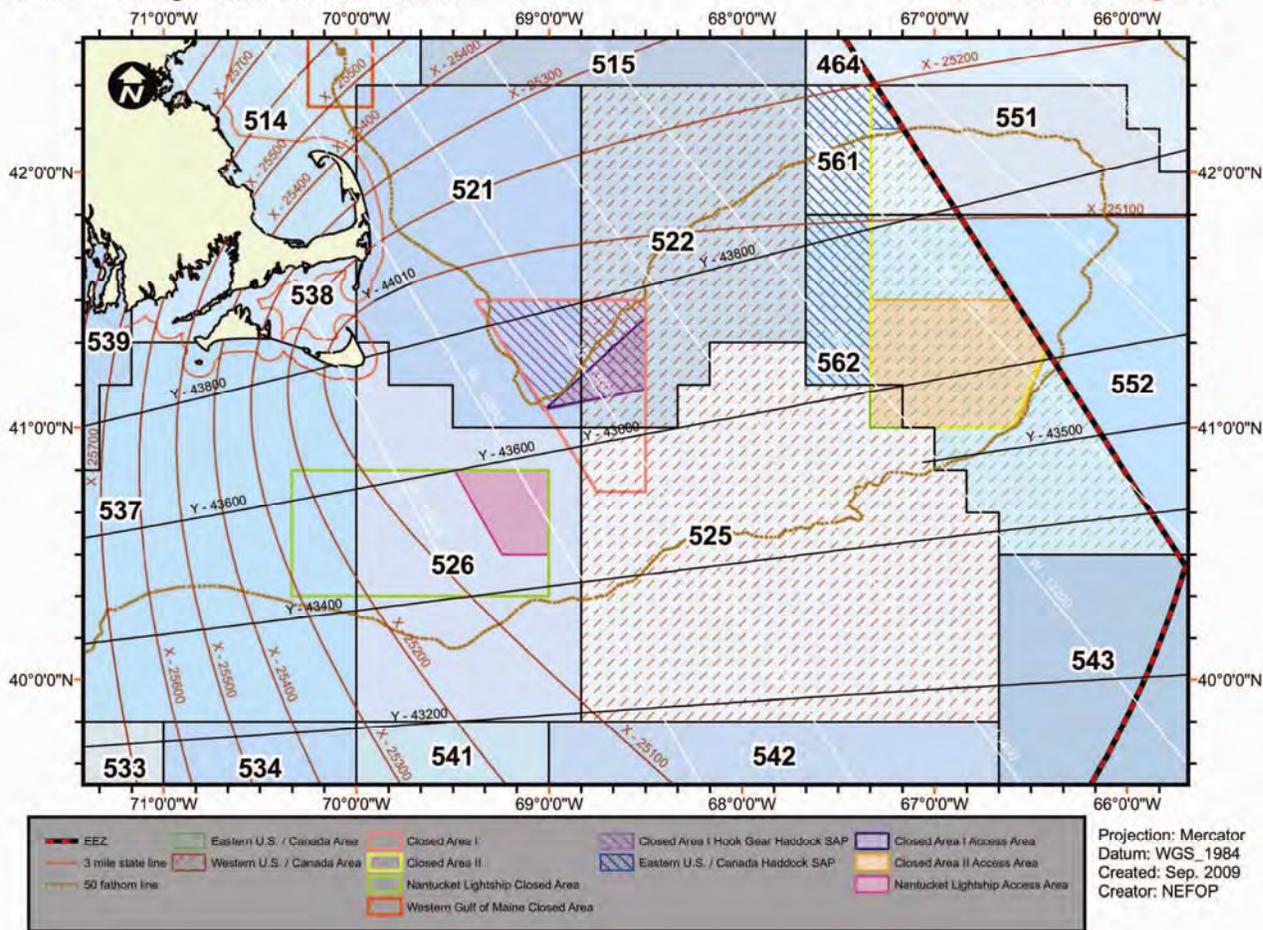


Chart 4. Detail of US/Canada Management Area and SAPs

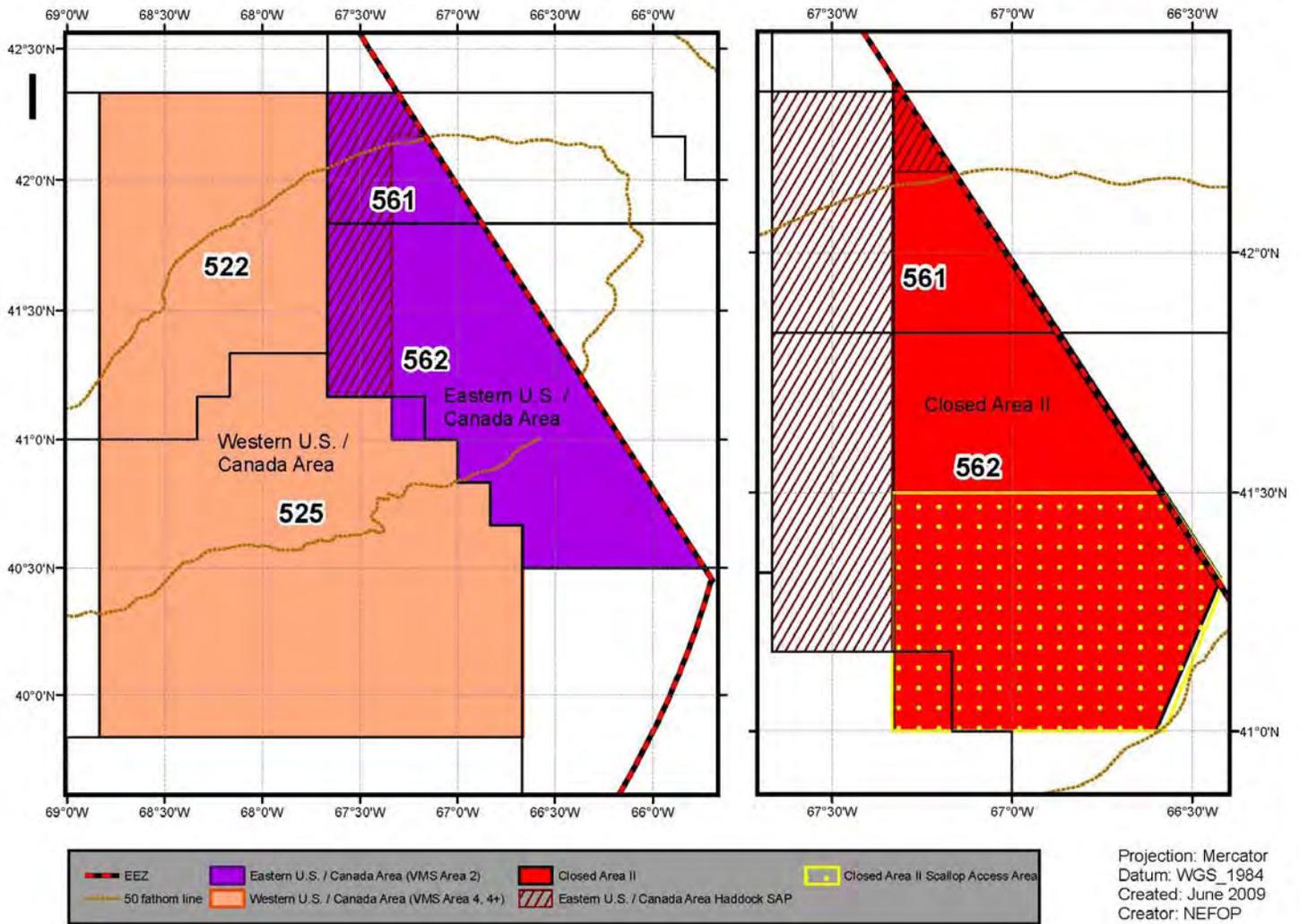


Chart 5a. Southern New England

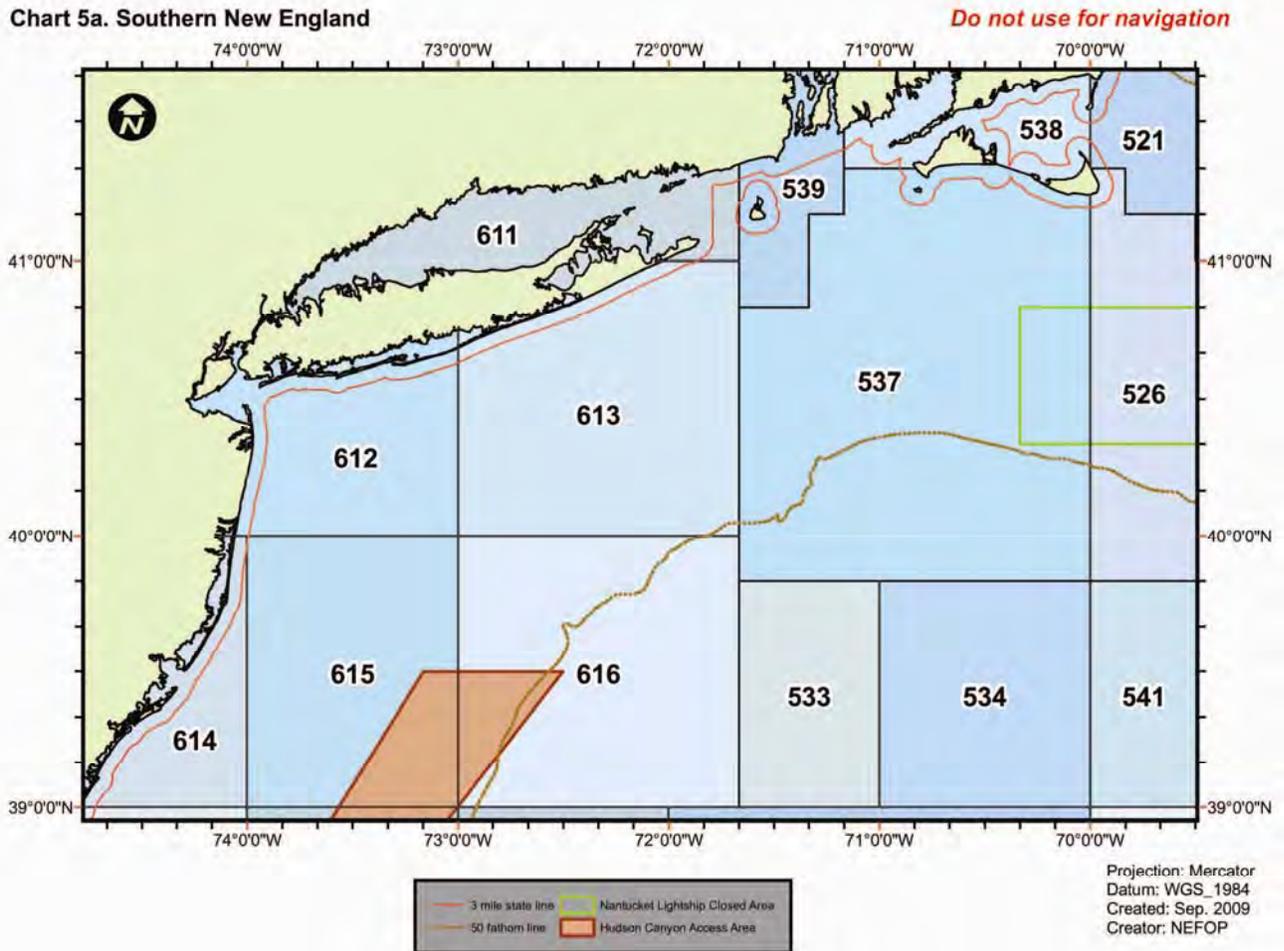


Chart 5b. Southern New England with Loran Lines

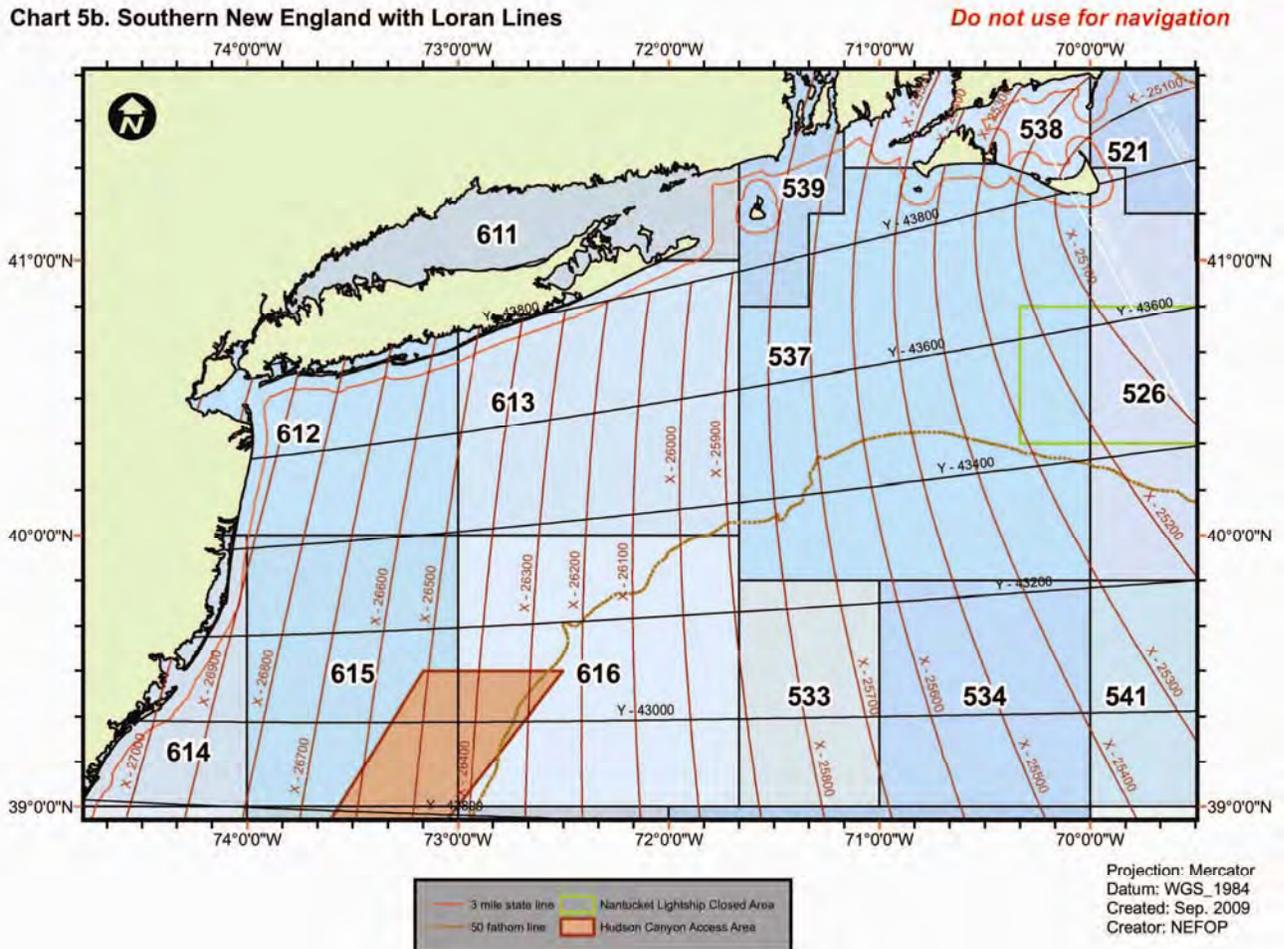
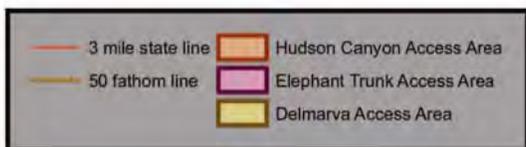
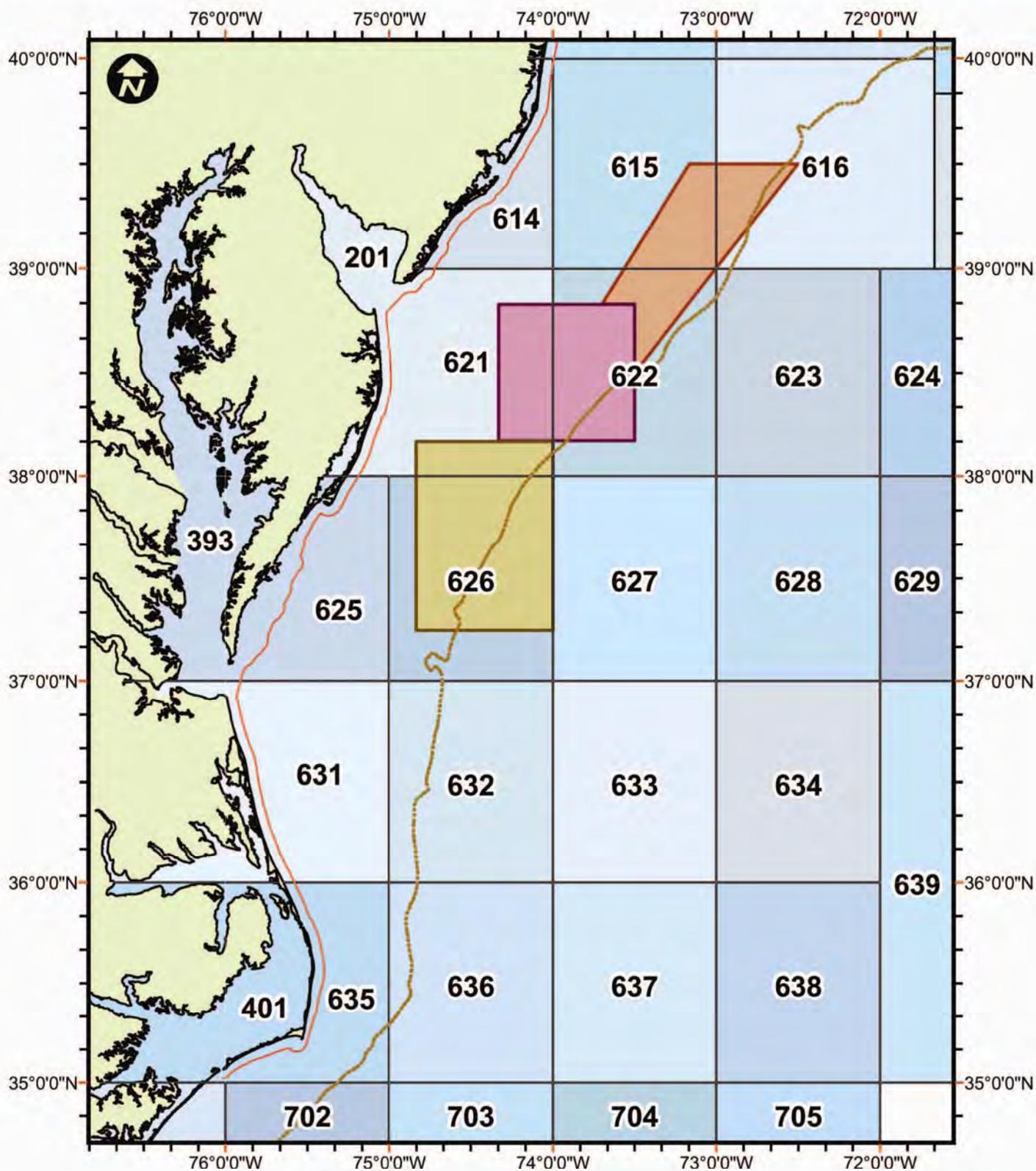


Chart 6a. Mid-Atlantic

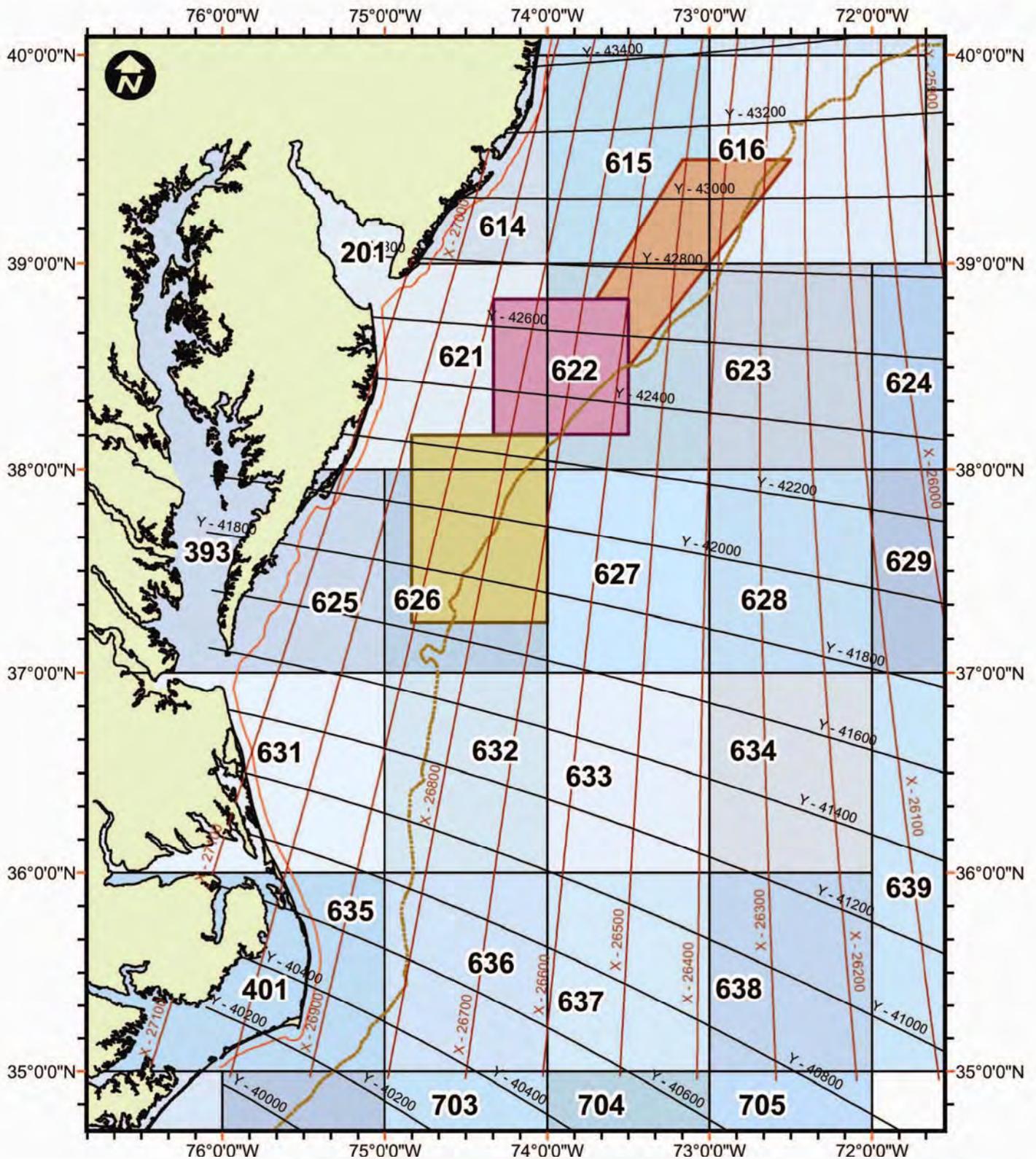
Do not use for navigation



Projection: Mercator
Datum: WGS_1984
Created: Sep. 2009
Creator: NEFOP

Chart 6b. Mid-Atlantic with Loran Lines

Do not use for navigation



	3 mile state line		Hudson Canyon Access Area
	50 fathom line		Elephant Trunk Access Area
			Delmarva Access Area

Projection: Mercator
 Datum: WGS_1984
 Created: Sep. 2009
 Creator: NEFOP

Appendix F. 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 (i.e., 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 (i.e., 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 endings to the Observer/Trip Identifier:

- A non-gillnet trip, (i.e., 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.
- L A limited fish sampling gillnet trip.
- M An aborted limited fish sampling gillnet trip.

Examples: A02002L would indicate the second trip (002) of the calendar year for observer Green, assigned identifier A02, which happens to be a gillnet trip with limited fish sampling (L).

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 (-).

E60005D would indicate the fifth trip 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 G. 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) 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 Logs. Additionally, information regarding the discarding events were filled in on one (1) Discard Log. The page numbers for the 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 Logs 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 “1 of 2” and “2 of 2”.

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 Logs (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 DREDGE OFF-WATCH HAUL LOG

These logs are numbered on a per **trip** basis. A new log should be started for each off-watch period.

- Example: A scallop trip required thirty (30) of these logs to record all of the hauls which occurred during the observer’s off-watch periods. The page numbers would be “1 of 30”, “2 of 30”, “3 of 30”, etc. These logs should be inserted in the trip for where they occurred.

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 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 H. 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, 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 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 I. Gear Condition Codes

Used on all Haul Logs, with specific codes for each fishery.

ALL HAUL LOGS

- 000 = Unknown.
- 990 = Other. Specify in COMMENTS.

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, i.e., weather/oceanic conditions caused the gear to become tangled, or otherwise lowered the fishability of the gear.
- 630 = Greater than 50% of gear fouled, i.e., 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 (i.e., 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 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. Material / Other Codes

Used on all Gear Characteristics Logs, with specific codes for each fishery.

All Gear Characteristics Logs

- 0 or 00 = Unkown.
 - 9 or 99 = Other. Specify in COMMENTS.
-

Anchor Type:

- 1 = Danforth-style.
- 2 = Dead weight (i.e. railroad tracks, mushroom weights, pile of leadline tied together).
- 8 = Combination. Specify all types.

NOTE: Burying anchor would be 'other'.

Line Type:

- 1 = Sinking / Neutrally Buoyant.
- 2 = Floating.
- 8 = Combination. Specify all types.

Weak Link Type:

- 1 = Rope of Appropriate Breaking Strength.
- 2 = Off the Shelf.
- 3 = Overhand Knot.
- 4 = Hog Rings.
- 8 = Combination. Specify all types.

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 (Longline Only):

- 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®.
 - 98 = Combination. Specify all types.
- 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.
- 8 = Combination. Specify all types.

Purse Ring Material:

- 1 = Steel.
- 2 = Iron.
- 3 = Alloy.

Excluder/Separator Device Type:

- 01 = Nordmore Grate.
- 03 = Separator Panel.
- 04 = Guiding Device.
- 05 = Raised Footrope.
- 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. Specify all types.

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 L. Color Codes

Used for:

- NET COLOR on the Gillnet Gear Characteristics Log (GGG).
- NET COLOR on the Pelagic Drift Gillnet Gear Characteristics Log (GPG).
- NET COLOR and BUNT COLOR on the Beach Seine Gear 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).

00 = Unknown.	(GGG, GPG, BSG, LLG)
01 = Clear.	(GGG, GPG, BSG, LLG)
02 = White.	(GGG, GPG, BSG, LLG)
03 = Pink.	(GGG, GPG, BSG, LLG)
04 = Black.	(GGG, GPG, BSG, LLG)
05 = Green.	(GGG, GPG, BSG, LLG)
06 = Blue.	(GGG, GPG, BSG, LLG)
07 = Multi-color ¹	(GGG, GPG, BSG, LLG)
08 = Red.	(GGG, GPG, BSG, LLG)
09 = Orange.	(GGG, BSG, LLG)
10 = Purple.	(GGG, BSG, LLG)
98 = Combination ² . Record color in COMMENTS.	(GGG, BSG, LLG)
99 = Other ³ . Record the color in COMMENTS.	(GGG, GPG, BSG, LLG)

¹ “Multi-color” is defined as more than one color within one item, e.g., 1 net, 1 lightstick, etc.

² “Combination” is defined as more than one color within an entire **gear** item, e.g., a string.

³ Do not use “Other” for shade differentiations. Code these as the most appropriate color (i.e., “light blue” should be coded as 06 “Blue” and “yellow” as 99 “Other”). Comment when appropriate, regardless of code choice.

Appendix M. Shape Codes

Used for:

- ESCAPE OUTLET SHAPE on the 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. Record shape in COMMENTS.	(OTG, PRG, PTG, STG, TTG)

Appendix N. 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. (Leave BAIT TYPE and BAIT CONDITION blank.)
- 05 = Redfish.
- 06 = Sardine.
- 07 = Scad.
- 08 = Skate.
- 09 = Clams.
- 10 = Fish with binders/casings.
- 11 = Eel.
- 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 O. Vernier Caliper Instructions

Calipers are used to collect the following measurements:

- Pot entrance ring diameter on the Lobster, Fish and Crab Pot Gear Characteristics Log.
- Escape vent length and height on the Lobster, Fish and Crab 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 Trawl/Pair Trawl Gear Characteristics Logs.
- 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 Characteristics Log.

GENERAL INSTRUCTIONS

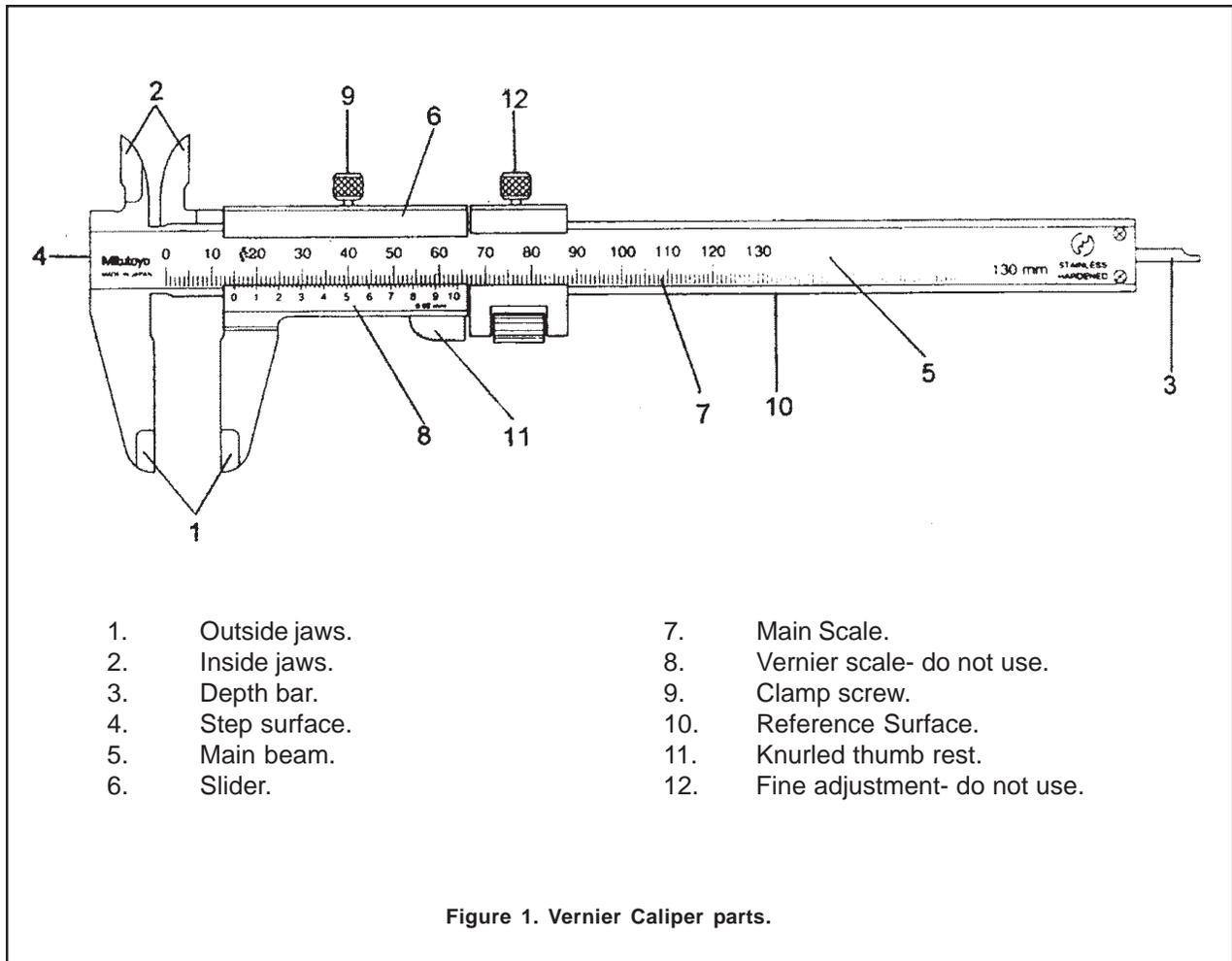
- Reference Figure 1.
- The Vernier Calipers should be used when requested in the manual instructions. Do not substitute measurements obtained from any other tool. If caliper measurements are not possible, measurements should be recorded in the COMMENT section of the corresponding log.
- The calipers 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.

