NORTHEAST FISHERIES OBSERVER PROGRAM

FISHERIES OBSERVER PROGRAM MANUAL

photo: Observer lengthing Sand Dab Flounders

photo: Observer weighing sample

photo: Observer measuring net

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National Marine Fisheries Service
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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 2007, NEFOP trained and deployed approximately 50 observers, provided coverage on a variety of fisheries and completed approximately 7000 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, 2008.

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 (#46) 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 (#46), third NOTE under STEAM TIME (#25), and NOTE under TRIP COSTS heading.

INSTRUCTIONS

1. 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
102 = Scallop Trip with Turtle Chains

NOTE: Access Area Scallop Program Codes supersede this program code.

130 = US/Canada Management Area
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
202 = Access Area Scallop, Closed Area I
203 = Access Area Scallop, Closed Area II
204 = Access Area Scallop, Hudson Canyon
206 = Access Area Scallop, Elephant Trunk
207 = Access Area Scallop, Delmarva

2. CONTRACT AREA CODE: For trips targeting Atlantic Sea Scallop, record if the trip is Limited Access or General Category. This information must be obtained from the Captain and should be asked at the beginning of the trip. All other trips should use the "Standard Trip" code.

046 = Limited Access Scallop
047 = General Category Scallop
101 = Georges Bank Fixed Gear Sector
102 = Georges Bank Cod Hook Sector
000 = Standard Trip
999 = Unknown

3. 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.

4. 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.

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

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

6. 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.

7. 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.

8. 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 (#46). 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 (#47).

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.

9. 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 (#46). 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 (#47).

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.

10. 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.

11. VESSEL 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 NUMBER #1 (#5) for further instructions on recording vessel numbers.

12. 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.

13. 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.

14. 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.

15. 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 it's 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.

16. 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.

17. 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 (#19), the PORT LANDED (#21), or the port of registry on the vessel's stern.

Example: Gloucester, MA.

18. PORT CODE: Leave this field blank.

19. 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 (#17), PORT LANDED (#21), or the port of registry on the vessel's stern.

20. PORT CODE: Leave this field blank.

21. 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 (#17), PORT SAILED (#19), 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.

22. PORT CODE: Leave this field blank.

23. SIX MONTH QUESTIONS ASKED?: Record whether the six month questions are asked and a Vessel and Trip Log - Six Month Questions Log is completed during this trip by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

NOTE: You may not record "Unknown" (9) for this field. This question **must** be answered "Yes" or "No".

NOTE: A Vessel and Trip Log - Six Month Questions Log should be completed **at least once every six months**. A list showing the vessel name and a date which is six months after the date

these six month questions were last asked, will be provided to you each month. If the DATE SAILED for this trip falls after the date on the list, record "Yes" (1) and complete a Vessel and Trip Log - Six Month Questions Log. If the DATE SAILED for this trip falls before the date on the list, record "No" (0) and do not complete a Vessel and Trip Log - Six Month Questions Log. Although this system is designed to reduce redundancy in your data collection, you may ask these questions more frequently than every six months. If in doubt, ask the questions.

Refer to the Vessel and Trip Information Log-Six Month Questions section of the NEFSC Observer Program Manual for further instructions.

24. 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.

25. 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/hauled.

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 (#46).

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 (#46) and AMOUNT (#47).

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.

26. 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.

27. 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).

28. 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.

29. 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: Hooks, twine, gangions, lightsticks, chains, shackles, knives, gloves, *etc*.

30. 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.

31. 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".

32. 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.

33. 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".

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

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

GEAR INFORMATION

36. 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.

37. GEAR CODE: Leave this field blank.

38. 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.

39. GEAR CODE(S): Leave this field blank.

40. HAULED/USED: Indicate whether or not the type of gear(s) listed in PRIMARY GEAR (#36) and OTHER GEAR(S) (#38) was/were hauled by the vessel during this trip by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

41. 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.
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.

42. 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.

43. 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 (#36) and OTHER GEAR(S) (#38)**.

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

44. TARGET SPECIES: Indicate the principal species, or species group, sought with the type of gear recorded in PRIMARY GEAR (#36) and OTHER GEAR(S) (#38) 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.
Mixed Flounder.
Weakfish & Croaker.

NOTE: If the gear type(s) listed in OTHER GEAR(S) (#38) was (were) **not used** during this trip, record a dash in this field.

45. SPECIES CODE: Leave this field blank.

TIME LOST

46. 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 I. 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 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 the time spent steaming back to the grounds.
99 = Other, record the time lost reason in COMMENTS.

47. AMOUNT: Record, to the nearest tenth of an hour, for each reason recorded above (#46), 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

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

49. 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 occured dur-

ing the trip should be included in this field.

PRIMARY SPECIES LANDED

50. 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

51. 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.

52. 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.

53. 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.

54. 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.

OBTRP OBTRG OBTRS 01/01/07

IN-OFFICE

DATE RECEIVED		AGE STRUCTURES	N Y
EDITED BY		INCIDENTAL TAKES	N B M T
		FIELD DIARY	N Y

NMFS FISHERIES OBSERVER PROGRAM

VESSEL AND TRIP INFORMATION LOG

PROGRAM CODE	1	CONTRACT AREA CODE	2
		VENDOR I.D. CODE	3

OBS/TRIP ID	VESSEL NUMBER # 1	VESSEL NAME # 1	EXPECTED TRIP DUR	DATE SAILED mm/dd/yy	TIME SAILED 24 h
4	5	6	7 day(s)	8 / /	: 9

TRIP TYPE	VESSEL NUMBER # 2	VESSEL NAME # 2	DEALER'S NAME	CREW SIZE (Including Captain)	DATE LANDED mm/dd/yy	TIME LANDED 24 h
10 Single Gear 1 _____ Multiple Gear 2 _____	11	12	13	14	15 / /	: 16

HOME PORT (CITY,STATE)	CODE	PORT SAILED (CITY, STATE)	CODE	PORT LANDED (CITY, STATE)	CODE	6 MONTH QUESTIONS?	VTR SERIAL NUMBER	STEAM TIME
17	18	19	20	21	22	23 No 0 _____ Yes 1 _____	24	25 . hrs

ICE USED	FUEL USED
26 _____ . __ __ tn	27 _____ gal

TRIP COSTS

DAMAGE/LOSS*	SUPPLIES *	FOOD	ICE (PER TON)	FUEL (PER GAL)	WATER	OIL	BAIT
28 Unknown _____ $ _____ . 00	29 Unknown _____ $ _____ . 00	30 Unknown _____ $ _____ . 00	31 Unknown _____ $ _____ . __ __	32 Unknown _____ $ _____ . __ __	33 Unknown _____ $ _____ . 00	34 Unknown _____ $ _____ . 00	35 Unknown _____ $ _____ . 00

GEAR INFORMATION (IN USE & STOWED)

		USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)
PRIMARY GEAR 36	CODE 37	No 0 _____ Yes 1 _____ 40	41	42	43	44	45
OTHER GEAR 1 38	CODE 39	No 0 _____ Yes 1 _____	# ONBRD	# SOAK	*CAPT EXP (yrs)*	*TARGET SPECIES*	*CODE(S)*
OTHER GEAR 2 38	CODE 39	No 0 _____ Yes 1 _____	# ONBRD	# SOAK	*CAPT EXP (yrs)*	*TARGET SPECIES*	*CODE(S)*
OTHER GEAR 3 38	CODE 39	No 0 _____ Yes 1 _____	# ONBRD	# SOAK	*CAPT EXP (yrs)*	*TARGET SPECIES*	*CODE(S)*

TIME LOST *

REASON 46	AMOUNT 47
_____	_____.____ hrs
_____	_____.____ hrs
_____	_____.____ hrs
_____	_____.____ hrs
_____	_____.____ hrs

# TRIP HAULS	PRIMARY SPECIES LANDED
48	50
# UNOBSERVED HAULS 49	

SCALLOP TRIPS ONLY

SOAKED?	*MIXED?*	*# OF BAGS*	*AVERAGE WGT/BAG*
51 *No 0 _____ Yes 1 _____*	52 *No 0 _____ Yes 1 _____*	53	54 _____ *lb*

COMMENTS

* Fields that require a comment

OBTRP OBTRG OBTRS 01/01/07

IN-OFFICE

DATE RECEIVED		AGE STRUCTURES	N Y
EDITED BY		INCIDENTAL TAKES	N B M T
		FIELD DIARY	N Y

NMFS FISHERIES OBSERVER PROGRAM

VESSEL AND TRIP INFORMATION LOG

PROGRAM CODE	000	CONTRACT AREA CODE	046
		VENDOR I.D. CODE	02

OBS/TRIP ID	VESSEL NUMBER # 1	VESSEL NAME # 1	EXPECTED TRIP DUR	DATE SAILED mm/dd/yy	TIME SAILED 24 h
A 7 4 1 0 1 -	663242	Cormorant	14 day(s)	01 / 13 / 06	15 : 30

TRIP TYPE	VESSEL NUMBER # 2	VESSEL NAME # 2	DEALER'S NAME	CREW SIZE (Including Captain)	DATE LANDED mm/dd/yy	TIME LANDED 24 h
Single Gear 1 _X___ Multiple Gear 2 _____			Bedford Fish Shop	6	0 1 / 2 6 / 0 6	23 : 02

HOME PORT (CITY,STATE) CODE	PORT SAILED (CITY, STATE) CODE	PORT LANDED (CITY, STATE) CODE	6 MONTH QUESTIONS?	VTR SERIAL NUMBER	STEAM TIME
Cape May, NJ	New Bedford, MA	New Bedford, MA	No 0 _____ Yes 1 __X__	1 0 2 8 7 4 2 1	12.3 hrs

TRIP COSTS

ICE USED	FUEL USED	DAMAGE/LOSS	SUPPLIES	FOOD	ICE (PER TON)	FUEL (PER GAL)	WATER	OIL	BAIT
25 . 0 0 tn	6500 gal	Unknown _____ $ 0 . 00	Unknown _____ $ 100 . 00	Unknown _____ $ 1400 . 00	Unknown _____ $ 45 . 0 0	Unknown _____ $ 2 . 6 5	Unknown _____ $ 0 . 00	Unknown _____ $ 0 . 00	Unknown _____ $ 0 . 00

GEAR INFORMATION (IN USE & STOWED)

	CODE	USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)
PRIMARY GEAR: Sea Scallop Dredge		No 0 _____ Yes 1 __X__	2	0	20	Sea Scallop	
OTHER GEAR 1		No 0 _____ Yes 1 _____					
OTHER GEAR 2		No 0 _____ Yes 1 _____					
OTHER GEAR 3		No 0 _____ Yes 1 _____					