GENERAL CONVERSIONS

Nautical Units	Mass	24 Hour Clock
1 fathom = 6 feet 1 fathom = 1.83 meters 1 nautical mile = 6076 feet 1 nautical mile = 1852 meters 1 nautical mile = 1.15 statue miles 1 knot = 1 nautical mile/hr	1 pound = 453.59 grams 1 pound = 0.45 kilograms 1 kilogram = 2.20 pounds 1 standard ton = 2000 pounds 1 metric ton = 2204.60 pounds 1 metric ton = 1000 kilograms	12:00 Midnight = 0000 1:00 a.m. = 0100 2:00 a.m. = 0200 3:00 a.m. = 0300 4:00 a.m. = 0400 5:00 a.m. = 0500 6:00 a.m. = 0600 7:00 a.m. = 0700 8:00 a.m. = 0800 9:00 a.m. = 0900 10:00 a.m. = 1000 11:00 a.m. = 1100 12:00 noon = 1200 1:00 p.m. = 1300 2:00 p.m. = 1400 3:00 p.m. = 1500 4:00 p.m. = 1600 5:00 p.m. = 1700 6:00 p.m. = 1800 7:00 p.m. = 1900 8:00 p.m. = 2000 9:00 p.m. = 2100 10:00 p.m. = 2200 11:00 p.m. = 2300
Length	Metric Units	
1 inch = 2.54 centimeters 1 foot = 30.48 centimeters 1 foot = 0.30 meters 1 yard = 3 feet 1 meter = 3.28 feet 1 meter = 39.37 inches 1 statue mile = 5280 feet 1 statue mile = 1.61 kilometers 1 kilometer = 0.62 statue mile	1 meter = 100 centimeters 1 kilogram = 1000 grams 1 liter = 1000 milliliters mega = 1,000,000 kilo = 1,000 deca = 10 deci = 0.1 (tenth) centi = 0.01 (hundredth) mili = 0.001 (thousandth)	
Seconds to Tenths of Minutes (or Minutes to Tenths of Hours)	Circular Measure	
0-2 seconds = 0.0 minutes 3-8 seconds = 0.1 minutes 9-14 seconds = 0.2 minutes 15-20 seconds = 0.3 minutes 21-26 seconds = 0.4 minutes 27-32 seconds = 0.5 minutes 33-38 seconds = 0.6 minutes 39-44 seconds = 0.7 minutes 45-50 seconds = 0.8 minutes 51-56 seconds = 0.9 minutes 57-60 seconds = 1.0 minutes	60 seconds = 1 minute 60 minutes = 1 degree 90 degrees = 1 quadrant	
	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

TEMPERATURE CONVERSIONS

F	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28	-2.2	-2.2	-2.1	-2.1	-2.0	-1.9	-1.9	-1.8	-1.8	-1.7
29	-1.7	-1.6	-1.6	-1.5	-1.4	-1.4	-1.3	-1.3	-1.2	-1.2
30	-1.1	-1.1	-1.0	-0.9	-0.9	-0.8	-0.8	-0.7	-0.7	-0.6
31	-0.6	-0.5	-0.4	-0.4	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1
32	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5
33	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.1
34	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.6
35	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2
36	2.2	2.3	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.7
37	2.8	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3
38	3.3	3.4	3.4	3.5	3.6	3.6	3.7	3.7	3.8	3.8
39	3.9	3.9	4.0	4.1	4.1	4.2	4.2	4.3	4.3	4.4
40	4.4	4.5	4.6	4.6	4.7	4.7	4.8	4.8	4.9	4.9
41	5.0	5.1	5.1	5.2	5.2	5.3	5.3	5.4	5.4	5.5
42	5.6	5.6	5.7	5.7	5.8	5.8	5.9	5.9	6.0	6.1
43	6.1	6.2	6.2	6.3	6.3	6.4	6.4	6.5	6.6	6.6
44	6.7	6.7	6.8	6.8	6.9	6.9	7.0	7.1	7.1	7.2
45	7.2	7.3	7.3	7.4	7.4	7.5	7.6	7.6	7.7	7.7
46	7.8	7.8	7.9	7.9	8.0	8.1	8.1	8.2	8.2	8.3
47	8.3	8.4	8.4	8.5	8.6	8.6	8.7	8.7	8.8	8.8
48	8.9	8.9	9.0	9.1	9.1	9.2	9.2	9.3	9.3	9.4
49	9.4	9.5	9.6	9.6	9.7	9.7	9.8	9.8	9.9	9.9
50	10.0	10.1	10.1	10.2	10.2	10.3	10.3	10.4	10.4	10.5
51	10.6	10.6	10.7	10.7	10.8	10.8	10.9	10.9	11.0	11.1
52	11.1	11.2	11.2	11.3	11.3	11.4	11.4	11.5	11.6	11.6
53	11.7	11.7	11.8	11.8	11.9	11.9	12.0	12.1	12.1	12.2
54	12.2	12.3	12.3	12.4	12.4	12.5	12.6	12.6	12.7	12.7
55	12.8	12.8	12.9	12.9	13.0	13.1	13.1	13.2	13.2	13.3
56	13.3	13.4	13.4	13.5	13.6	13.6	13.7	13.7	13.8	13.8
57	13.9	13.9	14.0	14.1	14.1	14.2	14.2	14.3	14.3	14.4
58	14.4	14.5	14.6	14.6	14.7	14.7	14.8	14.8	14.9	14.9
59	15.0	15.1	15.1	15.2	15.2	15.3	15.3	15.4	15.4	15.5
60	15.6	15.6	15.7	15.7	15.8	15.8	15.9	15.9	16.0	16.1
61	16.1	16.2	16.2	16.3	16.3	16.4	16.4	16.5	16.6	16.6
62	16.7	16.7	16.8	16.8	16.9	16.9	17.0	17.1	17.1	17.2
63	17.2	17.3	17.3	17.4	17.4	17.5	17.6	17.6	17.7	17.7
64	17.8	17.8	17.9	17.9	18.0	18.1	18.1	18.2	18.2	18.3
65	18.3	18.4	18.4	18.5	18.6	18.6	18.7	18.7	18.8	18.8
66	18.9	18.9	19.0	19.1	19.1	19.2	19.2	19.3	19.3	19.4
67	19.4	19.5	19.6	19.6	19.7	19.7	19.8	19.8	19.9	19.9
68	20.0	20.1	20.1	20.2	20.2	20.3	20.3	20.4	20.4	20.5
69	20.6	20.6	20.7	20.7	20.8	20.8	20.9	20.9	21.0	21.1
70	21.1	21.2	21.2	21.3	21.3	21.4	21.4	21.5	21.6	21.6

Appendix Q. Net Name / Net Type / Net Builder

CODE	NET NAME			
00	UNKNOWN	06	SEPARATOR TRAWL (2-SEAM)	
02	TRAWL, BEAM	07	SEPARATOR TRAWL (4-SEAM)	
04	TRAWL, BOTTOM	25	SHRIMP TRAWL	
05	TRAWL, SEMI-PELAGIC	26	SHRIMP TRAWL (2-SEAM)	
01	TRAWL, TROUSER	27	SHRIMP TRAWL (4-SEAM)	
03	TRAWL, TWIN	80	SHUMAN TRAWL	
06	TRAWL, PELAGIC	81	SHUMAN TRAWL (2-SEAM)	
99	OTHER	82	SHUMAN TRAWL (4-SEAM)	
		70	SWEEPLESS TRAWL	
		71	SWEEPLESS TRAWL (2-SEAM)	
		72	SWEEPLESS TRAWL (4-SEAM)	
		91	TRAWL (2-SEAM)	
		92	TRAWL (4-SEAM)	
		99	OTHER	
CODE	NET TYPE		CODE	NET BULDER
00	UNKNOWN		00	UNKNOWN
88	BALLOON TRAWL		13	CHRISTIANSEN'S NETS
89	BALLOON TRAWL (2-SEAM)		01	CUSTOM BUILT
90	BALLOON TRAWL (4-SEAM)		11	DANTRAWL
24	BOX TRAWL (4-SEAM)		19	GEARWORK
10	FLATFISH TRAWL		17	IMP GROUP
11	FLATFISH TRAWL (2-SEAM)		21	JAMESTOWN TRAWL
12	FLATFISH TRAWL (4-SEAM)		14	JEFF FLAGG
08	FLYNET		02	LE DREZEN
01	FLYNET (2-SEAM)		03	LEVINE MARINE SUPPLY
02	FLYNET (4-SEAM)		04	NOREASTERN TRAWL
85	GROUND FISH TRAWL			SYSTEMS LTD
86	GROUND FISH TRAWL (2-SEAM)		12	REIDAR'S MANUFACTURING
87	GROUND FISH TRAWL (4-SEAM)			INC
09	HADDOCK SEPARATOR TRAWL		15	SHUMANN
03	HADDOCK SEPARATOR TRAWL (2-SEAM)		05	SMART NET SYSTEMS LTD
04	HADDOCK SEPARATOR TRAWL (4-SEAM)		09	SUPERIOR TRAWL
18	MILLIONAIRE TRAWL (4-SEAM)		06	SWAN NET GUNDRY
65	MONKFISH TRAWL		10	TRAWLWORKS INC
66	MONKFISH TRAWL (2-SEAM)		18	VEIDARFAER
67	MONKFISH TRAWL (4-SEAM)		20	VT FISHING GEAR SUPPLIES
75	PELAGIC PAIR TRAWL		07	WANCHESE TRAWL SUPPLY
76	PELAGIC PAIR TRAWL (2-SEAM)		08	WILCOX TRAWLS
77	PELAGIC PAIR TRAWL (4-SEAM)		16	YANKEE
20	RAISED FOOTROPE TRAWL		99	OTHER
21	RAISED FOOTROPE TRAWL (2-SEAM)			
22	RAISED FOOTROPE TRAWL (4-SEAM)			
15	RHULE TRAWL (4-SEAM)			
60	SCALLOP TRAWL			
61	SCALLOP TRAWL (2-SEAM)			
62	SCALLOP TRAWL (4-SEAM)			
05	SEPARATOR TRAWL			

Appendix R. Species List and Corresponding Logs

CODE	COMMON NAME	MARKET CATEGORY	LOG
0010	ALEWIFE		SPP
6632	ALLIGATORFISH		SPP
0030	AMBERJACK, NK		IAL
0060	ANCHOVY, BAY		SPP
6860	ANCHOVY, NK		SPP
6645	ANCHOVY, STRIPED		SPP
6878	ANEMONE, NK		SPP
1710	ARGENTINE, ATLANTIC		SPP
0180	BARRACUDA, NK		IAL
6627	BARRELFISH		SPP
4180	BASS, STRIPED		SPP
6611	BATFISH, ATLANTIC		SPP
6610	BATFISH, NK		SPP
6626	BEARDFISH		SPP
6100	BIRD, NK		INC
6629	BLENNY, NK (FISH)		SPP
0230	BLUEFISH		SPP
6623	BOARFISH, DEEPBODY		SPP
6607	BOARFISH, NK		SPP
6624	BOARFISH, SHORTSPINE		SPP
6883	BONE, NK		SPP
0330	BONITO, ATLANTIC		SPP, IAL
6101	BOOBY, BROWN		INC
6102	BOOBY, MASKED		INC
6136	BUFFLEHEAD		INC
0511	BUTTERFISH		SPP
3610	CAPELIN		SPP
0630	CARP		SPP
7430	CLAM, BLOODARC		SPP
7640	CLAM, NK		SPP, CDO
7600	CLAM, RAZOR		SPP
7630	CLAM, SOFT-SHELLED		SPP
7650	CLAM, STIMPSONS SURF (ARTIC)		SPP
7690	CLAM, SURF		SPP, CDO
6894	CLAPPER, NK		SPP
6896	CLAPPER, CLAM		SPP
6895	CLAPPER, SCALLOP		SPP
0570	COBIA		IAL
0812	COD, ATLANTIC	CHEEKS	SPP
0818	COD, ATLANTIC	ROUND	SPP
6605	CODLING, METALLIC		SPP
6880	CORAL, STONY, NK		SPP
6111	CORMORANT, DBL CREST		INC
6112	CORMORANT, GREAT		INC
6113	CORMORANT, NK		INC
7000	CRAB, BLUE		SPP
7140	CRAB, CANCER, NK		SPP
7100	CRAB, DEEP SEA, RED		SPP
7080	CRAB, GREEN		SPP
6868	CRAB, HERMIT, NK		SPP
7240	CRAB, HORSESHOE		SPP
7110	CRAB, JONAH		SPP
7010	CRAB, LADY		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
6866	CRAB, NORTHERN STONE		SPP
7120	CRAB, ROCK		SPP
7185	CRAB, SNOW		SPP
6865	CRAB, SPECKLED, NK		SPP
7150	CRAB, SPIDER, NK		SPP
7151	CRAB, SPIDER, PORTLY		SPP
7130	CRAB, TRUE, NK		SPP
0840	CRAPPIE, NK		SPP
0900	CROAKER, ATLANTIC		SPP
0930	CUNNER (YELLOW PERCH)		SPP
0960	CUSK		SPP
6861	CUSK-EEL, NK		SPP
6640	CUTLASSFISH, ATL		IAL
0985	DEALFISH (RIBBONFISH)		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	ROUND	SPP
3501	DOGFISH, NK	ROUND	SPP
3502	DOGFISH, NK	TAILS	SPP
3508	DOGFISH, NK	FINS	SPP
3511	DOGFISH, SMOOTH	ROUND	SPP
3512	DOGFISH, SMOOTH	TAILS	SPP
3518	DOGFISH, SMOOTH	FINS	SPP
3521	DOGFISH, SPINY	ROUND	SPP
3522	DOGFISH, SPINY	BELLYFLAPS	SPP
3524	DOGFISH, SPINY	TAILS	SPP
3528	DOGFISH, SPINY	FINS	SPP
6941	DOLPHIN, BOTTLENOSE		INC
6961	DOLPHIN, CLYMENE		INC
6962	DOLPHIN, FRASER'S		INC
6997	DOLPHIN, NK (MAMMAL)		INC
6963	DOLPHIN, PANTROPICAL SPOTTED		INC
6942	DOLPHIN, RISSO'S		INC
6957	DOLPHIN, ROUGH TOOTH		INC
6940	DOLPHIN, COMMON (SADDLEBACK)		INC
6944	DOLPHIN, SPINNER		INC
6901	DOLPHIN, SPOTD, ATL		INC
6902	DOLPHIN, SPOTD, BRID		INC
6943	DOLPHIN, SPOTD, NK		INC
6952	DOLPHIN, STRIPED		INC
6951	DOLPHIN, WHITEBEAKED		INC
6936	DOLPHIN, WHITESIDED		INC
1050	DOLPHINFISH (MAHI MAHI)		IAL
1880	DORY, BUCKLER (JOHN)		SPP
1890	DORY, NK		SPP
6131	DOVEKIE		INC
6609	DRAGONFISH, BOA		SPP
1060	DRUM, BLACK		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
6797	DRUM, NK		SPP
1070	DRUM, RED		SPP
6892	ECHINODERM, NK		SPP
1150	EEL, AMERICAN		SPP
1160	EEL, CONGER		SPP
6862	EEL, GARDEN, NK		SPP
1170	EEL, NK		SPP
6863	EEL, ROCK (GUNNEL)		SPP
2060	EEL, SAND LANCE, NK		SPP
6859	EEL, SLENDER SNIPE		SPP
6875	EELGRASS		SPP
6613	EELPOUT, NK		SPP
6856	EGGS, FISH NK		SPP
6857	EGGS, MOLLUSCA NK		SPP
6855	EGGS, NK		SPP
6135	EIDER, COMMON		INC
3850	ESCOLAR		IAL
6796	FILEFISH, NK		SPP
5260	FISH, NK		IAL, SPP
1240	FLOUNDER, AMERICAN PLAICE		SPP
1270	FLOUNDER, FOURSPOT		SPP
1290	FLOUNDER, GULFSTREAM		SPP
6886	FLOUNDER, LEFTEYE, NK		SPP
1260	FLOUNDER, NK		SPP
1250	FLOUNDER, SAND DAB (WINDOWPANE)		SPP
1300	FLOUNDER, SOUTHERN		SPP
1219	FLOUNDER, SUMMER (FLUKE)		SPP
1200	FLOUNDER, WINTER (BLACKBACK)		SPP
1220	FLOUNDER, WITCH (GREY SOLE)		SPP
1230	FLOUNDER, YELLOWTAIL		SPP
6141	FRIGATEBIRD, MAGNIF		INC
6161	FULMAR, NORTHERN		INC
6171	GANNET, NORTHERN		INC
6660	GAPER, RED EYE		SPP
1330	GARFISH (NEEDLEFISH)		SPP
6152	GREBE, HORNED		INC
6150	GREBE, NK		INC
6153	GREBE, PIED BILLED		INC
6154	GREBE, RED NECKED		INC
6671	GRENADIER, COMMON (MARLINSPIKE)		SPP
6672	GRENADIER, LONG-NOSED		SPP
1380	GRENADIER, NK		SPP
6673	GRENADIER, ROUGHHEAD		SPP
5240	GROUND FISH, NK		SPP
1410	GROUPEL, NK		IAL
1414	GROUPEL, SNOWY		IAL
1440	GRUNT, NK		SPP
6181	GUILLEMOT, BLACK		INC
6201	GULL, BLACK-HEADED		INC
6202	GULL, BONAPARTE'S		INC
6203	GULL, FRANKLIN'S		INC
6204	GULL, GLAUCOUS		INC
6205	GULL, GREAT BLK-BACK		INC

CODE	COMMON NAME	MARKET CATEGORY	LOG
6206	GULL, HERRING		INC
6207	GULL, ICELAND		INC
6215	GULL, IVORY		INC
6208	GULL, LAUGHING		INC
6209	GULL, LESS BLK-BACK		INC
6210	GULL, LITTLE		INC
6211	GULL, MEW		INC
6200	GULL, NK		INC
6212	GULL, RING BILLED		INC
6216	GULL, ROSS'S		INC
6213	GULL, SABINE'S		INC
6214	GULL, THAYER'S		INC
1477	HADDOCK		SPP
1500	HAGFISH, ATLANTIC		SPP
6604	HAKE, BLUE		SPP
6603	HAKE, LONGFIN		SPP
6600	HAKE, NK		SPP
5080	HAKE, OFFSHORE (BLACK WHITING)		SPP
1520	HAKE, RED (LING)		SPP
1551	HAKE, RED/WHITE MIX		SPP
5090	HAKE, SILVER (WHITING)		SPP
6615	HAKE, SOUTHERN		SPP
6602	HAKE, SPOTTED		SPP
1539	HAKE, WHITE		SPP
1590	HALIBUT, ATLANTIC		SPP
1580	HALIBUT, GREENLAND		SPP
1656	HARVESTFISH		SPP
1685	HERRING, ATLANTIC		SPP
1120	HERRING, BLUEBACK		SPP
1670	HERRING, NK		SPP
1280	HOGCHOCKER		SPP
1790	HOGFISH		SPP
6690	HOUNDFISH		IAL
8990	INVERTEBRATE, NK		SPP
0870	JACK, CREVALLE		SPP
6780	JACK, NK		SPP
6301	JAEGER, LONG TAILED		INC
6300	JAEGER, NK		INC
6302	JAEGER, PARASITIC		INC
6303	JAEGER, POMARINE		INC
6305	JAEGER, SOUTH POLAR		INC
6871	JELLYFISH, NK		SPP
6618	KINGFISH, GULF		SPP
1970	KINGFISH, NK		SPP
6616	KINGFISH, NORTHERN		SPP
6617	KINGFISH, SOUTHERN		SPP
6311	KITTIWAKE, BLK-LEGGD		INC
2680	LADYFISH		SPP
6631	LAMPREY, NK		SPP
6872	LAMPSHELL, NK		SPP
6774	LANCETFISH, NK		IAL
6608	LANTERNFISH, NK		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
6787	LEATHERJACKET		SPP
6647	LIZARDFISH		SPP
7270	LOBSTER, AMERICAN		SPP
6786	LOOKDOWN		SPP
6322	LOON, ARCTICA		INC
6323	LOON, COMMON		INC
6321	LOON, NK		INC
6324	LOON, RED-THROATED		INC
6760	LOUVAR		IAL
2100	LUMPFISH		SPP
6635	LUMPSUCKER, ATL SPNY		SPP
2120	MACKEREL, ATLANTIC		SPP
2150	MACKEREL, CHUB		SPP
1320	MACKEREL, FRIGATE		IAL
1940	MACKEREL, KING		SPP
6649	MACKEREL, NK		SPP
6638	MACKEREL, SNAKE, NK		SPP
3840	MACKEREL, SPANISH		SPP
6964	MANATEE, WEST INDIAN		INC
6991	MARINE MAMMAL, NK		INC
2171	MARLIN, BLUE		IAL
2181	MARLIN, NK		IAL
2161	MARLIN, WHITE		IAL
2210	MENHADEN, ATLANTIC		SPP
6103	MERGANSER, NK		INC
6770	MOLA, NK		IAL
6772	MOLA, OCEAN SUNFISH		IAL
6771	MOLA, SHARPTAIL		IAL
6773	MOLA, SLENDER		IAL
8040	MOLLUSK, NK		SPP
0120	MONKFISH (ANGLER, GOOSEFISH)	TAIL	SPP
0123	MONKFISH (ANGLER, GOOSEFISH)	LIVER	SPP
0124	MONKFISH (ANGLER, GOOSEFISH)		SPP
6785	MOONFISH, ATLANTIC		SPP
2341	MULLET, NK		SPP
2350	MULLET, STRIPED		SPP
6636	MUMMICHOG		SPP
6330	MURRE, NK		INC
6332	MURRE, THICK-BILLED		INC
6331	MURRE, THIN-BILLED		INC
7810	MUSSEL, NK		SPP
6966	NARWHAL		INC
0190	NEEDLEFISH, ATLANTIC		IAL
6341	NODDY, BROWN		INC
0000	NONE (UNKNOWN IN LEGACY DATA)		SPP, IAL
2500	OCEAN POUT		SPP
7860	OCTOPUS, NK		SPP
6639	OILFISH		IAL
2490	OPAH		IAL
7898	OYSTER, COMMON		SPP
7921	OYSTER, EUROPEAN FLAT		SPP
5250	PELAGIC FISH, NK		IAL

CODE	COMMON NAME	MARKET CATEGORY	LOG
6351	PELICAN, BROWN		INC
3110	PERCH, SAND		SPP
5060	PERCH, WHITE		SPP
5170	PERCH, YELLOW		SPP
7980	PERIWINKLE, COMMON		SPP
6791	PERMIT		SPP
6362	PETREL, BERMUDA		INC
6363	PETREL, BLACK-CAPPED		INC
6364	PETREL, FEA'S		INC
6361	PETREL, SO-TRINIDAD		INC
6371	PHALAROPE, RED		INC
6372	PHALAROPE, RED-NECKED		INC
2580	PIGFISH		SPP
6781	PILOTFISH		SPP
2670	PINFISH		SPP
6841	PINGER, ACTIVE		IAL
6842	PINGER, PASSIVE		IAL
6621	PIPEFISH/SEAHORSE,NK		SPP
2695	POLLOCK		SPP
6777	POMFRET, ATLANTIC		SPP
6776	POMFRET, BIGSCALE		SPP
6578	POMFRET, NK		SPP
6788	POMPANO, AFRICAN		SPP
2720	POMPANO, FLORIDA		SPP
6646	PORCUPINE FISH		SPP
3320	PORGY, NK		SPP
3300	PORGY, RED		SPP
6960	PORPOISE, HARBOR		INC
6998	PORPOISE/DOLPHIN, NK		INC
6379	PTERODROMA NK		INC
4300	PUFFER, NK (BURRFISH)		SPP
4290	PUFFER, NORTHERN		SPP
6381	PUFFIN, ATLANTIC		INC
7488	QUAHOG, HARD SHELL CLAM		SPP
7540	QUAHOG, OCEAN (BLACK CLAM)		SPP, CDO
3270	RAVEN, SEA		SPP
6739	RAY, BULLNOSE		SPP
6741	RAY, BUTTERFLY, NK		IAL
6742	RAY, BUTTERFLY, SMOOTH		IAL
6743	RAY, BUTTERFLY, SPINY		IAL
6740	RAY, COWNOSE		SPP
6745	RAY, DEVIL		IAL
6700	RAY, EAGLE, NK		IAL
6753	RAY, NK		IAL
6730	RAY, TORPEDO		IAL
6720	RAY,MANTA, ATLANTIC		IAL
6715	RAY,MANTA,NK		IAL
6391	RAZORBILL		INC
2400	REDFISH, NK (OCEAN PERCH)		SPP
6750	REMORA, NK		SPP
6644	RIBBONFISH, NK		SPP
6643	RIBBONFISH,POLKA-DOT		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
6642	RIBBONFISH,SCALLOPED		SPP
6606	ROCKLING, FOURBEARD		SPP
6876	ROCKWEED, NK		SPP
2420	ROSEFISH,BLACK BELLY		SPP
6778	ROUGHY, BIG		SPP
6779	ROUGHY, NK		SPP
2130	RUNNER, BLUE		SPP
6630	SAILFISH		IAL
3050	SALMON, ATLANTIC		IAL
3080	SALMON, CHINOOK		IAL
3070	SALMON, COHO		IAL
3090	SALMON, NK		IAL
3060	SALMON, PINK		IAL
6874	SAND DOLLAR		SPP
3196	SAURY, ATLANTIC		SPP
6784	SCAD, BIGEYE		SPP
6782	SCAD, MACKEREL		SPP
	SCAD, NK		SPP
3310	SCAD, ROUGH		SPP
7990	SCALLOP, BAY		SPP
7970	SCALLOP, CALICO		SPP
7950	SCALLOP, ICELANDIC		SPP
7960	SCALLOP, NK		SPP
8009	SCALLOP, SEA		SPP, SDO
6612	SCORPIONFISH, NK		SPP
6521	SCOTER, BLACK		INC
6520	SCOTER, NK		INC
6523	SCOTER, SURF		INC
6522	SCOTER, WHITE-WINGED		INC
6678	SCULPIN, LONGHORN		SPP
3260	SCULPIN, NK		SPP
3295	SCUP		SPP
3350	SEA BASS, BLACK		SPP
3330	SEA BASS, NK		SPP
8060	SEA CUCUMBER, NK		SPP
6873	SEA PANSY		SPP
6884	SEA PEN		SPP
6869	SEA POTATO		SPP
3430	SEA ROBIN, ARMORED		SPP
3410	SEA ROBIN, NK		SPP
3400	SEA ROBIN, NORTHERN		SPP
3420	SEA ROBIN, STRIPED		SPP
6879	SEA SQUIRT, NK		SPP
8050	SEA URCHIN, NK		SPP
6984	SEAL, BEARDED		INC
6996	SEAL, GRAY		INC
6995	SEAL, HARBOR		INC
6981	SEAL, HARP		INC
6982	SEAL, HOODED		INC
6985	SEAL, LARGA (SPOTTED)		INC
6994	SEAL, NK		INC
6986	SEAL, RIBBON		INC
6983	SEAL, RINGED		INC