TIME LOST *

REASON	AMOUNT
__07_____	__65.8__ hrs
__02_____	__21.5__ hrs
_____	_____._____ hrs
_____	_____._____ hrs
_____	_____._____ hrs

# TRIP HAULS	PRIMARY SPECIES LANDED
273	Sea Scallop
# UNOBSERVED HAULS: 130	

SCALLOP TRIPS ONLY

SOAKED?	MIXED?	# OF BAGS	AVERAGE WGT/BAG
No 0 __X__ Yes 1 _____	No 0 __X__ Yes 1 _____	340	48 lb

COMMENTS

* Fields that require a comment

OBTRP OBTRG OBTRS 01/01/07

IN-OFFICE

DATE RECEIVED		AGE STRUCTURES	N Y
EDITED BY		INCIDENTAL TAKES	N B M T
		FIELD DIARY	N Y

PROGRAM CODE		CONTRACT AREA CODE	
		VENDOR I.D. CODE	

NMFS FISHERIES OBSERVER PROGRAM

VESSEL AND TRIP INFORMATION LOG

OBS/TRIP ID	VESSEL NUMBER # 1	VESSEL NAME # 1	EXPECTED TRIP DUR	DATE SAILED mm/dd/yy	TIME SAILED 24 h
			day(s)	/ /	:

TRIP TYPE	VESSEL NUMBER # 2	VESSEL NAME # 2	DEALER'S NAME	CREW SIZE (Including Captain)	DATE LANDED mm/dd/yy	TIME LANDED 24 h
Single Gear 1 _____ Multiple Gear 2 _____					/ /	:

HOME PORT (CITY,STATE) CODE	PORT SAILED (CITY, STATE) CODE	PORT LANDED (CITY, STATE) CODE	6 MONTH QUESTIONS?	VTR SERIAL NUMBER	STEAM TIME
			No 0 _____ Yes 1 _____		. hrs

ICE USED	FUEL USED
_____ . __ __ tn	_____ gal

TRIP COSTS

DAMAGE/LOSS *	SUPPLIES *	FOOD	ICE (PER TON)	FUEL (PER GAL)	WATER	OIL	BAIT
Unknown _____	Unknown _____	Unknown _____	Unknown _____	Unknown _____	Unknown _____	Unknown _____	Unknown _____
$ _____ . 00	$ _____ . 00	$ _____ . 00	$ _____ . __ __	$ _____ . __ __	$ _____ . 00	$ _____ . 00	$ _____ . 00

GEAR INFORMATION (IN USE & STOWED)

	CODE	USED?	# ONBRD	# SOAK	CAPT EXP (yrs)	TARGET SPECIES	CODE(S)
PRIMARY GEAR		No 0 _____ Yes 1 _____					
OTHER GEAR 1	CODE	No 0 _____ Yes 1 _____	# ONBRD	# SOAK	*CAPT EXP (yrs)*	*TARGET SPECIES*	*CODE(S)*
OTHER GEAR 2	CODE	No 0 _____ Yes 1 _____	# ONBRD	# SOAK	*CAPT EXP (yrs)*	*TARGET SPECIES*	*CODE(S)*
OTHER GEAR 3	CODE	No 0 _____ Yes 1 _____	# ONBRD	# SOAK	*CAPT EXP (yrs)*	*TARGET SPECIES*	*CODE(S)*

TIME LOST *

REASON	AMOUNT
_____	_____._____ hrs
_____	_____._____ hrs
_____	_____._____ hrs
_____	_____._____ hrs
_____	_____._____ hrs

# TRIP HAULS	PRIMARY SPECIES LANDED
# UNOBSERVED HAULS	

SCALLOP TRIPS ONLY

SOAKED?	*MIXED?*	*# OF BAGS*	*AVERAGE WGT/BAG*
No 0 _____ *Yes 1 _____*	*No 0 _____* *Yes 1 _____*		_____ *lb*

COMMENTS

* Fields that require a comment

VESSEL AND TRIP INFORMATION LOG - SIX MONTH QUESTIONS

The following instructions are for recording economic information regarding a particular vessel. This 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 the captain is not the owner of the vessel, attempt to get some information from the owner before the trip. If questions remain at the end of the trip, you may be able to obtain the information over the phone after docking.

Information for fields #6-#8 and #15-#26 may not be available from the captain or owner during the trip if vessel records are maintained at home/office. If this is the case, provide captain/owner with the mail-in form and cover letter. Before giving the form to the captain or owner, complete the Header Information.

The Vessel and Trip Log - Six Month Questions Log should be completed at least **once every six months**. A list showing the vessel name and a date which is six months after the date these six month questions were last asked, will be mailed to you each month. If the DATE SAILED for this trip falls after the date on the list, record "Yes" (1) and complete a Vessel and Trip Log - Six Month Questions Log. If the DATE SAILED for this trip falls before the date on the list, record "No" (0) and do not complete a Vessel and Trip Log - Six Month Questions Log. If the vessel is not on the list at all, record "Yes (1) and complete a Vessel and Trip Log - Six Month Questions Log. Although this system is designed to reduce redundancy in your data collection, you may ask these questions more frequently than every six months. If in doubt, ask the questions.

Do not fill in any of these questions from memory of a prior trip. The questions should be asked each time the fields are completed so that any information that may have changed may be detected. If you know there has been a change that would be reflected in these questions, **ask all** of the six-month questions again, even if they were asked recently.

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.

INSTRUCTIONS

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

1. YEAR BUILT: Record the four digit year this vessel was built. This information may be obtained from the captain, the vessel's fishing permit, or Coast Guard documentation papers.

2. VESSEL LENGTH: Record, in whole feet, the **total** length of this vessel. This information may be obtained from the captain, the vessel's fishing permit, or Coast Guard documentation papers.

3. GROSS REGISTERED TONNAGE: Record, in whole tons, the total Gross Registered Tonnage of this vessel. This information may be obtained from the captain, the vessel's fishing permit, or Coast Guard documentation papers.

4. HOLD CAPACITY: Record, in whole pounds, the amount of fish that can be stored in this vessel's hold. This information may be obtained from the captain, the vessel's fishing permit, or Coast Guard documentation papers.

NOTE: A fish hold is an area below deck specifically designed to store fish.

NOTE: If there is no fish hold on the vessel, a zero should be recorded.

5. FUEL TYPE: Record the type of fuel used to power the vessel's engines by placing an "X" next to the appropriate code:

0 = Unknown.
1 = Gasoline.
2 = Diesel.
3 = Number 2.

NOTE: If another fuel type is used, record it

in COMMENTS.

ANNUAL INSURANCE COSTS

NOTE: If the captain or owner does not know the breakdown amounts of the vessel's insurance for fields #6 and #7, but knows the total, complete only #8. Do not complete #8 if #6 and #7 are completed.

6. HULL: Record, to the nearest dollar, the **total** annual cost of the vessel owner's insurance for Hull coverage, *i.e.*, the amount paid by the owner for this category for one billing year.

7. PROTECTION AND INDEMNITY: Record, to the nearest dollar, the **total** annual cost of the vessel owner's insurance for Protection and Indemnity coverage, *i.e.*, the amount paid by the owner for this category for one billing year.

8. COMBINED: Record, to the nearest dollar, the **combined total** cost of the vessel owner's insurance for Hull and Protection and Indemnity coverage, *i.e.*, the amount paid by the owner for this category for one billing year.

ENGINES

NOTE: If two engines work together **for propulsion**, designate one engine as the main engine, and the other as the secondary engine.

9. SECONDARY ENGINE?: Record whether a secondary engine is used on this vessel for propulsion by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

10. YEAR BUILT: Record the four digit year the main and secondary engines were built.

11. HORSEPOWER: Record the horsepower of the main and secondary engines.

OWNERSHIP

12. CORPORATION?: Record whether the vessel owner is incorporated by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

NOTE: This question must be answered in addition to OWNERSHIP TYPE (#13) because many types of ownership may be incorporated.

13. TYPE: Record the type of vessel ownership by placing an "X" next to the appropriate code:

0 = Unknown.
1 = Sole Owner/Operator, the captain is sole owner of the firm that owns the vessel.
2 = Partnership/Operator, the captain owns the vessel in partnership with another individual(s) or firm(s).
3 = Other Fishing Interest, a firm, predominantly in the fishing business, owns the vessel. The captain does not own the vessel, but is operating the vessel for the firm.
4 = Other Non-Fishing Interest, a firm, not predominantly in the fishing business, owns the vessel as an investment, *i.e.*, a group of dentists, lawyers, *etc*. The captain does not own the vessel but is operating the vessel for the firm.
5 = Sole Owner/Non-Operator, the sole owner has hired the captain to operate the vessel.
9 = Other, describe the vessel ownership type on line 13A.

ADDITIONAL VESSEL INFORMATION

14. CONSTRUCTION TYPE: Record the type of vessel hull construction by placing an "X" next to the appropriate code:

0 = Unknown.
1 = Wood.
2 = Steel.
3 = Composite (combination of two or more materials), record the hull construction type on line 14A.
7 = Aluminum.
8 = Fiberglass.
9 = Other, record the hull construction type on line 14A.

REPAIR/MAINTENANCE COSTS FOR LAST 12 MONTHS

NOTE: Do not include costs incurred for the **purchase** of new gear or equipment in fields #15-#20. Use your best judgement to decide whether an expense belongs in REPAIR/MAINTAIN (#15-#20) or REPLACE/ADD (#21-#26). Examples of gear repairs or maintenance include new gear **parts**, *i.e.*, an alternator, a headrope cable section, a section of a trawl net, rubber disks, *etc*.

NOTE: If no costs are incurred, record "0" in these fields.

15. ENGINES: Record, to the nearest dollar, the cost of **propulsion** engine repairs and/or maintenance made on the vessel **in the last 12 month period**.

NOTE: Do not include costs incurred for the purchase of any new or rebuilt engine not previously used on this vessel.

16. FISHING GEAR: Record, to the nearest dollar, the cost of fishing gear repairs and/or maintenance made on the vessel **in the last 12 month period**.

NOTE: Include costs incurred for the purchase of any **pieces** of gear units, *i.e.*, head rope cable, sections of trawl net, rubber disks, *etc*.

17. DECK GEAR: Record, to the nearest dollar, the cost of deck gear repairs and/or maintenance made on the vessel **in the last 12 month period**.

NOTE: Include costs incurred for the repair and maintenance of winches, booms, blocks, cables, *etc*.

18. PROCESSING AND REFRIGERATION EQUIPMENT: Record, to the nearest dollar, the cost of processing and refrigeration equipment repairs and/or maintenance made on the vessel **in the last 12 month period**.

NOTE: Include costs incurred for repair and maintenance of sorters, filleting machines and generators, or non-propulsion engines used for processing and refrigeration, *etc*.

19. ELECTRONICS: Record, to the nearest dollar, the cost of wheelhouse and gear mounted electronic equipment repairs and/or maintenance made on the vessel **in the last 12 month period**.

NOTE: Include costs incurred for repair and maintenance of radars, LORANs, plotters, depth sensors, pingers, *etc*.

20. OTHER: Record, to the nearest dollar, the cost of other vessel parts repairs and/or maintenance made on the vessel **in the last 12 month period**. Describe the items associated with these repair/maintenance costs on line 20A.

NOTE: "OTHER" is the entire vessel minus the engines, fishing gear, deck gear, processing and refrigeration equipment, and electronics.

NOTE: Include costs incurred for touch-up painting, repairing the galley stove, *etc*.

REPLACEMENT/ADD COSTS FOR LAST 12 MONTHS

NOTE: Do not record the costs incurred for repair or maintenance for existing gear items in these fields. Use your best judgement to decide whether an expense belongs in REPAIR/MAINTAIN (#15-#20) or REPLACE/ADD (#21-#26). Examples of gear replacements or additions include replacing the **entire gear or significant gear part** with another, *i.e.*, a trawl door, a gillnet panel, a lobster pot, *etc*.

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

21. ENGINES: Record, to the nearest dollar, the cost of engine **(for propulsion only)** purchases and additions made for this vessel **in the last 12 month period**.

NOTE: Include the cost of "rebuilt" engines that have not previously been used on the vessel.

22. FISHING GEAR: Record, to the nearest dollar, the cost of fishing gear purchases and additions made for this vessel **in the last 12 month period**.

23. DECK GEAR: Record, to the nearest dollar, the cost of deck gear purchases and additions made for this vessel **in the last 12 month period**.

NOTE: Include the cost of replacing or adding winches, booms, blocks, cables, *etc.*

24. PROCESSING AND REFRIGERATION EQUIPMENT: Record, to the nearest dollar, the cost of processing and refrigeration equipment purchases and additions made for this vessel **in the last 12 month period**.

NOTE: Include costs incurred for replacing or adding sorters, filleting machines, and generators or non-propulsion engines used for processing and refrigeration, *etc.*

25. ELECTRONICS: Record, to the nearest dollar, the cost of wheelhouse and gear mounted electronic equipment purchases and additions made for this vessel **in the last 12 month period**.

NOTE: Include the cost of replacing or adding radars, LORANs, plotters, depth sensors, pingers, *etc.*

26. OTHER: Record, to the nearest dollar, the cost of other vessel parts purchases and installments **in the last 12 month period**. Describe the items associated with these replacement/add costs on line 26A.

NOTE: "OTHER" is the entire vessel minus the engines, fishing gear, deck gear, processing and refrigeration equipment, and electronics.

EQUIPMENT INVENTORY

For fields #27, #30, #33, and #36, identify the type(s) of equipment located on the vessel, even if not currently being used. Some of these items are already listed on the log. A complete listing of these items may be found in Appendix H. Vessel Equipment Inventory Codes. If an item on the vessel is not on the log or in these listings, record the item and a count in one of the spaces provided on the log.

WHEELHOUSE ELECTRONICS

27. TYPE: Identify the type(s) of electronics located in the vessel's wheelhouse, even if not currently being used.

28. CODE: Leave this field blank.

29. COUNT: Record the number of units for each wheelhouse electronics item identified as being on the vessel.

GEAR MOUNTED ELECTRONICS

30. TYPE: Identify the type(s) of electronics mounted on the vessel's gear even if not currently being used.

31. CODE: Leave this field blank.

32. COUNT: Record the number of units for each gear mounted electronics item identified as being on the vessel.

PROCESSING EQUIPMENT

33. TYPE: Identify the type(s) of processing equipment on the vessel, even if not currently being used.

34. CODE: Leave this field blank.

35. COUNT: Record the number of units for each processing equipment item identified as being on the vessel.

REFRIGERATION/FREEZING EQUIPMENT

36. TYPE: Identify the type(s) of refrigeration/freezing equipment located on the vessel, even if not currently being used.

37. CODE: Leave this field blank.

38. COUNT: Record the number of units for each refrigeration/ freezing equipment item identified as being on the vessel.

COMMENTS

Record any additional information regarding the vessel or associated expenditures 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.

NMFS FISHERIES OBSERVER PROGRAM

VESSEL AND TRIP INFORMATION LOG - SIX MONTH QUESTIONS

OBS/TRIP ID	A
DATE LAND mm/yy	B /

YEAR BUILT	LENGTH	Gross Registered Tonnage	HOLD CAPACITY
1	2 ft	3 tn	4 lbs

FUEL TYPE: 5

Unknown 0___

Gasoline 1___

Diesel 2___

2 3___

ANNUAL INSURANCE COSTS

Hull $ _____6_____

P & I $ _____7_____

OR

Combined $ _____8_____

ENGINE

SECONDARY? 9 No 0 ____ Yes 1 ____

YEAR BUILT

Main 10 _____

Secondary _____

HORSEPOWER

Main 11 _____ hp

Secondary _____ hp

OWNERSHIP TYPE:

CORPORATION? No 0 _12_ Yes 1 ____

Unknown 13 0____

Sole Owner/Operator 1____

Partnership/Operator 2____

Other Fishing Interest 3____

Other Non-Fishing Interest 4____

Sole Owner/Non-Operator 5____

Other 9____

_____13A_____

CONSTRUCTION TYPE: 14

Unknown 0____

Wood 1____

Steel 2____

Composite 3____

Aluminum 7____

Fiberglass 8 ___

Other 9 ___

_____14A_____

REPAIR / MAINTENANCE COSTS (Previous 12 mo.)

Engines $ _____15_____ Unknown ____

Fish Gear $ _____16_____ Unknown ____

Deck Gear $ _____17_____ Unknown ____

Proc/Refrig $ _____18_____ Unknown ____

Electronics $ _____19_____ Unknown ____

Other $ _____20_____ Unknown ____

_____20A_____

REPLACEMENT / ADD COSTS (Previous 12 mo.)

Engines $ _____21_____ Unknown ____

Fish Gear $ _____22_____ Unknown ____

Deck Gear $ _____23_____ Unknown ____

Proc/Refrig $ _____24_____ Unknown ____

Electronics $ _____25_____ Unknown ____

Other $ _____26_____ Unknown ____

_____26A_____

EQUIPMENT INVENTORY

WHEELHOUSE ELECTRONICS	CODE	COUNT
Loran	901	
Radar	902	
Echo Sounder	903	
Fax	904	
Plotter	905	
G.P.S.	906	
Cellular Phone	907	
Vessel Tracking System	908	
VHF Radio	909	
Single Side Band Radio	927	
CB Radio	930	
Depth Sensor	931	
Water Temperature Sensor	932	
Wind Meter	918	
Personal Computer	925	
Auto pilot	922	
27	28	29
GEAR MOUNTED ELECTRONICS		
Headrope Transducer	937	
Depth Sensor	938	
Water Temperature Sensor	939	
30	31	32
PROCESSING		
33	34	35
REFRIGERATION/FREEZING		
36	37	38

IMPORTANCE OF COLLECTING ECONOMIC INFORMATION

1) The data is needed to analyze the economic costs and benefits of regulations. This enables fishery managers to compare alternatives.

2) Fishery managers need the analyses to give greater consideration to social and economic factors when forming and evaluating policies.

3) Such information is likely to reveal where, how, and why some measures will have differential impacts on different sectors of the industry.

4) Such information can also illustrate the economic importance of the fishing industry in a port or region.

5) The Observer Program provides economic data that is timely, covers many gear types, and is ongoing.

NMFS FISHERIES OBSERVER PROGRAM

VESSEL AND TRIP INFORMATION LOG - SIX MONTH QUESTIONS

OBS/TRIP ID	A74101-
DATE LAND mm/yy	01 / 01

YEAR BUILT	LENGTH	Gross Registered Tonnage	HOLD CAPACITY
1985	82 ft	167 tn	200,000 lbs

FUEL TYPE:

Unknown 0___
Gasoline 1___
Diesel 2_X_
2 3___

ANNUAL INSURANCE COSTS

Hull $ _____
P & I $ _____
OR
Combined $ _____32,000_____

ENGINE

SECONDARY? No 0 _X__
Yes 1 ____
YEAR BUILT
Main ___1998___
Secondary _____
HORSEPOWER
Main __1050__ hp
Secondary _____ hp

OWNERSHIP TYPE:

CORPORATION? No 0 ____
Yes 1 _X_

Unknown 0____
Sole Owner/Operator 1____
Partnership/Operator 2____
Other Fishing Interest 3_X_
Other Non-Fishing Interest 4____
Sole Owner/Non-Operator 5____
Other 9____
_____

CONSTRUCTION TYPE:

Unknown 0____
Wood 1____
Steel 2_X_
Composite 3____
Aluminum 7____
Fiberglass 8 ___
Other 9 ___
_____

REPAIR / MAINTENANCE COSTS (Previous 12 mo.)

Engines $ _____
Unknown _X_
Fish Gear $ _____0_____
Unknown ____
Deck Gear $ _____0_____
Unknown ____
Proc/Refrig $ ____200____
Unknown ____
Electronics $ ___1,000___
Unknown ____
Other $ _____0_____
Unknown ____
_____

REPLACEMENT / ADD COSTS (Previous 12 mo.)

Engines $ ___9,000___
Unknown ____
Fish Gear $ ___30,000___
Unknown ____
Deck Gear $ _____0_____
Unknown ____
Proc/Refrig $ _____0_____
Unknown ____
Electronics $ _____0_____
Unknown ____
Other $ _____0_____
Unknown ____
_____

EQUIPMENT INVENTORY

WHEELHOUSE ELECTRONICS	CODE	COUNT
Loran	901	2
Radar	902	2
Echo Sounder	903	2
Fax	904	
Plotter	905	2
G.P.S.	906	1
Cellular Phone	907	1
Vessel Tracking System	908	1
VHF Radio	909	5
Single Side Band Radio	927	1
CB Radio	930	
Depth Sensor	931	
Water Temperature Sensor	932	2
Wind Meter	918	
Personal Computer	925	
Auto pilot	922	
GEAR MOUNTED ELECTRONICS		
Headrope Transducer	937	
Depth Sensor	938	
Water Temperature Sensor	939	
PROCESSING		
REFRIGERATION/FREEZING		

IMPORTANCE OF COLLECTING ECONOMIC INFORMATION

1) The data is needed to analyze the economic costs and benefits of regulations. This enables fishery managers to compare alternatives.
2) Fishery managers need the analyses to give greater consideration to social and economic factors when forming and evaluating policies.
3) Such information is likely to reveal where, how, and why some measures will have differential impacts on different sectors of the industry.
4) Such information can also illustrate the economic importance of the fishing industry in a port or region.
5) The Observer Program provides economic data that is timely, covers many gear types, and is ongoing.