CODE	COMMON NAME	MARKET CATEGORY	LOG
3340	SEATROUT, NK		SPP
3450	SEATROUT, SPOTTED(SPOTTED WEAKFISH)		SPP
8171	SEAWEED, NK		SPP
3474	SHAD, AMERICAN		SPP
1340	SHAD, GIZZARD		SPP
1730	SHAD, HICKORY		SPP
6864	SHANNY, NK		SPP
4771	SHARK, ATL ANGEL		IAL
4941	SHARK, ATL SHARPNOSE	ROUND	IAL
4948	SHARK, ATL SHARPNOSE	FINS	SPP
4961	SHARK, BASKING	ROUND	IAL, SPP
4968	SHARK, BASKING	FINS	SPP
4831	SHARK, BIGNOSE	ROUND	IAL
4838	SHARK, BIGNOSE	FINS	SPP
4871	SHARK, BLACK TIP	ROUND	IAL
4878	SHARK, BLACK TIP	FINS	SPP
4931	SHARK, BLUE (BLUE DOG)	ROUND	IAL
4938	SHARK, BLUE (BLUE DOG)	FINS	SPP
	SHARK, BONNETHEAD	ROUND	IAL
	SHARK, BONNETHEAD	FINS	SPP
4891	SHARK, BULL	ROUND	IAL
4898	SHARK, BULL	FINS	SPP
4971	SHARK, CARCHARHIN,NK	ROUND	IAL, SPP
4978	SHARK, CARCHARHIN,NK	FINS	SPP
	SHARK, DEEPWATER, NK		
4841	SHARK, DUSKY	ROUND	IAL
4848	SHARK, DUSKY	FINS	SPP
4990	SHARK, FINETOOTH	ROUND	IAL
3860	SHARK, HAMMERHEAD, GREAT	ROUND	IAL
4781	SHARK, HAMMERHEAD, SCALLOPED	ROUND	IAL
4788	SHARK, HAMMERHEAD, SCALLOPED	FINS	SPP
4791	SHARK, HAMMERHEAD, SMOOTH	ROUND	IAL
4798	SHARK, HAMMERHEAD, SMOOTH	FINS	SPP
4951	SHARK, HAMMERHEAD,NK	ROUND	IAL
4958	SHARK, HAMMERHEAD,NK	FINS	SPP
4921	SHARK, LEMON	ROUND	IAL
4928	SHARK, LEMON	FINS	SPP
3581	SHARK, MAKO, LONGFIN	ROUND	IAL
3588	SHARK, MAKO, LONGFIN	FINS	SPP
3571	SHARK, MAKO, NK	ROUND	IAL
3572	SHARK, MAKO, NK	CHUNKS	SPP
3578	SHARK, MAKO, NK	FINS	SPP
3551	SHARK, MAKO, SHORTFIN	ROUND	IAL
3558	SHARK, MAKO, SHORTFIN	FINS	SPP
4861	SHARK, NIGHT	ROUND	IAL
4868	SHARK, NIGHT	FINS	SPP
3591	SHARK, NK	ROUND	IAL
3592	SHARK, NK	CHUNKS	SPP
3598	SHARK, NK	FINS	SPP
3481	SHARK, NURSE	ROUND	IAL
3488	SHARK, NURSE	FINS	SPP
4901	SHARK, OCEANIC WHITETIP	ROUND	IAL
4908	SHARK, OCEANIC WHITETIP	FINS	SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
4988	SHARK, PELAGIC	FINS	SPP
4981	SHARK, PELAGIC	ROUND	IAL
4811	SHARK, PORBEAGLE (MACKEREL SHARK)	ROUND	IAL
4818	SHARK, PORBEAGLE (MACKEREL SHARK)	FINS	SPP
3491	SHARK, SAND TIGER	ROUND	IAL
4821	SHARK, SANDBAR (BROWN SHARK)	ROUND	IAL
4828	SHARK, SANDBAR (BROWN SHARK)	FINS	SPP
4851	SHARK, SILKY	ROUND	IAL
4858	SHARK, SILKY	FINS	SPP
4881	SHARK, SPINNER	ROUND	IAL
4888	SHARK, SPINNER	FINS	SPP
3531	SHARK, THRESHER	ROUND	IAL
3538	SHARK, THRESHER	FINS	SPP
3541	SHARK, THRESHER, BIGEYE	ROUND	IAL
3548	SHARK, THRESHER, BIGEYE	FINS	SPP
4911	SHARK, TIGER	ROUND	IAL
4918	SHARK, TIGER	FINS	SPP
4801	SHARK, WHITE	ROUND	IAL
4808	SHARK, WHITE	FINS	SPP
6401	SHEARWATER, AUDUBON'S		INC
6407	SHEARWATER, CORY'S		INC
6402	SHEARWATER, GREATER		INC
6403	SHEARWATER, LITTLE		INC
6405	SHEARWATER, MANX		INC
6400	SHEARWATER, NK		INC
6406	SHEARWATER, SOOTY		INC
3560	SHEEPSHEAD		SPP
6882	SHELL, NK		SPP
6897	SHELL, SCALLOP		SPP
6893	SHELLFISH, NK		SPP
7370	SHRIMP, MANTIS		SPP
7350	SHRIMP, NK		SPP
7360	SHRIMP, PANDALID, NK (NORTHERN)		SPP
7380	SHRIMP, PENAEID, NK (SOUTHERN)		SPP
7330	SHRIMP, ROYAL RED		SPP
7340	SHRIMP, SCARLET		SPP
6881	SHRIMP, SHORE, NK		SPP
3620	SILVERSIDE, ATLANTIC		SPP
3630	SILVERSIDE, NK		SPP
3680	SKATE, BARNDOR		SPP
3681	SKATE, BARNDOR	WINGS	SPP
3720	SKATE, CLEARNOSE		SPP
3721	SKATE, CLEARNOSE	WINGS	SPP
3660	SKATE, LITTLE		SPP
3661	SKATE, LITTLE	WINGS	SPP
3650	SKATE, NK		SPP
3651	SKATE, NK	WINGS	SPP
3640	SKATE, ROSETTE		SPP
3641	SKATE, ROSETTE	WINGS	SPP
3690	SKATE, SMOOTH		SPP
3691	SKATE, SMOOTH	WINGS	SPP
3700	SKATE, THORNY		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
3670	SKATE, WINTER (BIG)		SPP
3671	SKATE, WINTER (BIG)	WINGS	SPP
6411	SKIMMER, BLACK		INC
6304	SKUA, GREAT		INC
3710	SMELT, RAINBOW		SPP
6870	SNAIL, MOONSHELL, NK		SPP
6877	SNAIL, NK		SPP
6628	SNAKEBLENNY		SPP
3754	SNAPPER, DOG		SPP
3360	SNAPPER, NK		SPP
3764	SNAPPER, RED		SPP
3740	SNAPPER, VERMILLION		SPP
6633	SNIPEFISH, LONGSPINE		SPP
6622	SNIPEFISH, NK		SPP
6634	SNIPEFISH, SLENDER		SPP
3810	SPADEFISH		SPP
6641	SPEARFISH, LONGBILL		IAL
6867	SPONGE, NK		SPP
4060	SPOT		SPP
8010	SQUID, ATL LONG-FIN		SPP
8030	SQUID, NK		SPP
8020	SQUID, SHORT-FIN		SPP
0240	SQUIRRELFISH, NK		SPP
6891	STARFISH, BRITTLE,NK		SPP
8280	STARFISH, SEASTAR,NK		SPP
6620	STARGAZER, NK		SPP
6712	STINGRAY, ATLANTIC		IAL
6711	STINGRAY, BLUNTNOSE		IAL
6705	STINGRAY, NK		IAL
6775	STINGRAY, PELAGIC		IAL
6710	STINGRAY, ROUGHTAIL		IAL
6853	STOMACH CONTENTS EMPTY		SPP
6852	STOMACH CONTENTS FISH, NK		SPP
6850	STOMACH CONTENTS UNID		SPP
6851	STOMACH CONTENTS, INVT, NK		SPP
6431	STORM PETREL, BAND-R		INC
6432	STORM PETREL, LEACHS		INC
6430	STORM PETREL, NK		INC
6433	STORM PETREL, WHITE-FACED		INC
6434	STORM PETREL, WILSON		INC
4200	STURGEON, ATLANTIC		IAL
4211	STURGEON, NK		IAL
4220	STURGEON, SHORT-NOSE		IAL
4230	SUCKER, FRESHWATER, NK		SPP
4260	SUNFISH, FRESHWATER,NK		SPP
4320	SWORDFISH	GUTTED	IAL
4327	SWORDFISH	CHUNKS	IAL
4328	SWORDFISH	ROUND	IAL
4350	TARPON		IAL
4380	TAUTOG (BLACKFISH)		SPP
6501	TERN, ARCTIC		INC

CODE	COMMON NAME	MARKET CATEGORY	LOG
6513	TERN, BLACK		INC
6502	TERN, BRIDLED		INC
6503	TERN, CASPIAN		INC
6505	TERN, COMMON		INC
6506	TERN, FORSTER'S		INC
6507	TERN, GULL-BILLED		INC
6508	TERN, LITTLE		INC
6500	TERN, NK		INC
6509	TERN, ROSEATE		INC
6510	TERN, ROYAL		INC
6511	TERN, SANDWICH		INC
6512	TERN, SOOTY		INC
4470	TILEFISH, NK		SPP
4440	TILEFISH, BLUELINE		SPP
4460	TILEFISH, GOLDEN		SPP
6637	TOADFISH, NK		SPP
4510	TOADFISH, OYSTER		SPP
4530	TOMCOD, ATLANTIC		SPP
4560	TRIGGERFISH, NK (LEATHERJACKET)		SPP
4590	TRIPLETAIL		IAL
6443	TROPICBIRD, NK		INC
6442	TROPICBIRD, RED-BILLED		INC
6441	TROPICBIRD, WH-TAILED		INC
4150	TROUT, STEELHEAD		IAL
4700	TUNA, ALBACORE	DRESSED	IAL
4701	TUNA, ALBACORE	ROUND	IAL
4702	TUNA, ALBACORE	CHUNKS	SPP
4691	TUNA, BIG EYE	ROUND	IAL
4692	TUNA, BIG EYE	CHUNKS	SPP
4641	TUNA, BLACKFIN	ROUND	IAL
4642	TUNA, BLACKFIN	CHUNKS	SPP
4670	TUNA, BLUEFIN	ROUND	IAL
4676	TUNA, BLUEFIN	CHUNKS	SPP
4681	TUNA, LITTLE (FALSE ALBACORE)	ROUND	IAL, SPP
4682	TUNA, LITTLE (FALSE ALBACORE)	CHUNKS	SPP
4657	TUNA, NK	ROUND	IAL
4658	TUNA, NK	CHUNKS	SPP
4661	TUNA, SKIPJACK	ROUND	IAL, SPP
4662	TUNA, SKIPJACK	CHUNKS	SPP
4711	TUNA, YELLOWFIN	ROUND	IAL
4712	TUNA, YELLOWFIN	CHUNKS	SPP
8090	TURTLE, GREEN		INC
8140	TURTLE, HAWKSBILL		INC
8100	TURTLE, KEMP'S RIDLEY		INC
8120	TURTLE, LEATHERBACK		INC
8130	TURTLE, LOGGERHEAD		INC
8160	TURTLE, NK		INC
8161	TURTLE, NK, HARDSHELL		INC
8180	TURTLE, OLIVE RIDLEY		INC
8110	TURTLE, SLIDER, POND		INC
8150	TURTLE, SNAPPER		INC
8081	TURTLE, TERRAPIN		IAL

CODE	COMMON NAME	MARKET CATEGORY	LOG
6854	UNKOWN LIVING MATTER		SPP
4720	WAHOO		IAL
6965	WALRUS		INC
3446	WEAKFISH (SQUETEAGUE SEA TROUT)		SPP
6993	WHALE, BALEEN, NK		INC
6958	WHALE, BELUGA		INC
6911	WHALE, BK, BOTTLENOSE		INC
6954	WHALE, BK, CUVIER'S		INC
6908	WHALE, BK, DENSE		INC
6907	WHALE, BK, GERVAIS'		INC
6953	WHALE, BK, MESOP, NK		INC
6909	WHALE, BK, SOWERBY'S		INC
6910	WHALE, BK, TRUE'S		INC
6947	WHALE, BLUE		INC
6988	WHALE, BRYDE'S		INC
6905	WHALE, DWARF SPERM		INC
6930	WHALE, FALSE KILLER		INC
6929	WHALE, FIN/SEI		INC
6931	WHALE, FINBACK		INC
6933	WHALE, HUMPBACK		INC
6950	WHALE, KILLER		INC
6987	WHALE, MELON-HEADED		INC
6945	WHALE, MINKE		INC
6999	WHALE, NK		INC
6904	WHALE, PILOT, LONG-FIN		INC
6992	WHALE, PILOT, NK		INC
6903	WHALE, PILOT, SHORT-FIN		INC
6955	WHALE, PYGMY KILLER		INC
6956	WHALE, PYGMY SPERM		INC
6946	WHALE, RIGHT, NO		INC
6932	WHALE, SEI		INC
6948	WHALE, SPERM		INC
6980	WHALE, TOOTHED, NK		INC
7760	WHELK, CHANNELED (SMOOTH)		SPP
7770	WHELK, KNOBBED		SPP
7780	WHELK, LIGHTNING		SPP
7750	WHELK, NK, CONCH		SPP
5120	WOLFFISH, ATLANTIC		SPP
6681	WOLFFISH, NORTHERN		SPP
8230	WORM, BLOOD		SPP
8250	WORM, NK		SPP
5130	WRECKFISH		IAL
6790	WRYMOUTH		SPP

DEALER LIST - Sorted by State, Dealer Name, City

CONNECTICUT

BRIDGEPORT LOBSTER & SHELLFISH	BRIDGEPORT
COVE FISH MARKET INC	MYSTIC
GAMBARDELLA WHLSL FISH	STONINGTON
GARBO LOBSTER CO	GROTON
GROSSMANS	WEST MYSTIC
LIVELY LOBSTER LLC	BRIDGEPORT
NEW LONDON SEAFOOD DIST	NEW LONDON
SEA WELL SEAFOOD	PAWCATUCK
STEVEN BURT SEAFOOD	NORWALK
STONINGTON FILLET CO INC	STONINGTON
STONINGTON FISH & LOBSTER	STONINGTON
STONINGTON FISHERIES	STONINGTON
STONINGTON FISHERMAN'S DOCK	STONINGTON
STONINGTON SEAF HARVESTER	STONINGTON

DELAWARE

LEWES FISHHOUSE & PRODUCE INC	LEWES
OCEAN FRESH SEAFOOD	HARRINGTON
THAT'S RIGHT SEAFOOD	UNKNOWN

MAINE

AC INC	BEALS
ALEWIVE'S BROOK FARM	CAPE ELIZABETH
ALFIERO BROS SEAFOOD	PORTLAND
ATLANTIC EDGE LOBSTER INC	BOOTHBAY HARBOR
ATLANTIC PELAGIC SEAF LLC	PORTLAND
ATLANTIC RAINBOW TRADING INC	PORTLAND
ATLANTIC SHELLFISH	JONESPORT
ATWOOD'S LOBSTER CO.	ST. GEORGE
BAR HARBOR MARINE	TRENT
BARNEY'S SEAFOOD	RAYMOND
BATH CANNING	BATH
BAYLEYS QUALITY SEAFOOD	SCARBOROUGH
BBS LOBSTER CO INC	MACHIASPORT
BEAL'S LOBSTER CO INC	JONESPORT
BEDROCK LOBSTER POUND	KITTERY
BOLD VENTURES INC	STONINGTON
BOOTHBAY REGION LOBSTER	BOOTHBAY HARBOR
BREMEN LOBSTER POUND COOP INC	BREMEN
BRISTOL SEAFOOD INC	PORTLAND
BROWN TRADING COMPANY	PORTLAND
CARVER SHELLFISH INC	BEALS
CH RICH CO INC	BASS HARBOR
CHRISSY D LOBSTER CO	KITTERY
CNW SEAFOOD	BUCKS HARBOR

MAINE (CONTINUED)