NMFS FISHERIES OBSERVER PROGRAM

VESSEL AND TRIP INFORMATION LOG - SIX MONTH QUESTIONS

OBS/TRIP ID	
DATE LAND mm/yy	/

YEAR BUILT	LENGTH	Gross Registered Tonnage	HOLD CAPACITY
	ft	tn	lbs

FUEL TYPE:

Unknown 0___

Gasoline 1___

Diesel 2___

2 3___

ANNUAL INSURANCE COSTS

Hull $ _____

P & I $ _____

OR

Combined $ _____

ENGINE

SECONDARY? No 0 ____

Yes 1 ____

YEAR BUILT

Main _____

Secondary _____

HORSEPOWER

Main _____ hp

Secondary _____ hp

OWNERSHIP TYPE:

CORPORATION? No 0 ____

Yes 1 ____

Unknown 0____

Sole Owner/Operator 1____

Partnership/Operator 2____

Other Fishing Interest 3____

Other Non-Fishing Interest 4____

Sole Owner/Non-Operator 5____

Other 9____

_____

CONSTRUCTION TYPE:

Unknown 0____

Wood 1____

Steel 2____

Composite 3____

Aluminum 7____

Fiberglass 8 ___

Other 9 ___

_____

REPAIR / MAINTENANCE COSTS (Previous 12 mo.)

Engines $ _____ Unknown ____

Fish Gear $ _____ Unknown ____

Deck Gear $ _____ Unknown ____

Proc/Refrig $ _____ Unknown ____

Electronics $ _____ Unknown ____

Other $ _____ Unknown ____

_____

REPLACEMENT / ADD COSTS (Previous 12 mo.)

Engines $ _____ Unknown ____

Fish Gear $ _____ Unknown ____

Deck Gear $ _____ Unknown ____

Proc/Refrig $ _____ Unknown ____

Electronics $ _____ Unknown ____

Other $ _____ Unknown ____

_____

EQUIPMENT INVENTORY

WHEELHOUSE ELECTRONICS	CODE	COUNT
Loran	901	
Radar	902	
Echo Sounder	903	
Fax	904	
Plotter	905	
G.P.S.	906	
Cellular Phone	907	
Vessel Tracking System	908	
VHF Radio	909	
Single Side Band Radio	927	
CB Radio	930	
Depth Sensor	931	
Water Temperature Sensor	932	
Wind Meter	918	
Personal Computer	925	
Auto pilot	922	
GEAR MOUNTED ELECTRONICS		
Headrope Transducer	937	
Depth Sensor	938	
Water Temperature Sensor	939	
PROCESSING		
REFRIGERATION/FREEZING		

IMPORTANCE OF COLLECTING ECONOMIC INFORMATION

1) The data is needed to analyze the economic costs and benefits of regulations. This enables fishery managers to compare alternatives.

2) Fishery managers need the analyses to give greater consideration to social and economic factors when forming and evaluating policies.

3) Such information is likely to reveal where, how, and why some measures will have differential impacts on different sectors of the industry.

4) Such information can also illustrate the economic importance of the fishing industry in a port or region.

5) The Observer Program provides economic data that is timely, covers many gear types, and is ongoing.

To Vessel Owners Participating in the NMFS' Observer Program:

Recently, an Observer from the National Marine Fisheries Service's Observer Program was onboard your vessel to collect information on certain aspects of the vessel's fishing activity. Answers to some of the economic questions were difficult to obtain because records are not typically kept aboard the vessel. To alleviate this problem, we ask that you please answer the questions on the form (see backside of this letter) and mail it to:

Observer Program
NMFS/NEFSC
166 Water Street
Woods Hole, MA 02543.

Economic data regarding landings and trip costs are more available to the observer than the information you are providing. Data for the attached questions, on the other hand, can only be reliably provided by the vessel's owner. It is extremely important that fishery managers have a complete understanding of the economic constraints faced by commercial fishermen to insure that economic considerations are adequately addressed in regulatory decisions.

There are two parts of the questionnaire that relate to equipment expenditures. The first part asks for dollars spent adding or replacing whole units of equipment. Examples would be the cost of replacing a propulsion engine, adding a winch, replacing a LORAN, etc. Amounts for the first section should be dollars spent in the 12 months prior to the date recorded on the form under date loaded.

The second section asks for dollars spent repairing or maintaining the same categories of equipment. In the repair of equipment, sometimes certain parts are replaced. For example, and engine's alternator. These costs should be included in the REPAIR/MAINTENANCE category and not in the ADD/REPLACE category. Amounts recorded for the REPAIR/MAINTAIN category should be in dollars spent in the 12 months prior to the date recorded on the form under date loaded.

Be assured that the data you provide will be kept in the same confidential manner as all Fishery Sampling information. Thank you very much for your cooperation.

Northeast Fisheries Science Center

NMFS FISHERIES OBSERVER PROGRAM

OBS/TRIP ID	VESSEL NAME	DATE LANDED mm/dd/yy
		/ /

Trip cost information was collected during the trip. Please help with these questions which could not be answered.

AMOUNTS SPENT PURCHASING ITEMS OVER THE PREVIOUS 12 MONTHS

NOTE: If no purchases were made, record a "0" on the appropriate line.

ENGINES (PROPULSION): INCLUDE THE COST OF A "REBUILT" ENGINE IF IT WAS NEVER USED BEFORE ON THIS VESSEL. DO NOT INCLUDE NEW ENGINE PARTS, SUCH AS ALTERNATORS. **$**_____

FISHING GEAR: INCLUDE WHOLE UNITS, SUCH AS TRAWL DOORS, GILLNET PANELS, AND LOBSTER POTS. DO NOT INCLUDE PIECES OF GEAR , SUCH AS RUBBER COOKIES OR PIECES OF TRAWL NET. **$**_____

DECK GEAR: INCLUDE WHOLE UNITS, SUCH AS WINCHES, BOOMS, BLOCKS, ETC. **$**_____

PROCESSING AND REFRIGERATION EQUIPMENT: INCLUDE SORTERS, FILLETING MACHINES, ETC., AS WELL AS GENERATORS AND ENGINES USED TO POWER THIS EQUIPMENT. **$**_____

ELECTRONICS: INCLUDE WHEELHOUSE AND GEAR MOUNTED ELECTRONICS. **$**_____

OTHER: INCLUDE ALL OTHER VESSEL PARTS. EXAMPLES: LENGTHENING THE VESSEL, PAINTING THE ENTIRE VESSEL, ADDING A HEAD, ETC. **$**_____

AMOUNTS SPENT REPAIRING & MAINTAINING ITEMS OVER THE PREVIOUS 12 MONTHS

NOTE: If no repairs or maintenance were done, record a "0" on the appropriate line.

ENGINES (PROPULSION): INCLUDE NEW ENGINE PARTS SUCH AS ALTERNATORS. INCLUDE THE COST OF REBUILDING AN ENGINE THAT WAS USED PREVIOUSLY ON THIS VESSEL. **$**_____

FISHING GEAR: INCLUDE THE COST OF NEW PIECES OF GEAR, SUCH AS HEADROPES, SECTIONS OF TRAWL NET, RUBBER COOKIES, ETC. **$**_____

DECK GEAR: EXAMPLES: REPAIRS AND MAINTENANCE TO WINCHES, BOOMS, BLOCKS, ETC. **$**_____

PROCESSING AND REFRIGERATION EQUIPMENT: INCLUDE REPAIRS AND MAINTENANCE TO SORTERS, FILLETING MACHINES, FREEZERS, ETC., AS WELL AS GENERATORS AND ENGINES USED TO POWER THIS EQUIPMENT. **$**_____

ELECTRONICS: INCLUDE REPAIRS AND MAINTENANCE TO WHEELHOUSE AND GEAR MOUNTED ELECTRONICS. **$**_____

OTHER: INCLUDE REPAIRS AND MAINTENANCE TO ALL OTHER VESSEL PARTS. EXAMPLES: TOUCH-UP PAINT, ADDING ZINCS TO THE HULL, REPAIRING THE HEAD, ETC. **$**_____

ANNUAL INSURANCE COSTS: HULL **$**_____ P & I **$**_____ **OR** COMBINED **$**_____

TO NEAREST DOLLAR, RECORD THE COST FOR HULL AND PROTECTION & INDEMNITY INSURANCE (OR BOTH COMBINED) FOR ONE BILLING YEAR.

ESTIMATE OF VESSEL VALUE: TO NEAREST THOUSAND DOLLARS, RECORD THE CURRENT MARKET VALUE OF THE VESSEL. THIS IS THE MAXIMUM PRICE AT WHICH THE VESSEL IS CERTAIN TO SELL WITHIN A SHORT PERIOD, NOT THE ASKING PRICE, OR LOWEST PRICE YOU WOULD ACCEPT. INCLUDE ALL CURRENT EQUIPMENT, GEAR, AND PERMITS. **$**_____

COMMENTS:

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 1 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

[X] 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:

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

Questions or Comments:

Patricia Yoos
508-495-2338

COMMON HAUL LOG DATA

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 Identifer 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 calender 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 order 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. 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.

H. 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.

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

J. 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.

K. 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).

L. 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.

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

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

N. 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 Q. 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 or LORAN positions are available, record the statistical area as listed in Appendix E.1. Map of Statistical Areas of the Northeast U.S. or Appendix E.2. Map of Statistical Areas of the Southeast 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-** .

O. 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

P. TARGET SPECIES CODE: Leave this field blank.

Q. 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 R.

Species List and Corresponding Logs.

R. SPECIES CODE: Leave this field blank.

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

K = Kept.
D = Discarded.

T. POUNDS: Record the dressed or round, actual or estimated hail weight for each caught species listed in SPECIES NAME (Q). 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 (U). 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 (U).

U. FISH DISPOSITION: Indicate the disposition of each species listed in SPECIES NAME (Q) 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 recored 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 retention, no quota in area" (015). 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).

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.

V. DRESSED OR ROUND: Indicate whether the weight recorded in POUNDS (T) 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.

W. ACTUAL OR ESTIMATED: Indicate whether the weight recorded in POUNDS (T) is an actual or estimated weight by recording the appropriate letter code:

A = Actual.
E = Estimated.

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

OBHAU OBSPP 01/01/01

NMFS FISHERIES OBSERVER PROGRAM
"GENERIC" HAUL LOG

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

GEAR CODE		HAUL #	HAUL OBS?		CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	
D		E	NO 0 F YES 1 ___		NO 0 G YES 1 ___	NO 0 H YES 1 ___	I	J kn	K o	L ft	M fm	

SET INFO					LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				TARGET SPECIES	CODE(S)
					Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	O	P
SET	BEGIN	/ /	:		9960 -	N	9960 -			
	END	/ /	:		9960 -		9960 -			
HAUL INFO										
HAUL	BEGIN	/ /	:		9960 -		9960 -			
	END	/ /	:		9960 -		9960 -			

COMMENTS

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

OBHAU OBSPP 01/01/01

NMFS FISHERIES OBSERVER PROGRAM
"GENERIC" HAUL LOG

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

GEAR CODE		HAUL #	HAUL OBS? NO 0 ___ YES 1 ___		CATCH? NO 0 ___ YES 1 ___	INC TAKE? NO 0 ___ YES 1 ___	WEATHER CODE	WIND SPEED kn	WIND DIRECTION o	WAVE HEIGHT ft	DEPTH, HAUL BEGIN fm	

SET INFO					LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)				TARGET SPECIES	CODE(S)
					Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing		
SET	BEGIN	/ /	:		9960 -		9960 -			
	END	/ /	:		9960 -		9960 -			
HAUL INFO										
HAUL	BEGIN	/ /	:		9960 -		9960 -			
	END	/ /	:		9960 -		9960 -			

COMMENTS

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

GILLNET GEAR CHARACTERISTICS LOG

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

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

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) at the surface to the gear (anchor or net) fishing in the water below.

Groundline: A line that connects a gillnet or gillnet bridle to an anchor or buoyline.

Weak link: A breakable component of gear that will part when subject 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 numbers 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: 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 Q. 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. NUMBER OF STRANDS: Record the number of strands of twine in the net webbing used in this gear. **An average should not be recorded here.** This is not the same as the number of filaments. If more than one number is used, record the number of strands used

in the greatest number of nets in this gear. If more than one number is used AND each number is used in an equal number of nets in the gear, record a dash (-) and indicate the numbers of strands in COMMENTS. This information may be obtained from the Captain.

NOTE: This number should reflect the total number of individual strands used to make up the net webbing.

Example: Monofilament nylon has one strand. Multi-strand, multi-filament and monotwist will consist of multiple strands of nylon.

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.

NOTE: This information may be obtained from the Captain.

NOTE: If more than one net material is used in the string, check other and indicate the materials used on the line provided.

NOTE: Gillnets are typically made of monofilament nylon.

11. 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 11A.

12. 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:

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

FLOATS

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

0 = No.
1 = Yes.

14. 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

15. 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.

16. 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).

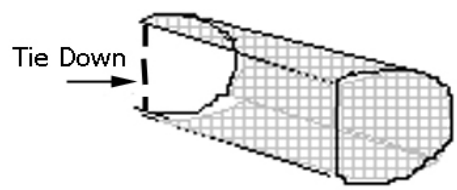

Figure 1. Gillnet with tiedowns.

SPACE(S) BETWEEN NETS

17. 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.

18. NUMBER: Record the **total** number of spaces

used between the nets in this gear.

19. 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:

$[(3*3.5) + (6*4.5)] \div 9 = (10.5+27) \div 9 = 37.5 \div 9 = 4.2$

Round 4.2 to 4 feet.

DROPLINES

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

0 = No.
1 = Yes.

21. 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

22. 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.

23. 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

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

0 = No.
1 = Yes.

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

26. 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.

27. WEIGHT - ACTUAL OR ESTIMATED: Record whether the weight recorded in ANCHOR WEIGHT (#26) is an actual or an estimated value by circling the appropriate letter code:

A = Actual.
E = Estimated.

28. TYPE(S): Indicate which type(s) of anchor(s) are used on this gear by placing and "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 28A.

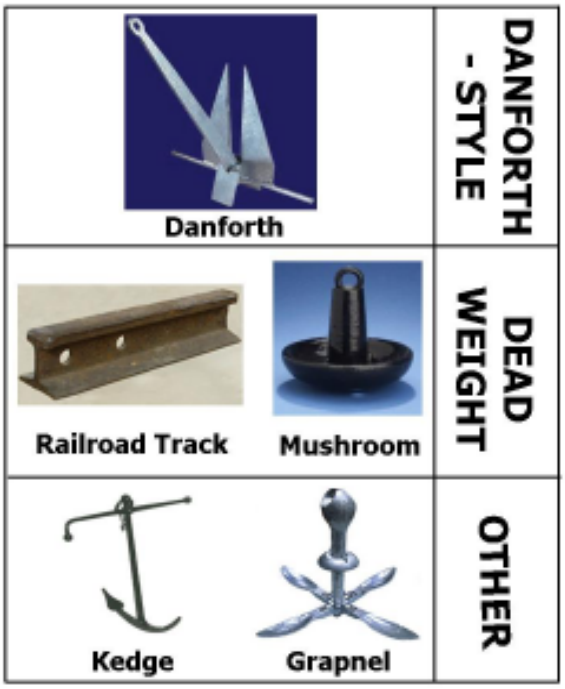

Figure 2. Examples of common anchor types.

29. 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.

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.

30. 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.

31. 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.

32. 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.

33. 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:

0 = Unknown.
1 = Dukane.
2 = Airmar.
3 = Fumunda.
8 = Combination, record all brands in the COMMENTS.
9 = Other, record the brand on line 33A.

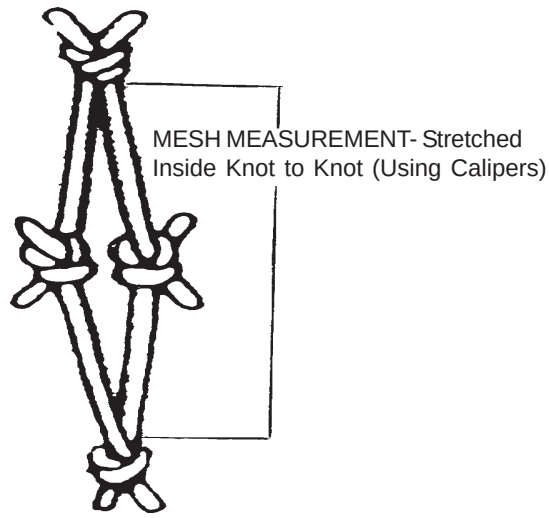

Figure 3. Measuring Mesh Size.

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.

34. 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.

35. 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 36 and 37. Field #38 may be completed when information for field #'s 36 and 37 is not available. Do not complete all three fields.

36. 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 2 and Appendix P. 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 (#38) 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.	
1	5.28	A / E
4	5.25	A / E
1	5.03	A / E
4	5.00	A / E

37. ACTUAL/ESTIMATED: Indicate whether the net mesh size(s) recorded in NUMBER OF NETS AT EACH MESH SIZE (#36) 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 (#36) 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.

38. 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 calculated as described above, or obtained from the Captain.

NOTE: Do not complete this field if you have completed field #36.

39. 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 38A.
08 = Red.
09 = Orange.
10 = Purple.
98 = Combination, record all net webbing colors on line 38A.
99 = Other, record the color on line 38A.

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 39A.

SURFACE SYSTEM

NOTE: The surface system refers to the configuration of high flyers and buoys at the surface of the water. See Figure 3.

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

41. 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.

42. 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.

43. 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 L. 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.

44. 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.

GROUNDLINE

45. USED?: Record whether groundline is used on this gear by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

46. LENGTH: Record, in whole feet, the **total** length of the groundline used on this gear. This information may be obtained from the Captain.

47. TYPE CODE: Indicate the type of groundline used on this gear by recording the most appropriate code from the list below, and in Appendix L. 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.

48. 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

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

50. LENGTH: Record, in whole feet, the **average** length of the buoyline(s) used on this gear. This information may be obtained from the Captain.

51. 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 L. 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.

52. 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 (#51), otherwise dash '-' the field.

Example: The Captain states that he has 75% sinking line and 25% floating. This should be recorded as '75/25'.

53. 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.

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 3.

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 L. 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 3.

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 L. 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.

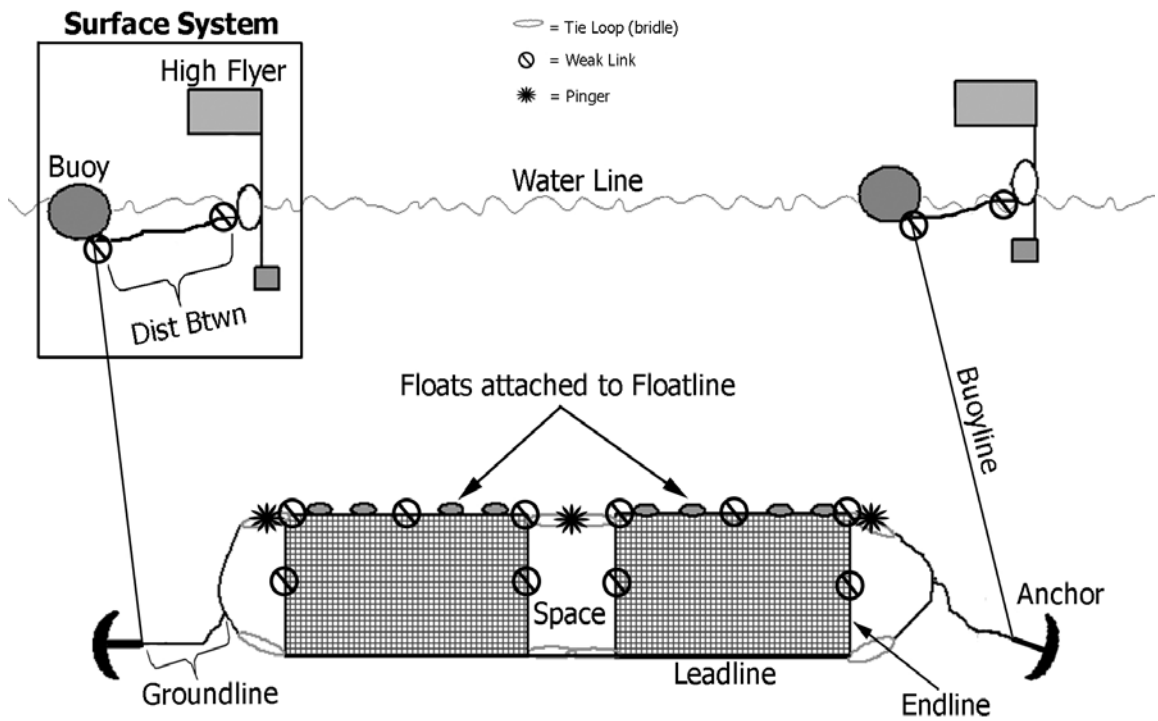

Figure 4. Typical gillnet gear configuration. Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