COASTAL BAIT COMPANY	PORTLAND
COD END MARKET	TENANTS HARBOR
COLWELL BROS INC	DEER ISLE
CONARY COVE LOBSTER CO	DEER ISLE
COOK'S LOBSTER HOUSE INC	BAILEY ISLAND
COREA LOBSTER COOP INC	COREA
COZY HARBOR SEAFOOD INC	PORTLAND
CRANBERRY ISLES FISHERMAN'S COOP	ISLESFORD
CUMMINGS LOBSTER CO INC	KENNEBUNK
CUNDY'S HBR. WHARF	SOUTH HARPSWELL
CUSTOM HOUSE SEAFOODS	PORTLAND
D & D SEAFOOD	DEER ISLE
D & S LOBSTER BAIT	BEALS
D C AIR & SEAFOOD INC	WINTER HARBOR
DAVID HORNER	BASS HARBOR
DICK'S LOBSTER	HARPSWELL
DOUTY BROS INC	PORTLAND
DYERS BAY LOBSTER CO INC	STEUBEN
EMERY'S LOBSTER BAIT	KITTERY
EUGLEY'S WHARF INC	SOUTH BRISTOL
FARRIN'S WHARF	SOUTH BRISTOL
FEYLER'S FISHTAILS	CUSHING
FIFIELD LOBSTER CO	STONINGTON
FINESTKIND FISH MKT	YORK
FISHERMAN'S CATCH SFD MKT INC	DAMARISCOTTA
FISHERMAN'S NET	PORTLAND
FISHERMEN'S HERITAGE LOBSTER COOP	FRIENDSHIP
FISHERMEN'S LANDING INC	BAR HARBOR
FREE RANGE FISH	PORTLAND
FRESH PACK SEAFOOD	WISCASSET
FRIENDSHIP LOBSTER COOP	FRIENDSHIP
G.T. MANAGEMENT	SCARBOROUGH
GEORGETOWN FISH COOP	FIVE ISLANDS
GILLISON SEAFOOD	SOUTH BRISTOL
GLEN'S LOBSTERS	BAILEY ISLAND
GOBEIL'S BAIT	BIDDEFORD
GREAT ISLAND LOBSTER CO	DOVER
H. R. BEAL & SONS INC	SOUTHWEST HARBOR
HARBORSIDE LOBSTER	VINALHAVEN
HARRASEEKET LOBSTER CO	FREEMPORT
HATCHET COVE LOBSTER	FRIENDSHIP
HIXEY HEAD LOBSTER POUND INC	BEALS
ICEBRAND FOODS INC	PORTLAND
INGRID BENGIS SEAFOOD	STONINGTON
INLAND LOBSTER	VINALHAVEN
INLAND SEAFOOD	MILBRIDGE
INTERSTATE LOBSTER INC	HARPSWELL
ISF TRADING	PORTLAND
ISLAND SEAFOOD	DEER ISLE
J & J SONS LOBSTER BAIT	BEALS

MAINE (CONTINUED)

J & K LOBSTER & BAIT	HARRINGTON
JESS' MARKET INC	ROCKLAND
JP SHELLFISH INC	ELIOT
JSSR ENTERPRISES	BOOTHBAY HARBOR
KALER'S CRAB & LOBSTER	BOOTHBAY HARBOR
KEN'S LOBSTER	HARPSWELL
KETTLE FISH	BOOTHBAY HARBOR
KIP'S SEAFOOD CO	CUSHING
L & L LOBSTER CO INC	ROCKLAND
LANGSFORD RD LOBSTER & FISH	KENNEBUNKPORT
LARRY KNAPP	BOOTHBAY HARBOR
LASH LOBSTER WHARF	FRIENDSHIP
LITTLE RIVER LOBSTER CO	BOOTHBAY HARBOR
LOBSTER OUTLET	WOOLWICH
LOOKS GOURMET FOOD COMPANY	BAR HARBOR
MAGGIE'S FISH MARKET	BAR HARBOR
MAINE COAST SEAFOOD	SPRUCE HEAD
MAINE LOBSTER OUTLET	YORK
MAINE SEAFOOD SPEC	SACO
MAINE SHELLFISH COMPANY INC	ELLSWORTH
MAINE'S BEST SEAFOOD INC	ROCKLAND
MARSH COVE LOBSTER CO INC	ADDISON
MCALENEY'S NEW MEADOWS LOBSTER	PORTLAND
MIDDLEBAY LOBSTER	HARPSWELL
MILL COVE LOBSTER POUND	BOOTHBAY HARBOR
MOOSABEC MUSSELS INC	JONESPORT
MORNINGSTAR SEAFOOD	STONINGTON
MORRISON'S LOBSTERS	KITTERY
MTS SEAFOOD TRADING CO LLC	PORTLAND
NANCY'S SEAFOOD	PORTLAND
NEW ERA FISH LLC	PORTLAND
NEW HARBOR COOP	NEW HARBOR
NORTH ATLANTIC LOBSTER SALES	ADDISON
NORTH ATLANTIC PRODUCTS INC	ROCKLAND
NORTH ATLANTIC SEAFOOD INC	PORTLAND
NORTH END LOBSTER COOP	WESTPORT
NOVA SEAFOODS LTD	PORTLAND
OAK ISLAND SEAFOOD INC	ROCKLAND
OCEAN HARVEST SEAFOOD	EDMUNDS
O'HARA CORPORATION	ROCKLAND
OLD SALT SEAFOOD CO INC	BEALS
PARSONS LOBSTERS	BAR HARBOR
PEMAQUID FISHERMAN'S COOP	PEMAQUID
PERIO POINT SEAFOOD	BEALS
PHILLBRICK BROS INC.	OWLS HEAD
PINE POINT FISHERMEN'S COOP	SCARBOROUGH
PORT CLYDE DRAGGERMAN'S	PORT CLYDE
PORT LOBSTER CO INC	KENNEBUNKPORT
PORTLAND FISH EXCH	PORTLAND
PORTLAND LOBSTER COMPANY	PORTLAND

MAINE (CONTINUED)

PORTLAND LOBSTER POUND
 PURSE LINE BAIT
 REILLY'S SEA PRODUCTS
 RESOURCE TRADING CO
 RIVER CATCH INC
 ROBINSON'S WHARF INC
 ROEBOAT ENTERPRISES
 ROUND POND LOBSTER
 S.BRISTOL FISH COOP
 SAINT GEORGE MARINE
 SEA FRESH USA INC
 SEA PIER INC
 SEAHORSE LOBSTER & FISH
 SEAVIEW FISHERIES INC
 SEBASCO WHARF INC
 SHAW'S FISH & LOBSTER
 SIMMONS LOBSTER WHARF
 SMALL POINT FISHERIES
 SMITH'S LOBSTER
 SOLAR SEAFOOD INC
 SORRENTO LOBSTER INC
 SOUTH BRISTOL FISHERMEN'S COOP
 SPRUCE HEAD FISHERMEN'S COOP
 ST GEORGE MARINE
 STEVE CANTRELL
 STINSON SEAFOOD 2001 INC
 STINSON'S MARINE LLC
 STONINGTON LOBSTER COOP
 STONINGTON SEA PRODUCTS INC
 SUE'S SEAFOOD
 SUNSHINE SEAFOOD INC
 SUPERIOR BAIT
 SWAN ISLAND FISHERMAN'S COOP
 VINALHAVEN FISHERMEN COOP
 WARD BAIT SHOP
 WAYNE R PARRY INC
 WEATHERVANE SEAFOODS INC
 WEBER SEAFOOD INC
 WINTER HARBOR COOP INC
 WOTTON'S LOBSTER
 YORK LOBSTER & SEAFOOD
 YOUNG'S LOBSTER POUND

PORTLAND
 PHIPPSBURG
 BRISTOL
 PORTLAND
 PORTLAND
 SOUTHPORT
 BOOTHBAY HARBOR
 ROUND POND
 SOUTH BRISTOL
 PORT CLYDE
 PORTLAND
 BOOTHBAY HARBOR
 PHIPPSBURG
 KITTERY
 PORTLAND
 NEW HARBOR
 FRIENDSHIP
 PHIPPSBURG
 JONESPORT
 WESTBROOK
 SORRENTO
 SOUTH BRISTOL
 SOUTH THOMASTON
 PORT CLYDE
 TOPSHAM
 WINTER HARBOR
 WINTER HARBOR
 STONINGTON
 STONINGTON
 STONINGTON
 TENANTS HARBOR
 SWAN ISLAND
 VINALHAVEN
 KENNEBUNKPORT
 ARUNDEL
 KITTERY
 PORTLAND
 WINTER HARBOR
 BOOTHBAY HARBOR
 YORK
 BELFAST

MARYLAND

CHINCOTEAGUE SEAFOOD
 COLBOURNE SEAFOOD INC
 CRABKNOCKERS SEAFOOD MARKET
 E. GOODWIN SEAFOODS
 HARBOR TACKLE

PARSONSBURG
 SECRETARY
 LEONARDTOWN
 JESSUP/BALTIMORE
 OCEAN CITY

MARYLAND (CONTINUED)

HARRIS SEAFOOD CO
 J & J WHOLESALE
 JIMMY CANTLER'S RIVERSIDE INN
 KOOL ICE & SEAFOOD
 MARTIN FISH CO INC
 MID ATLANTIC FOODS INC
 NAFCO WHOLESALE SEAFOOD
 QUALITY SEAFOOD INC
 SEA WATCH INTERNATIONAL
 SOUTHERN CONNECTION

GRASONVILLE
 ROCK HALL
 ANNAPOLIS
 CAMBRIDGE
 OCEAN CITY
 POCOMOKE CITY
 JESSUP
 FORT WASHINGTON
 EASTON
 CRISFIELD

MASSACHUSETTS

4TH CLIFF SEAFOOD
 A & A SEAFOOD
 AB SEAFOOD
 ABRAMO FISH CO LTD
 AFC TRADING CORP
 ALIVE AND KICKING LOBSTERS
 AMERICAN PRIDE SEAFOOD
 AMERICAN SEAF PROCESS LLC
 AMERICAN SEAFOOD GROUP
 AMERICAN SFD INTERNATIONAL
 AML INTERNATIONAL
 ANGLER FISHERIES
 ATL COAST SEAFOOD
 ATL FISH/NORTHCOAST
 ATLANTIC BANKS FISHERIES
 ATLANTIC COAST FISH CORP
 ATLANTIC FROST SEAFOOD
 ATLANTIC GEM SEAFOOD
 ATLANTIC SEA COVE INC
 B & D BRAMANTE SFD BROKER
 B & M SEAFOOD
 BAIT LADY
 BASIC FISHERIES
 BAY SIDE SEAFOOD
 BAYSIDE SEAFOOD CORP
 BERGIE'S SEAFOOD
 BIG G SEAFOOD INC
 BLOUNT SEAFOOD CORP
 BLUE C SEAFOOD
 BOATHOUSE FISH MARKET
 BOSTON CRAB CO INC
 BOSTON SFD AUCTION GL
 BOSTON WHOLESALE LOBSTER CORP
 BRAMANTE SEAFOOD
 BREAKWATER FISH & LOBSTER CO
 BUZZARDS BAY SEAFOOD
 BUZZARDS BAY TRADING

MARSHFIELD
 NEW BEDFORD
 BOSTON
 STOUGHTON
 NEW BEDFORD
 CAMBRIDGE
 NEW BEDFORD
 NEW BEDFORD
 NEW BEDFORD
 NEW BEDFORD
 NEW BEDFORD
 NEW BEDFORD
 BOSTON
 BOSTON/NBFD
 GLOUCESTER
 NEW BEDFORD
 FALL RIVER
 NEW BEDFORD
 BOSTON
 BOSTON
 BOSTON
 SANDWICH
 MARION
 BREWSTER
 NEW BEDFORD
 NEW BEDFORD
 NEW BEDFORD
 FALL RIVER
 NEW BEDFORD
 WELLFLEET

 GLOUCESTER
 LYNN
 BOSTON
 BREWSTER
 FAIRHAVEN
 NEW BEDFORD

MASSACHUSETTS (CONTINUED)

C & C SEAFOOD	SALEM
CAHOON SEAFOOD	WEST YARMOUTH
CANAL MARINE FISHERIES	SANDWICH
CANYON SEAFOOD	NEW BEDFORD
CAPE ANN SEAFOOD	GLOUCESTER
CAPE CODDER SEAFOOD MARKET	WEST YARMOUTH
CAPE FISH & LOBSTER CO	HYANNIS
CAPE QUALITY BLUEFIN	SOUTH DENNIS
CAPE QUALITY SEAFOOD	SOUTH DARTMOUTH
CAPE SEAFOODS INC	GLOUCESTER
CAPE SHARK FISHERIES	GLOUCESTER
CAPE SPRAY FISHERIES	HYANNIS
CAPE TIP SEAFOOD INC	PROVINCETOWN
CAPT JOE & SONS INC	GLOUCESTER
CAPT VINCE INC	GLOUCESTER
CARLOS SEAFOOD INC	NEW BEDFORD
CHANNEL FISH CO	EAST BOSTON
CHATHAM FISH&LOBSTER	CHATHAM
CHATHAM FISH&LOBSTER	SOUTH DENNIS
CHATHAM SEAFOOD COOP	CHATHAM
CHATHAM'S FINEST	CHATHAM
CHERRY ST FISH MARKET	DANVERS
CMLA INC	GLOUCESTER
COLD ATLANTIC SEAFOOD INC	NEW BEDFORD
COMMERCIAL LOBSTER CO INC	BOSTON
CONNELLY SEAFOOD	BOSTON
COTE FISHERIES	HYANNIS
COUGAR SEAFOOD CORP	NEW BEDFORD
DAVE'S SEAFOOD	TAUNTON
DAVIDS FISH MARKET INC	SALISBURY
DFC INTERNATIONAL	GLOUCESTER
D-FILLET CO INC	NEW BEDFORD
DIMARE SEAFOODS	REVERE
DJ SEAFOOD INC	MARION
DOCKSIDE FISHERIES INC	WESTPORT
EAST COAST SEAFOOD INC	LYNN
EASTERN FISHERIES	NEW BEDFORD
EASTERN SHORE SEAFOOD	ESSEX
EJ LIBBY & SONS SEAFOOD INC	FALMOUTH
F & B MUSSELLS	WEST WAREHAM
F. J. O'HARA & SONS	BOSTON
FAIR TIDE SHELLFISH LTD	NEW BEDFORD
FALMOUTH FISH MARKET	EAST FALMOUTH
FISH ON WHEELS	BOSTON
FLEET FISHERIES	NEW BEDFORD
FOLEY FISH	BOSTON/NEW BEDFORD
FUJI INVESTMENT	WILMINGTON
FULFORD FISH	GLOUCESTER
GEORGE'S SEAFOOD	UNKNOWN
GL SEAF DISPLAY AUCTION	GLOUCESTER

MASSACHUSETTS (CONTINUED)

GLIDDEN ISLAND SEAFOOD	NANTUCKET
GLOUCESTER FISH EXCHANGE	GLOUCESTER
GREAT EASTERN SEAFOOD	BOSTON
GREG’S LOBSTER CO INC	HARWICH
H & M FISHERIES	WESTPORT
HANOVER LOBSTER & SEAFOOD	HANOVER
HAPPY WORLD AMERICA	GLOUCESTER
HARBOR BLUE SEAFOOD	FAIRHAVEN
HARVESTER SEAFOOD & SHELLFISH	BOURNE
HATCH’S FISH MARKET INC	WELLFLEET
HI HO SEAFOOD INC	EVERETT
HILTON’S FISHING DOCK	NEWBURYPORT
HYGRADE OCEAN PRODUCTS INC	NEW BEDFORD
IDEAL SEAFOOD INC	BOSTON
INTERNATIONAL C FOOD	NEW BEDFORD
INTERSHELL SEAFOOD CO	GLOUCESTER
IPSWICH SHELLFISH CO INC	IPSWICH
IRISH VENTURE INC	GLOUCESTER
J & J SEAFOOD	SAGAMORE BEACH
J T SEA PRODUCTS INC	NEW BEDFORD
JEWELS SEAFOOD	NEW BEDFORD
JOE’S LOBSTER MART	SANDWICH
JOE’S SEAFOOD INC	NEW BEDFORD
JOHN B WRIGHT FISH CO	GLOUCESTER
JOHN NAGLE INC	BOSTON
JO-JA SERVICE CORP	ACUSHNET
JOLIN LOBSTER INC	MANCHESTER
JORDANS SEAFOOD	BROCKTON
LARSEN’S FISH MARKET INC	MENEMSHA
LISBON SEAFOOD CO	FALL RIVER
LIVE LOBSTER COMPANY INC	CHELSEA
LOBSTER TRAP CO INC	BOURNE
LOTZZO’S FISH INC	WESTPORT
LOU - JOE’S FRESH SEAFOOD	NEW BEDFORD
LTC FISHERIES	CHATHAM
M & J SEAFOOD	NEW BEDFORD
M B SEA PRODUCTS	NEW BEDFORD
M F FOLEY INC OF NB	BOSTON/NEW BEDFORD
MACLEANS SEAFOOD	NEW BEDFORD
MAC’S SEAFOOD	WELLFLEET
MAGURO AMERICA INC	CHATHAM
MANCHESTER LOBSTER INC	MANCHESTER
MANOMET LOBSTER POUND	MANOMET
MARBLEHEAD LOBSTER	MARBLEHEAD
MARDER TRAWLING INC	NEW BEDFORD
MARINE BIO LAB	WOODS HOLE
MAR-LEES SEAFOOD LLC	NEW BEDFORD
MARR PELAGICS USA LLC	NEW BEDFORD
MARTHA’S VINEYARD SFD GRP INC	VINEYARD HAVEN
MENEMSHA FISH MARKET	CHILMARK