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NMFS FISHERIES OBSERVER PROGRAM

GILLNET GEAR CHARACTERISTICS LOG (Front)

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

GEAR CODE: D

GEAR NUMBER(S): 1

NUMBER OF NETS: 2

AVERAGE NET:

LENGTH 3 ft

HEIGHT 4 . ft

MESH COUNT VERTICAL 5

HANGING RATIO 6 /

TWINE SIZE 7 (circle one) A / E 8

STRANDS 9

NET MATERIAL 10

Unknown	0
Nylon	1
Other	9

10A

FLOATLINE MATERIAL 11

Unknown	0
Floating (foam core)	1
Twisted Polypropylene	2
Other	9

11A

LEADLINE WEIGHT 12 . lbs/ net

USED?		NO	YES
FLOATS	13	0	1
TIE DOWNS	15	0	1 (all nets) 2 (not all nets)
SPACE(S) BETWEEN NETS	17	0	1
DROPLINES	20	0	1
ADDTIONAL WGTS	22	0	1
ANCHOR(S)	24	0	1

Number 25

Weight (total) 26 lbs (circle one) A / E 27

SECURING METHOD(S) 29

MEASUREMENTS

Dist Between 14 ft

Length 16 . ft

Number 18

Width 19 ft

Length 21 ft

Weight 23 lbs

Type 28

Unknown	0
Danforth-style	1
Dead Weight	2
Combination	8
Other	9

28A

None	1
Ocean Bottom	2
Vessel/Ocean Bottom	3
Vessel Only	4

MM DETERRENT DEVICES

ACTIVE USED? 30 0 1

Number 31

Frequency 32 kHz

PASSIVE USED? 34 0 1

Number 35

Brand(s) 33

Unknown	0
Dukane	1
Airmar	2
Fumunda	3
Combination	8
Other	9

33A

MESH SIZE(S)

# OF NETS	MESH SIZE (inches)	(circle one)
36	.	37 A / E
	.	A / E
	.	A / E
	.	A / E

OR

MESH SIZE RANGE 38

. - .

NET COLOR 39

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

39A

SURFACE SYSTEM

# of High Flyer(s) 40

# of Buoy(s) 41

Distance of Line Btwn High Flyer & Buoy(s) (avg) 42 ft

Type Code 43

Diameter 44 / in

BUOYLINE

# of Buoyline(s) 49

Length (avg) 50 ft

Type Code 51

Percent of Type (sinking / floating) 52 % / %

Diameter 53 / in

GROUNDLINE NO YES

USED? 45 0 1

Length (total) 46 ft

Type Code 47

Diameter 48 / in

WEAK LINKS NO YES

USED ON SURFACE? 54 0 1

Number (total) 55

Type Code 56

USED ON STRING? 57 0 1

Number (total) 58

Type Code 59

COMMENTS

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NMFS FISHERIES OBSERVER PROGRAM

GILLNET GEAR LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)	NUMBER OF NETS
D	**1**	**2**

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

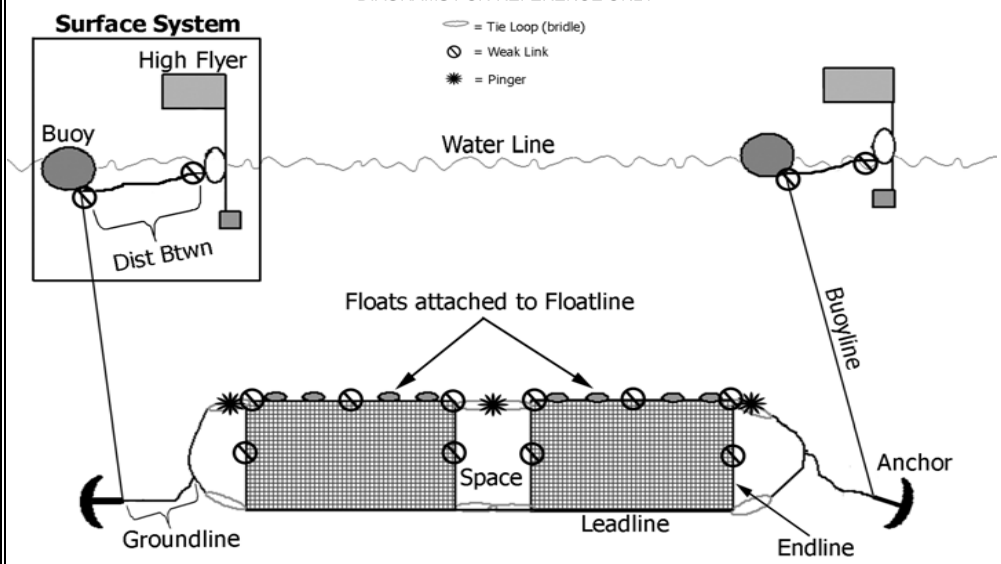
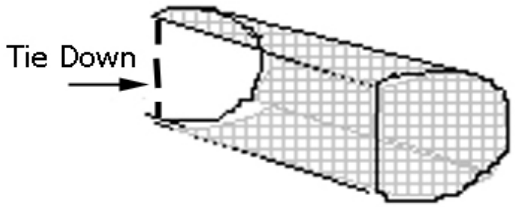


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



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NMFS FISHERIES OBSERVER PROGRAM

GILLNET GEAR CHARACTERISTICS LOG (Front)

OBS/ TRIP ID	S03089C
DATE LAND (mm/yy)	10 / 01
PAGE #	1 OF 1

GEAR CODE: 1 0 0

GEAR NUMBER(S): 1, 2, 3, 4

NUMBER OF NETS: 15

AVERAGE NET:

LENGTH 300 ft

HEIGHT 12 . 0 ft

MESH COUNT VERTICAL 25

HANGING RATIO 1 / 2

TWINE SIZE 24 (circle one) A / (E)

STRANDS 1

NET MATERIAL

Unknown 0
Nylon 1 X
Other 9

FLOATLINE MATERIAL

Unknown 0
Floating (foam core) 1
Twisted Polypropylene 2 X
Other 9

LEADLINE WEIGHT

32 . 5 lbs/ net

USED?	NO	YES		MEASUREMENTS		
FLOATS	0	1	X	Dist Between	5	ft
TIE DOWNS	0	1	X (all nets)	Length	3 . 0	ft
		2	(not all nets)			
SPACE(S) BETWEEN NETS	0	1	X	Number	14	
				Width	3	ft
DROPLINES	0	X	1	Length		ft
ADDTIONAL WGTS	0	X	1	Weight		lbs
ANCHOR(S)	0	1	X	Type		
Number	2			Unknown	0	
				Danforth-style	1	X
				Dead Weight	2	
Weight (total)	100 lbs	(circle one) A / (E)		Combination	8	
				Other	9	

SECURING METHOD(S)

None 1
Ocean Bottom 2 X
Vessel/Ocean Bottom 3
Vessel Only 4

MM DETERRENT DEVICES

ACTIVE USED?	0	1	X	Brand(s)	
Number	16			Unknown	0
				Dukane	1 X
				Airmar	2
Frequency	10 kHz			Fumunda	3
				Combination	8
PASSIVE USED?	0	X	1	Other	9
Number					

MESH SIZE(S)

# OF NETS	MESH SIZE (inches)	(circle one)
15	12 . 00	A / (E)
	.	A / E
	.	A / E
	.	A / E

OR

MESH SIZE RANGE

. - .

NET COLOR

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	X
Other	99	

see comments

SURFACE SYSTEM

# of High Flyer(s) 2

# of Buoy(s) 2

Distance of Line Btwn High Flyer & Buoy(s) (avg) 3 ft

Type Code 1

Diameter 5 / 8 in

BUOYLINE

# of Buoyline(s) 2

Length (avg) 200 ft

Type Code 8

Percent of Type (sinking / floating) 75% / 25%

Diameter 5 / 8 in

GROUNDLINE	NO	YES	
USED?	0	1	X
Length (total)	6 ft		
Type Code	1		
Diameter	3 / 8 in		

WEAK LINKS	NO	YES	
USED ON SURFACE?	0	1	X
Number (total)	4		
Type Code	1		
USED ON STRING?	0	1	X
Number (total)	15		
Type Code	2		

COMMENTS

Net color = 5 blue, 5 pink and 5 clear.

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NMFS FISHERIES OBSERVER PROGRAM

GILLNET GEAR LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)	NUMBER OF NETS

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

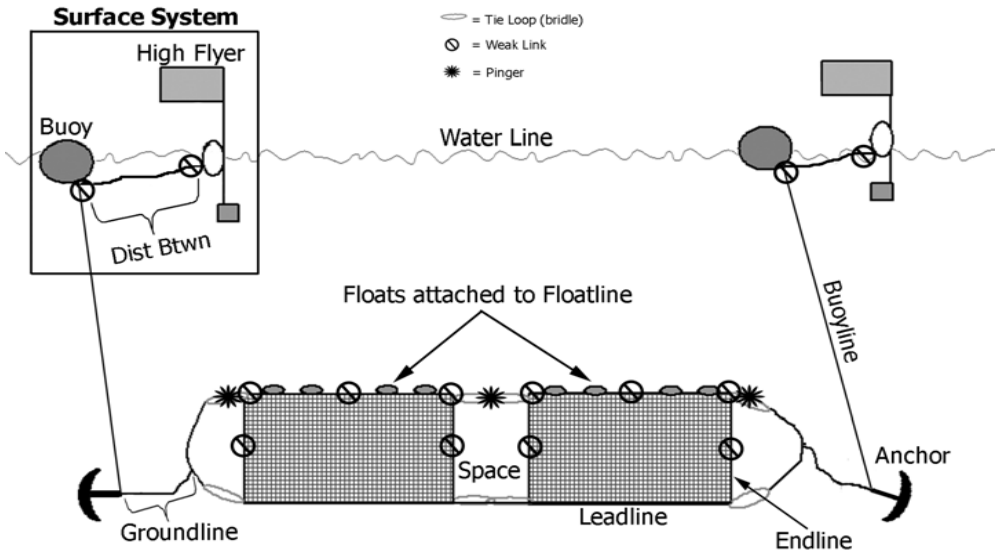
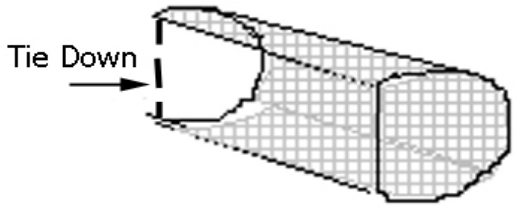


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



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NMFS FISHERIES OBSERVER PROGRAM

GILLNET GEAR CHARACTERISTICS LOG (Front)

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

NUMBER OF NETS

AVERAGE NET:

LENGTH _____ ft

HEIGHT _____ . _____ ft

MESH COUNT VERTICAL _____

HANGING RATIO _____ / _____

TWINE SIZE _____ (circle one) A / E

STRANDS _____

NET MATERIAL

Unknown 0 ___
Nylon 1 ___
Other 9 ___

_____

FLOATLINE MATERIAL

Unknown 0 ___
Floating (foam core) 1 ___
Twisted Polypropylene 2 ___
Other 9 ___

_____

LEADLINE WEIGHT

_____ . _____ lbs/ net

USED?	NO	YES	
FLOATS	0 ___	1 ___	
TIE DOWNS	0 ___	1 ___	(all nets)
		2 ___	(not all nets)
SPACE(S) BETWEEN NETS	0 ___	1 ___	
DROPLINES	0 ___	1 ___	
ADDTIONAL WGTS	0 ___	1 ___	
ANCHOR(S)	0 ___	1 ___	

Number _____

Weight (total) _____ lbs (circle one) A / E

SECURING METHOD(S)

MEASUREMENTS

Dist Between _____ ft

Length _____ . _____ ft

Number _____

Width _____ ft

Length _____ ft

Weight _____ lbs

Type

Unknown 0 ___
Danforth-style 1 ___
Dead Weight 2 ___
Combination 8 ___
Other 9 ___

_____

None 1 ___
Ocean Bottom 2 ___
Vessel/Ocean Bottom 3 ___
Vessel Only 4 ___

MM DETERRENT DEVICES

ACTIVE USED? 0 ___ 1 ___

Number _____

Frequency _____ kHz

PASSIVE USED? 0 ___ 1 ___

Number _____

Brand(s)

Unknown 0 ___
Dukane 1 ___
Airmar 2 ___
Fumunda 3 ___
Combination 8 ___
Other 9 ___

_____

MESH SIZE(S)

# OF NETS	MESH SIZE (inches)	(circle one)
	. ___ ___	A / E
	. ___ ___	A / E
	. ___ ___	A / E
	. ___ ___	A / E

OR

MESH SIZE RANGE

_____ . _____ - _____ . _____

NET COLOR

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	___

_____

SURFACE SYSTEM

# of High Flyer(s) _____

# of Buoy(s) _____

Distance of Line Btwn High Flyer & Buoy(s) (avg) _____ ft

Type Code _____

Diameter _____ / _____ in

BUOYLINE

# of Buoyline(s) _____

Length (avg) _____ ft

Type Code _____

Percent of Type (sinking / floating) _____ % / _____ %

Diameter _____ / _____ in

GROUNDLINE	NO	YES
USED?	0 ___	1 ___

Length (total) _____ ft

Type Code _____

Diameter _____ / _____ in

WEAK LINKS	NO	YES
USED ON SURFACE?	0 ___	1 ___

Number (total) _____

Type Code _____

USED ON STRING? 0 ___ 1 ___

Number (total) _____

Type Code _____

COMMENTS

OBGGG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

GILLNET GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)	NUMBER OF NETS
☐☐☐		

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

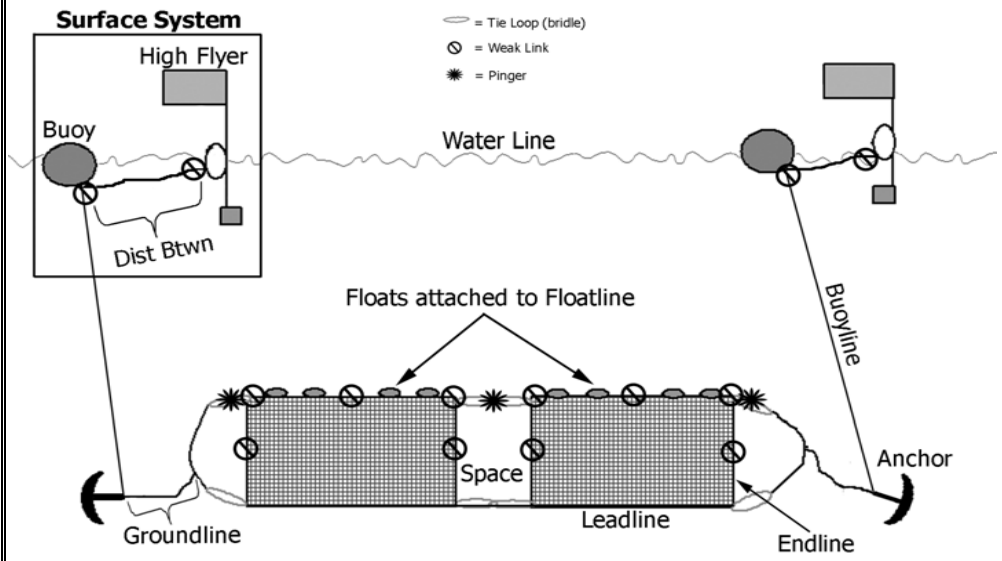
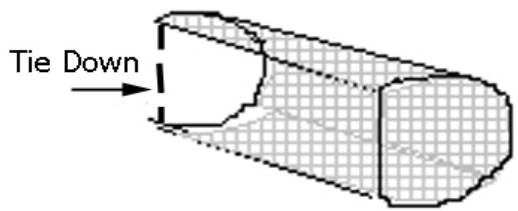


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



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 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 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-W**, 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 (M).

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. 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 Q. 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.

8. 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 J. 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.

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.

OBGGH OBHAU OBSPP 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

GILLNET HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS?	MM WATCH?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN BOTTOM	DEPTH, HAUL BEGIN LEADLINE
D	1	E	NO 0 ___ YES 1 ___ F	NO 0 ___ YES 1 ___ 2	NO 0 ___ YES 1 ___ G	NO 0 ___ YES 1 ___ H	I	J kn	K o	L ft	M fm	3 fm

SET INFO		DATE AND mm/dd/yy	TIME 24 hours	OR EST SOAK DUR	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing
SET	BEGIN	/ 4 /	5 :			N		
	END	/ /	:	6 . hrs				
HAUL INFO		DATE	TIME	WATER TEMP				
HAUL	BEGIN	/ /	:					
	END	/ /	:	7 . o F				

TARGET SPECIES	CODE(S)	GEAR COND CODE
O	P	8

NUMBER OF NETS	
SET	9
HAULED	10
LOST	11

IF MM DETERRENTS USED:	ACTIVE	PASSIVE
HAULED	12	14
LOST	13	15

COMMENTS

SET METHOD 16

Unknown	00 ___	Visual	05 ___
Temperature	01 ___	Mixed	98 ___
Bottom Contours	02 ___	Other	99 ___
Compass/ Loran	03 ___	16A	
Tide/ Current	04 ___		

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

OBGGH OBHAU OBSPP 12/01/03

NMFS FISHERIES OBSERVER PROGRAM

GILLNET HAUL LOG

OBS/ TRIP ID	S02089C
DATE LAND (mm/yy)	10 / 01
PAGE #	1 OF 2

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS?	MM WATCH?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN BOTTOM	DEPTH, HAUL BEGIN LEADLINE
100	02	02	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	03	20 kn	45 o	5 ft	90 fm	90 fm

SET INFO		DATE AND TIME mm/dd/yy 24 hours	OR EST SOAK DUR	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing
SET	BEGIN	/ / :					
	END	/ / :	72 . 0 hrs				
HAUL INFO		DATE	TIME	WATER TEMP			
HAUL	BEGIN	10 / 07 / 01	07 : 54		40 48.3		71 26.8
	END	10 / 07 / 01	09 : 05	54 . 0 o F	40 49.4		71 27.5

TARGET SPECIES CODE(S): **Monkfish**

GEAR COND CODE: **210**

NUMBER OF NETS: SET __15__ HAULED __15__ LOST __0___

IF MM DETERRENTS USED: 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 NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Monkfish (tail)		K	59	100	D	A	Cod		K	17.5	100	D	A
Monkfish (liver)		K	12	100	D	A	Sand Dab Fldr.		D	16	001	R	A
Monkfish		K	350	100	R	E							
Monkfish		D	24	012	R	A							
Winter Skate (wings)		K	35	100	D	E							
Little Skate		D	100	001	R	E							
Jonah Crab		D	50	001	R	E							
American Lobster		K	7	100	R	A							

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NMFS FISHERIES OBSERVER PROGRAM

GILLNET HAUL LOG

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

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

SET INFO		DATE AND mm/dd/yy	TIME 24 hours	OR EST SOAK DUR	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing
SET	BEGIN	/ /	:		9960 -		9960 -	
	END	/ /	:	. hrs	9960 -		9960 -	
HAUL INFO		DATE	TIME	WATER TEMP				
HAUL	BEGIN	/ /	:		9960 -		9960 -	
	END	/ /	:	o . F	9960 -		9960 -	

TARGET SPECIES CODE(S)

GEAR COND CODE

NUMBER OF NETS

SET _____

HAULED _____

LOST _____

IF MM DETERRENTS USED:

	ACTIVE	PASSIVE
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 NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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 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 Trawl Gear Characteristics Log. Do not soley 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 the vessel has two or more identical gears that are hauled during the trip, complete only one Trawl Gear Characteristics Log, and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). 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.

Codend: Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvedges 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 Strengthener: 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.

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 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 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.

DOORS

2. 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.

3. DOOR WEIGHT: Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the Captain.

4. 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.

5. 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.

6. 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.

CONSTRUCTION MATERIAL

7. TYPE: Record the type of construction material used in the body of the net (excluding the codend) and the codend 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 7A.
99 = Other, record the construction material type on line 7A.

KITE PANEL

8. 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.

9. NUMBER: Record the **total** number of panels used in a kite in this net.

10. 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.

11. 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

12. 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.

13. 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.

14. 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.

15. 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.