MASSACHUSETTS (CONTINUED)

MET FISHERIES	NEW BEDFORD
MORTILLARO'S LOBSTER	GLOUCESTER
MULLANEY HRBR FISH	SCITUATE
NANTUCKET FISH CO INC	SOUTH DENNIS
NANTUCKET SEAFOODS	NANTUCKET
NANTUCKET SOUND FISH WEIRS INC	CHATHAM
NEBULA FOODS INC	NEW BEDFORD
NEW BEDFORD AUCTION	NEW BEDFORD
NEW ENGLAND CRAB CO	ROXBURY
NEW ENGLAND EEL CO	GLOUCESTER
NEW ENGLAND FISH CO (NEFCO)	BOSTON
NEW ENGLAND FISH EXCHANGE	BOSTON
NEW ENGLAND FRESH SEA PRODUCTS	GLOUCESTER
NEW ENGLAND MARINE RESOURCES INC	GLOUCESTER
NEW ENGLAND SEAFOOD	ROXBURY
NEW ENGLAND SHELLFIN INC	FALMOUTH
NEW HORIZON FISHERIES	PROVINCETOWN
NORDSTROM SEAFOOD TRADERS	ACUSHNET
NORTH ATLANTIC LOBSTER CO INC	DANVERS
NORTH ATLANTIC TRADERS LTD	MARBLEHEAD
NORTH COAST SEAFOOD	BOSTON/NEW BEDFORD
NORTHERN EDGE SEAFOOD	SOUTH DARTMOUTH
NORTHERN PELAGIC GROUP (NORPEL)	NEW BEDFORD
NORTHERN WIND	NEW BEDFORD
OCEAN CREST SEAFOOD	GLOUCESTER
OCEAN STAR SEAFOOD	SOUTH BOSTON
OCEANS ALIVE SCALLOP CORP	NEW BEDFORD
OFF THE BOAT SEAFOOD	BOSTON
PACIFIC TRADE INC	QUINCEY
PALMER ISLAND SEAF	SOUTH DARTMOUTH
PIER 7 INC	BOSTON
PIGEON COVE FISH COOP	ROCKPORT
PIGEON COVE WHOLE FOODS	GLOUCESTER
PORTLAND SHELLFISH SALES	MARBLEHEAD
PURITAN FISH CO INC	BOSTON
RAW SEAFOOD INC	FALL RIVER
RCC CORP	NEW BEDFORD
RED STAR SEAFOOD INC	NEW BEDFORD
RED'S BEST	CAPE COD
RELIABLE FISH CO INC	PLYMOUTH
ROCK BOTTOM SEAFOOD	PLYMOUTH
ROWAND FISHERIES INC	BEVERLY
S PARISI & SONS SEAFOODS INC	GLOUCESTER
SAM'S SEAFOOD	HINGHAM
SASHAMY SEAFOOD SPECIALTIES INC	BOSTON
SAYLE & HENRY INC	NANTUCKET
SAYLE'S SEAFOOD	NANTUCKET
SEA COAST SEAFOOD	NEW BEDFORD
SEA FRESH OF NEW BEDFORD	NEW BEDFORD
SEA TO YOU SUSHI	BOSTON

MASSACHUSETTS (CONTINUED)

SEA WATCH INTERNATIONAL
 SEAF CONSULT & ANALYSIS
 SEAFOOD CONSULTING & ANALYSIS
 SEAHORSE SEAFOOD SHOPPE
 SEAQUEST
 SECONDO FAMILY ENTR INC
 SHAMROCK SEAFOOD LLC
 SIX PACK SEAFOODS
 SNUG HARBOR FISH COMPANY
 SOUSA SEAFOOD INC
 SOUTH CAPE SEAFOODS INC
 SOUTH SHORE LOBSTER
 SOUZA SEAFOOD
 STAR FISHERIES CORP
 STAVIS SEAFOOD INC
 STEVE CONNOLLY SFD CO INC
 STEVE COUTO SEAFOOD
 STEVE'S FILLET INC
 STOP & SHOP SUPERMARKETS
 SWAN RIVER SEAFOOD RESTAURANT
 TASTY SEAFOOD COMPANY
 TEMPEST FISHERIES LTD
 THE CLAM MAN
 THE FRESH CATCH INC
 THE LOBSTER POT
 THREE LANTERNS
 TICHON SEA FOOD
 TIMOTHY SHEA FISHERIES
 TIRRELL SEAFOOD & SHELLFISH
 TREBLOC SEAFOOD
 TRIO ALGARVIO SEAFOOD
 TURK'S SEAFOOD
 VENTURE FISHERIES
 VICTORY FISHERIES
 W P MCCANN INC
 WELLFLEET OYSTER & CLAM CO LTD
 WESTPORT LOBSTER CO
 WHALING CITY AUCTION
 WHOLESALE SEAFOOD
 WONG TRADING INC
 WRIGHTS SEAFOOD
 ZEUS PACKING INC

NEW BEDFORD
 NEW BEDFORD
 NEW BEDFORD
 MARION
 UNKNOWN
 PLYMOUTH
 NEW BEDFORD
 ACUSHNET
 DUXBURY
 BOSTON
 CHATHAM
 HINGHAM
 NANTUCKET
 GLOUCESTER
 BOSTON
 BOSTON
 NEW BEDFORD
 NEW BEDFORD
 QUINCEY
 DENNISPORT
 MARION
 NEW BEDFORD
 FALMOUTH
 MANSFIELD
 NORWELL
 GLOUCESTER
 NEW BEDFORD
 BOSTON
 BOSTON
 PLYMOUTH
 NEW BEDFORD
 MATTAPOISETT
 CHATHAM
 PROVINCETOWN
 FAIRHAVEN
 WELLFLEET
 WESTPORT
 NEW BEDFORD
 FAIRHAVEN
 BOSTON
 GLOUCESTER
 GLOUCESTER

NEW HAMPSHIRE

BROWN'S SEABROOK LOBSTER POUND
 DEFIANT LOBSTER COMPANY
 GEORGE'S SEAFOOD
 LITTLE BAY FISH CO
 LITTLE BAY LOBSTER CO

SEABROOK
 HAMPTON
 UNKNOWN
 PORTSMOUTH
 NEWINGTON

NEW HAMPSHIRE (CONTINUED)

LITTLE JOE'S SEAFOOD EXPRESS
 NH SEACOAST CRUISES INC
 PORTSMOUTH FISH COOP
 SANDERS LOBSTER CO INC
 SEATRADE INTERNATIONAL
 TRI STATE SEAFOODS INC
 TRICOASTAL FISH COOP
 YANKEE FISHERMEN'S COOP

SANBORNVILLE
 RYE
 PORTSMOUTH
 PORTSMOUTH
 PORTSMOUTH
 SOMERSWORTH
 SEABROOK
 SEABROOK

NEW JERSEY

A & J SEAFOOD
 AHEARN'S SEAFOOD MARKET
 ATLANTIC CAPES FISHERIES
 AXELSSON & JOHNSON FISH
 BARNEGAT LT BAIT & TACKLE
 BASIC FISHERIES
 BCS PARTNERSHIP
 BELFORD SEAFOOD COOP
 BILLY'S RED ROOM INC
 BLACK TIGER COMPANY INC
 CAMBREX BIOLOGICAL SCIENCE
 CAPE MAY FOODS INC
 CAPE SEAPAK INC
 CAPT BILL'S BAIT & TACKLE
 CAPTAIN CHARLIE'S CLAMS
 CARLSON'S SEAFOOD
 CARMEN'S LOBSTER POOL
 CASINO LOBSTER COMPANY
 CHEFS INTERNATIONAL INC
 COLD SPRING FISH & SUPPLY
 COTTRELL'S LOBSTERS
 DILL'S SEAFOOD
 DOCK STREET SEAFOOD
 EMERALD FISH
 EXPORT INC
 FISH QUEST INC
 FISHERMAN'S HEADQUARTERS
 FISHERMEN'S DOCK COOP
 FROMETTA CONSIGN
 IBERIA PENINSULA INC
 IBERIA TAVERN & RESTAURANT
 KASHIKO EXPORTS
 KING KRAB RANCH
 KLEIN'S FISH MARKET INC
 LIGHTHOUSE DOCK
 LIMULI LABS
 LONZA AMERICA INC
 LUND'S FISHERIES INC
 MAX'S SEAFOOD

CARLSTADT
 WARETOWN
 CAPE MAY
 CAPE MAY
 BARNEGAT
 PT. PLEASANT BEACH
 BELFORD
 BELFORD
 WHIPPANY
 EGG HARBOR CITY
 EAST RUTHERFORD
 CAPE MAY
 CAPE MAY COURT HOUSE
 NEPTUNE
 CAPE MAY
 WILDWOOD
 SEA ISLE CITY
 PLEASANTVILLE
 POINT PLEASANT
 CAPE MAY
 HIGHLANDS
 BRIDGETON
 WILDWOOD
 CHERRY HILL
 BARNEGAT LIGHT
 POINT PLEASANT BEACH
 SHIP BOTTOM
 POINT PLEASANT BEACH
 NEWARK
 NEWARK
 NEWARK
 PT. PLEASANT BEACH
 PORT NORRIS
 BELMAR
 BARNEGAT LIGHT
 CAPE MAY
 ALLENDALE
 CAPE MAY
 GLOUCESTER CITY

NEW JERSEY (CONTINUED)

MY THREE SONS SEAFOOD & PRODUCE
 NORTHEAST SHELLFISH CO
 NU-WAVE SEAFOOD CONS LLC
 PEACHES & CREAM INC
 PHILLIPS SEAFOOD
 PRIDE OF NEPTUNE
 PT PLEASANT PACKING INC
 RED'S LOBSTER DOCK
 RED'S LOBSTER POT
 RIVER ROAD CLAM HOUSE LLC
 RUGGIERO SEAFOOD INC
 SALLY'S SHRIMP & SEAFOOD
 SEACOAST OCEAN DIST
 SHOAL HARBOR LOBSTER CO INC
 SNOW'S DOXSEE INC
 SPIKE'S FISH MARKET
 SURFSIDE PRODUCTS INC
 THE LOBSTER HOUSE
 UNION LANDING RESTAURANT
 VIKING VILLAGE INC
 WILLOW HILL FISH CO
 WOOLLEYS FISH MARKET INC
 YAMA SEAFOOD INC

TUCKERTON
 ALLENWOOD
 BARNEGAT LIGHT
 BELLE MEAD
 ATLANTIC CITY
 NEPTUNE
 POINT PLEASANT
 POINT PLEASANT
 POINT PLEASANT
 EGG HARBOR CITY
 NEWARK
 WARETOWN
 HIGHLANDS
 BELFORD
 CAPE MAY
 POINT PLEASANT
 PORT NORRIS
 CAPE MAY
 BRIELLE
 BARNEGAT LIGHT
 BELLE MEAD
 FREEHOLD
 JERSEY CITY

NEW YORK

AGGER FISH CORP
 ARROW SEAFOOD INC
 BABYLON FISHING STATION
 BAY PARK FISHING STATION INC
 BAY SIDE SEAFOOD
 BLUE MOON FISH INC
 BLUE RIBBON FISH CO
 BLUE WATER FISHERIES INC
 BOB GOSMAN CO INC
 C G DINO'S INC
 CALEB HALEY & CO INC
 CAPT BEN'S FISH DOCK
 CARL'S SEAFOOD, INC
 CBSD (CAPTAIN BEN'S FISH DOCK)
 CG DINO'S INC
 CLAMMAN SEAFOOD MARKET INC
 COR-J SEAFOOD
 D & S SEAFOOD
 DEEPWATER SEAFOODS
 DINO'S See C G DINO'S
 EMERALD SEAFOOD COMPANY INC
 F & L FILLET
 FAIR FISH CO INC

BROOKLYN
 NEW YORK
 BABYLON
 OCEANSIDE
 UNKNOWN
 MATTITUCK
 NEW YORK
 MONTAUK
 MONTAUK
 BRONX
 BRONX
 FREEPORT
 BRONX
 FREEPORT
 BRONX
 SOUTHAMPTON
 HAMPTON BAYS
 HARTSDALE
 MONTAUK
 BRONX
 BRONX
 NEW YORK
 BRONX

NEW YORK (CONTINUED)

FATHER'S FISH CO INC
 FRANK W. WILKISSON INC
 FULL MOON FISHERIES
 FULTON FISH MARKET
 GEORGE BRAUN OYSTER
 GLOUCESTER FISH CO
 GOSMAN'S WHOLESALE SEAF
 GOTHAM SEAFOOD CORP
 HAPPY HOOKER FISH CO
 HARBOR SEAFOODS INC
 HART LOBSTER
 HUDSON POINT FISH STA
 HUNTS POINT COOP MRKT INC
 INLET SEAFOOD
 JEFFREY M. KRAUS
 JMS SEASONAL SEAFOOD CORP
 JOE IPPOLITTI
 JOE MONANI FISH CO
 JONES INLET PACKING CO LTD
 JOSEPH H. CARTER INC
 K & K SEAFOOD
 KYOTO FISH
 L J FISH INC
 LJ FISH INC
 LOCKWOOD & WINANT
 LONG ISLAND FISH EXCH
 LONG ISLAND SEAFOOD EXP
 LOU'S FISH MARKET
 M. SLAVIN & SONS LTD
 MARINO & SONS FISH MARKET
 MILLIGAN SEAFOOD
 MOE BEHRENS SEAFOOD
 MONTAUK FISH DOCK
 MONTAUK MARINE BASIN
 MONTE'S SEAFOOD EMPORIUM
 MT SINAI FISH CO
 MULTI AQUACULTURE SYSTEMS INC
 PELL'S FISH DOCK & MARINA
 PERRY B DURYEA & SONS INC
 PIERLESS FISH CORP
 POINT LOBSTER & FISH
 POINT LOOKOUT SEAF
 PT LOOKOUT FISH DOCK INC
 RAINBOW CONNECTION
 RAJ FISH CORP
 RESTLESS FISHERIES
 S & R FISHERIES INC
 SHINNECOCK COOP
 SHINNECOCK FISH DOCK INC
 SHINNECOCK FISH PACKING INC

NEW YORK
 BRONX
 EAST HAMPTON
 NEW YORK
 CUTCHOGUE
 NEW YORK
 MONTAUK
 NEW YORK
 NEW YORK
 NEW HYDE PARK
 WEST SAYVILLE
 FREEPORT
 BRONX
 MONTAUK
 SOUTHAMPTON
 NEW YORK
 FREEPORT
 NEW YORK
 POINT LOOKOUT
 NEW YORK
 GREENPORT
 NEW YORK
 NEW YORK
 QUEENS
 SOUTHAMPTON
 WEST ISLIP
 MONTAUK
 MONTAUK
 BRONX
 BRONX
 AMAGANSETT
 HAMPTON BAYS
 MONTAUK
 BROOKLYN
 POINT LOOKOUT
 POINT LOOKOUT
 POINT LOOKOUT
 BROOKLYN
 GREENLAWN
 SEAFORD
 HAMPTON BAYS
 SHINNECOCK
 HAMPTON BAYS
 BAYSHORE

NEW YORK (CONTINUED)

SOUTH SHORE FISH MARKET INC	ISLAND PARK
SPRINGVILLE FISHERIES	HAMPTON BAYS
ST PETER DOCK INC	FREEPORT
STUART'S SEAFOOD MARKET LTD	AMAGANSETT
SUNRISE LOBSTER CO	BROOKHAVEN
SUNRISE SEAFOOD INC	NEW YORK
SUSHI FISHING CHARTERS	BROAD CHANNEL
TCI FISHERIES LLC	UNKNOWN
TERRA TRADE COMPANY	JACKSON HEIGHTS
THE SEAFOOD SHOP	WAINSCOTT
THIRD GENERATION FISH CO	BRONX
TM FISH COMPANY	MONTAUK
TONY CRAB KING INC	ISLIP
TOP CATCH INC	BROOKLYN
TWO COUSINS FISH MARKET INC	FREEPORT
VALENCAMBO SUPERIOR SEAFOOD	PORT CHESTER
VANDERBILT WHARF LTD	OAKDALE
WESTBURY FISH CO	WESTBURY
WHITECAP FISH	ISLIP
WILKINSON	NEW YORK
WILLIAM W REED	HAMPTON BAYS
WILLIAM W. REID	HAMPTON BAYS
WOODCLEFT FISHING STATION	FREEPORT
WORLD WIDE FISH CO	FLUSHING
WORLDWIDE DIRECT SEAFOOD	BRONX
YOUNG KWANG FISH CORP	FLUSHING

NORTH CAROLINA

AL'S SEAFOOD	LA GRANGE
AUSTIN FISH COMPANY	NAGS HEAD
AVON SEAFOOD	AVON
B & J SEAFOOD	NEW BERN
B + B INC / MALINSKI	BEAUFORT
BENNY'S SEAFOOD	MANN'S HARBOR
BERESOFF FISHING	BOLIVIA
BILLS SEAFOOD	SUNSET BEACH
BILLY'S SEAFOOD	KILL DEVIL HILLS
BLACKBURN BROS INC	CAROLINA BEACH
BLUE CRAB SEAFOOD	CALABASH
BOWMANS SEAFOOD	SNEADS FERRY
BRUCE HENRY	SHALLOTTE
BUXTON SEAFOOD	BUXTON
CANNON SEAFOOD	BEAUFORT
CAPE FEAR BIO SUPPLY CO	BEAUFORT
CAPE FEAR FISH MERCHANTS LLC	WILMINGTON
CAPE FEAR SEAFOOD	WILMINGTON
CAPE HATTERAS SEAFOOD	HATTERAS
CAPE POINT BAIT CO INC	BEAUFORT
CAPT JIM'S SEAFOOD INC	MOREHEAD CITY

NORTH CAROLINA (CONTINUED)

CAPT PETE SEAFOOD	HOLDEN BEACH
CAPTAIN CHARLIE'S SEAFOOD	ENGELHARD
CAROL VOLIVA	UNKNOWN
CAROLINA ATL SEAFOOD	MOREHEAD CITY
CHANNEL BASS REST	HATTERAS
CLAYTON FULCHER SEAF	ATLANTIC
CLYDE PHILLIPS SEAFOOD	SWANSBORO
COASTAL SEAFOOD	LELAND
CRYSTAL COAST FISHERIES	MOREHEAD CITY
DAVIS SEAFOOD	SNEADS FERRY
DIAMOND SEAFOOD	BUXTON
DIAMOND SHOAL SEAFOOD	BUXTON
DOUG'S SEAFOOD LLC	SHALLOTTE
ENGELHARD MATTAMUSKEET SEAFOOD LLC	ENGELHARD
FOLGER'S SEAFOOD	SEA LEVEL
FREDDY RESTAURANT	KURE BEACH
FROG ISLAND SEAFOOD INC	BARCO
FULCHER'S POINT PRIDE SFD	ORIENTAL
GARLAND/FULCHER SEAF	ORIENTAL
GASKILL SEAFOOD	BAYBORO
GRANTS OYSTER HOUSE	SNEADS FERRY
GRAYBEARD'S LLC	WANCHESE
HATTERAS BLUE	HATTERAS
HICKMAN SEAFOOD	CALABASH
HOBO SEAFOOD	SWANQUARTER
HOMER SMITH SEAFOOD INC	BEAUFORT
HOPKINS SEAFOOD	BELHAVEN
J H LEA & SONS	HAMPSTEAD
JAMES STYRON FISH CO	DAVIS
JAWS FISH CO	WANCHESE
JEFFREY'S SEAFOOD/JRA INC	HATTERAS
JS PACKING	WILMINGTON
KERRY & SON SEAFOOD INC	BEAUFORT
LINDSEY'S SEAFOOD	CURRITUCK
LOWLAND SEAFOOD INC	LOWLAND
LT EVERETT & SONS SEAF	SNEADS FERRY
LUCKY INTERNATIONAL	MOREHEAD CITY
LUTHER L SMITH & SON SEAF	ATLANTIC
MATTAMUSKEET SEAFOOD	SWANQUARTER
MOON TILLET FISH CO	WANCHESE
MORGAN HARVEST INC	NEWPORT
MOTTS CHANNEL SEAFOOD	WRIGHTSVILLE BEACH
MURRY L NIXON FISHERY INC	EDENTON
MY LORD HONEY SEAFOOD	BEAUFORT
NIXON SEAFOOD	WILMINGTON
OCEAN SEAFOOD	WILMINGTON
OCRACOKE SEAFOOD	OCRACOKE
ONEALS SEA HARVEST	WANCHESE
OSPREY FISHERIES INC	OCRACOKE
OUTER BANKS SEAFOOD	UNKNOWN

NORTH CAROLINA (CONTINUED)

PAMLICO PK CO INC
 PITTMAN SEAFOOD CO
 QUALITY SEAFOOD
 RISKY BUSINESS SEAF
 ROSE SEAFOOD
 RW JONES FISH CO INC
 SEAFOOD CENTER
 SHELLFISH 2000
 SLIM PICKINS
 SMITH SEAFOOD CONTAINER INC
 SNEADS FERRY SEAFOOD
 SOUTHPOINT MARKET INC
 SUNSET HARBOR SEAFOOD
 TATUM SEAFOOD
 TA TAYLOR & SONS SEAFOOD INC
 TEACH'S LAIR
 TIMS SEAFOOD
 TOP DOLLAR
 TOP FIN LTD
 WANCHESE FISH CO
 WILLIAM SMITH SEAFOOD INC
 WILLIAMS SEAFOOD INC
 WILLIE R ETHERIDGE SEAF
 YEOMANS SEAFOOD

VANDMERE
 BEAUFORT
 WANCHESE
 OUTER BANKS
 BEAUFORT
 NEWPORT
 JACKSONVILLE
 CEDAR POINT
 OCRACOCKE
 BEAUFORT
 SNEADS FERRY
 OCRACOCKE
 BOLIVIA
 SOUTHPORT
 SEA LEVEL
 HATTERAS
 HAMPSTEAD
 HATTERAS
 WANCHESE
 WANCHESE
 BEAUFORT
 ENGELHARD
 WANCHESE
 HARKERS ISLAND

RHODE ISLAND

AMANDA MEL LOBSTER CO
 ANTHONY'S SEAFOOD & RESTAURANT
 AQUIDNECK LOBSTER CO
 BAY STATE SEAFOOD INC
 BAYSIDE SHELLFISH
 BLACK POINT FISH TRAP CO
 BLOCK ISLAND SEAFOOD
 BLOUNT SEAFOOD CORP
 BRICO INCORPORATED
 BRIDGEPORT SEAFOOD
 CAPEWAY SEAFOODS
 CARTER SEAFOOD
 CELESTIAL FOOD DIST. INC
 CHAMPLIN ENTERPRISES
 CHAMPLIN'S SEAFOOD INC
 CHAMPLINS SFD OF WICKFORD
 CHUBBY FISH INC
 CLIPPER SEAFOOD
 DEEP SEA FISH OF RI
 ESTRELA SEAFOOD
 FERRY WHARF FISH MARKET
 FINN'S FISH MARKET
 FRANCES FLEET

BLOCK ISLAND
 MIDDLETOWN
 NEWPORT
 LITTLE COMPTON
 TIVERTON
 NARRAGANSETT
 BLOCK ISLAND
 WARREN
 NARRAGANSETT
 TIVERTON
 PROVIDENCE
 PORTSMOUTH
 SAUNDERSTOWN
 NARRAGANSETT
 NARRAGANSETT
 NARRAGANSETT
 WAKEFIELD
 NARRAGANSETT
 WAKEFIELD
 CRANSTON
 NARRAGANSETT
 BLOCK ISLAND
 NARRAGANSETT

RHODE ISLAND (CONTINUED)

GALILEAN SEAFOOD INC
 H. N. WILCOX FISHING
 HANDRIGAN SEAFOODS
 HENRY AVERY & CO
 HMH INC/CHAMPLINS SFD
 HN WILCOX FISHING INC
 INTERNATIONAL MARINE IND
 KENPORT MARINA
 LABORE SEAFOOD LTD
 LEES WHARF LOBSTER
 M & M FISH AND LOBSTER
 M. SLAVIN & SONS LTD
 MC FRESH INC
 N PARASCANDOLO & SONS INC
 NANCY BETH FISHERIES
 NARRAGANSETT BAY LOBSTERS INC
 NONQUIT FISH CO
 OCEAN STATE BAIT CO.
 OCEAN STATE BAIT CO.
 OCEAN STATE LOBSTER CO
 OLD HARBOR SEAFOOD
 OSPREY SEAFOOD
 PAIVA'S SHELLFISH
 PALUMBO FISHERIES
 POINT JUDITH FISHERMAN'S COOP
 POINT TRAP CO
 RI RED SEAFOOD
 SEA FREEZE LTD
 SEA FRESH USA INC
 SEA FRESH WORLD INC
 SEAFOOD HAVEN
 SEAFOOD UNLIMITED INC
 SEAFREEZE LTD
 SKIPS DOCK INC
 SLACKER SEAFOODS
 SNUG HARBOR MARINA INC
 SOUTH PIER FISH
 SOUTH PIER SEAFOOD
 TALLMAN & MACK FISH
 THE BAIT CO.
 TONY'S SEAFOOD
 TOWN DOCK
 WB VAN DUZER CO

BRISTOL
 ADAMSVILLE
 NARRAGANSETT
 NEWPORT
 NARRAGANSETT
 LITTLE COMPTON
 NEWPORT
 WAKEFIELD
 NARRAGANSETT
 WESTPORT POINT
 BRISTOL
 PT. JUDITH
 PEACE DALE
 NEWPORT
 WAKEFIELD
 NARRAGANSETT
 TIVERTON
 BRISTOL
 PROVIDENCE
 NARRAGANSETT
 BLOCK ISLAND
 NARRAGANSETT
 CRANSTON
 UNKNOWN
 POINT JUDITH
 LITTLE COMPTON
 EXETER
 NORTH KINGSTOWN
 NARRAGANSETT
 NORTH KINGSTOWN
 WAKEFIELD
 PAWCATUCK
 NORTH KINGSTOWN
 WAKEFIELD
 NARRAGANSETT
 WAKEFIELD
 WAKEFIELD
 WAKEFIELD
 TIVERTON
 WEST KINGSTON
 WARREN
 NARRAGANSETT
 KINGSTON

SOUTH CAROLINA

BARRY'S SEAFOOD
 CHERRY GROVE FISHERY
 KENYON SEAFOOD

CHERRY GROVE
 MYRTLE BEACH
 MURRELLS INLET

VIRGINIA

ATLANTIC SHORE SEAFOOD
 AVERY FISHERIES
 B & C SEAFOOD (VA)
 BALLARDS FISH
 BERNIE'S CONCHS
 C & T SEAFOOD
 CAPE CHARLES SEAFOOD
 CAPTAIN FISHES
 CHES ATLANTIC SEAF
 CHESAPEAKE BAY PACKING
 CHINCOTEAGUE FISH COOP
 CRAIG G NEFF
 D & M SEAFOOD
 D L EDGERTON FISH CO
 DEMARIA SEAFOOD
 DYMER CREEK SEAFOOD
 EASTERN SHORE SEAFOOD
 FISH HOUSE
 G & B SEAFOOD
 GEORGE'S SEAFOOD
 GLENN, WILSON, & SONS SFD
 HAMPTON ROADS SEAF
 J H WEST SEAFOOD
 J H MILES & CO INC
 L. D. AMORY CO INC
 LILLISTON SEAFOOD
 LONG POINT FISH CO
 LYNNHAVEN SEAFOOD
 OLD POINT PACKING
 OMEGA PROTEIN CORP
 ONANCOCK COOP
 PEABODY LLC
 PYA MONARCH INC
 R & S SEAFOOD
 R STUBBS SEAFOOD CO
 RUSSELL FISH COMPANY
 S & S MARINE SUPPLY INC
 SEA FARMS INC
 SEA RICH SEAFOOD
 SEAFORD SCALLOP CO
 SEAFORD SEAFOOD
 SNELDER FISH
 SOUTH MARKETING
 SPOT'S FISH CO
 VJ ONEAL & COMPANY INC
 WELLS ICE & COLD STORAGE
 WELLS SCALLOP CO
 WHITTAKER PHARMACEUTICAL
 YORK RIVER SEAFOOD

VIRGINIA BEACH
 HAMPTON
 NEWPORT NEWS
 EXMORE
 CHERITON
 TANGIER
 CAPE CHARLES
 CHINCOTEAGUE
 PAINTER
 NEWPORT NEWS
 CHINCOTEAGUE
 NORFOLK
 VIRGINIA BEACH
 CHINCOTEAGUE
 NEWPORT NEWS
 WHITESTONE
 MAPPSVILLE
 ONANCOCK
 RICHMOND
 UNKNOWN
 SAXIS
 HAMPTON
 CAPE CHARLES
 NORFOLK
 HAMPTON
 WACHAPREAGUE
 GREENBACKVILLE
 VIRGINIA BEACH
 NEWPORT NEWS
 REEDVILLE
 ONANCOCK
 NEWPORT NEWS
 VIRGINIA BEACH
 WACHAPREAGUE
 CHINCOTEAGUE
 CHINCOTEAGUE
 HAMPTON
 HUDGINS
 NEWPORT NEWS
 SEAFORD
 SEAFORD
 CHINCOTEAGUE
 UNKNOWN
 VIRGINIA BEACH
 SEAFORD
 SEAFORD
 SEAFORD
 CHINCOTEAGUE
 HAYES

CANADA

CONNORS BROS LTD
CAPE BALD PACKERS

UNKNOWN
CAP-PELE



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