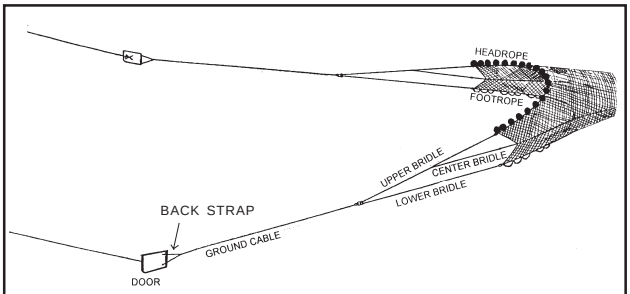

Figure 1. Doors, ground cable, bridles, footrope, and headrope.

FISHING CIRCLE

16. 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.

17. 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.

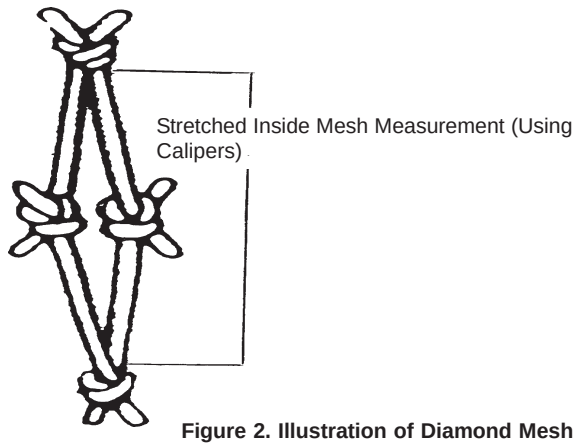

Figure 2. Illustration of Diamond Mesh

GROUND GEAR

18. 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.
98 = None.
99 = Other, record the ground gear type on line 18A.

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.**

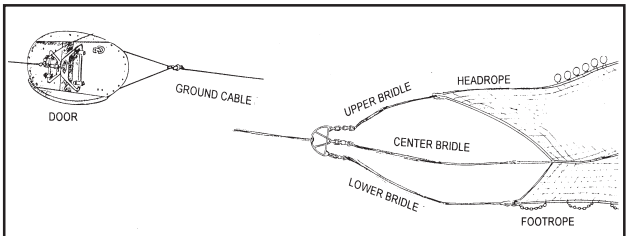

Figure 3. Doors, gound cable, bridles, headrope, and footrope.

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" (5) for SWEEP GROUND GEAR TYPE. See Figure 4.

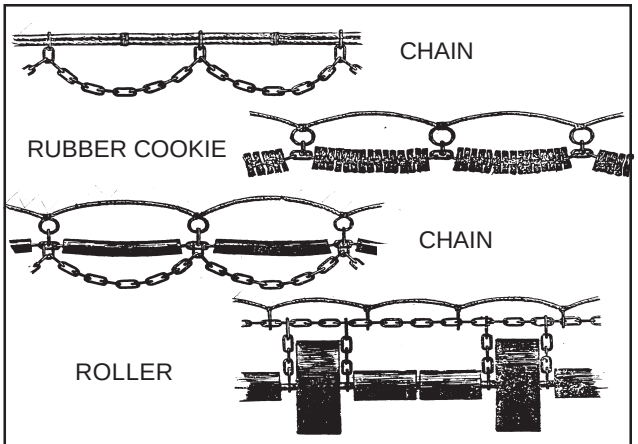

Figure 4. Types of sweeps.

SWEEP GEAR

19. 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.

20. 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

21. NUMBER: Record the total number of floats attached to the headrope.

22. SIZE: Record the diameter, in whole inches, of the majority of floats attached to the headrope.

CODEND

23. HUNG: Record the hanging configuration of the codend 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 (#29).

NOTE: See Figure 6 for the location of the codend.

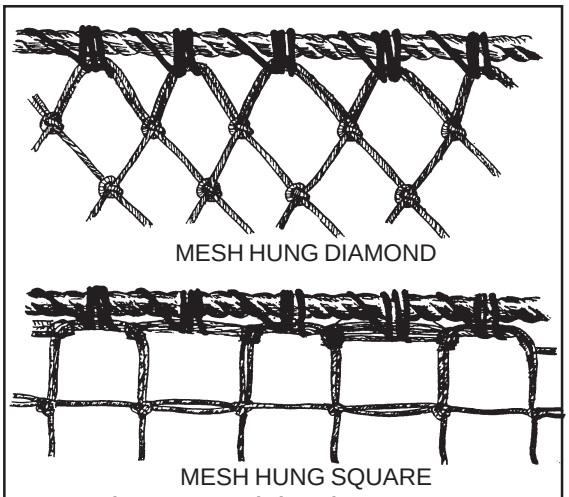

Figure 5. Mesh hanging patterns.

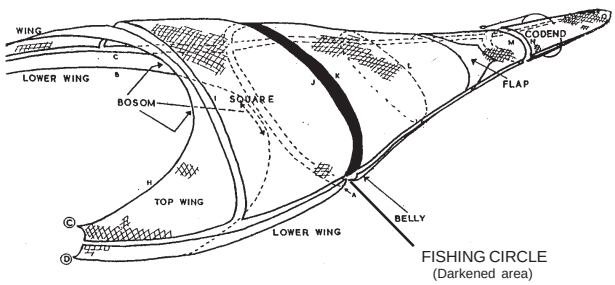

Figure 6. The sections of netting that make a trawl.

24. TWINE TYPE: Record whether the twine used in the codend is 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.

25. 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 P. 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.

26. 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.

27. LINER MESH SIZE: Record, in whole millimeters, four 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 P. Vernier Caliper Instructions for further information.

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

28. 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.

29. 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.

GEAR MOUNTED ELECTRONICS

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

0 = No.
1 = Yes.

31. NUMBER OF TRANSDUCERS: Record the number of transducers used on this gear.

32. TYPE: Record the type of transducer used on this gear by placing an "X" next to the appropriate code:

0 = Unknown.
1 = Wired.
2 = Wireless.
3 = Both.

33. BRAND: Record the brand of transducers used

on this gear by placing an "X" next to the appropriate code:

0 = Unknown.
1 = Furuno®.
2 = Simrad®.
3 = Northstar Technical.
4 = Notus.
5 = Marport.
6 = Scanmar.
8 = Combination, record all brands on line 33A.
9 = Other, record the transducer brand on line 33A.

34. LOCATION: Record the location of transducers used on this gear by placing an "X" next to the appropriate code (see Figures 1 and 6):

0 = Unknown.
1 = Headrope.
2 = Wings.
3 = Footrope.
4 = Headrope and Footrope.
5 = Door.
6 = Codend.
8 = Other Combination, record all transducer locations on line 34A.
9 = Other, record the transducer location on line 34A.

35. NUMBER OF RECEIVERS: Record the **total** number of receivers used on this vessel for the transducer(s).

EXCLUDER/SEPARATOR DEVICE

36. 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.

37. 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. (see Figure 9)
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.
98 = Combination, record all excluder/separator device types in comments.
99 = Other, record the exluder/separator device type in comments.

38. 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).

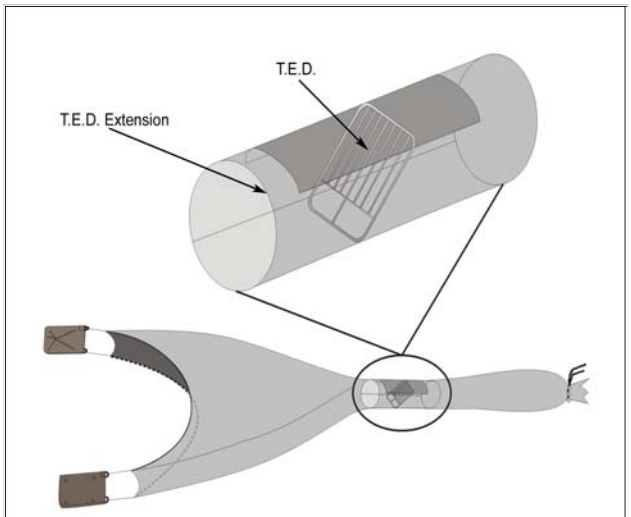

Figure 7. T.E.D. and T.E.D. Extension

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 (#43). Length and Width in inches of the escape outlet is an acceptable secondary method.

42. # MESHES (LENGTH AND WIDTH): Record the number of meshes for the length (runs from the front of the net towards the codend) and width (runs from side to side of the net) of the escape outlet. These numbers may be obtained from the Captain.

NOTE: For T.E.D. outlets, the width measurement is taken by counting the number of meshes along the leading edge of the opening. If this cannot be obtained by the observer then dash this field.

NOTE: If the outlet shape is triangular, record the # of meshes on the side of the triangle which runs from side to side in the net for 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 coments.

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.

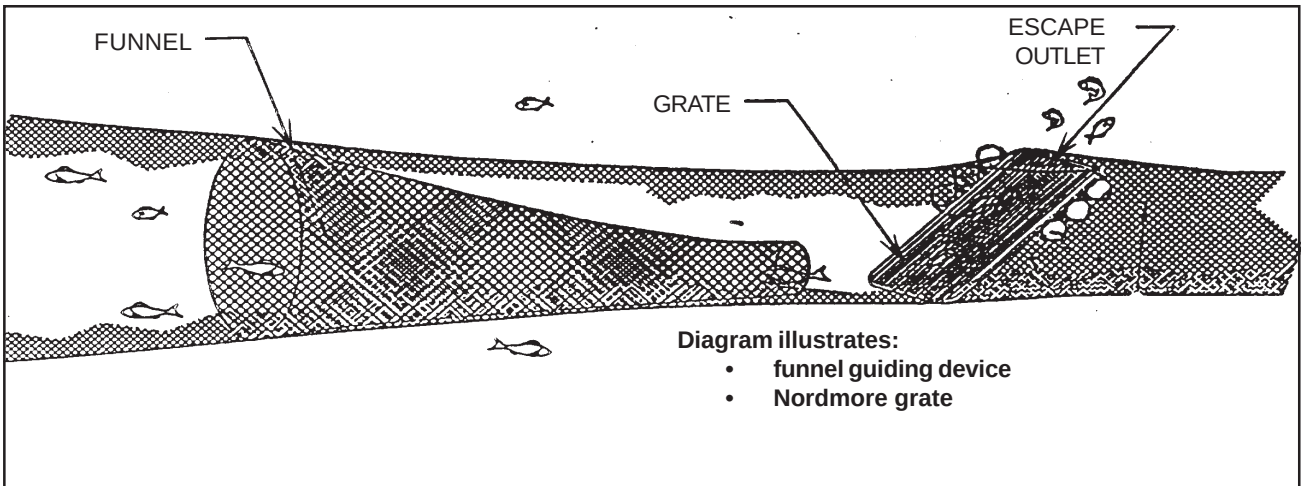

Figure 8. Funnel, Nordmore grate, and escape outlet.

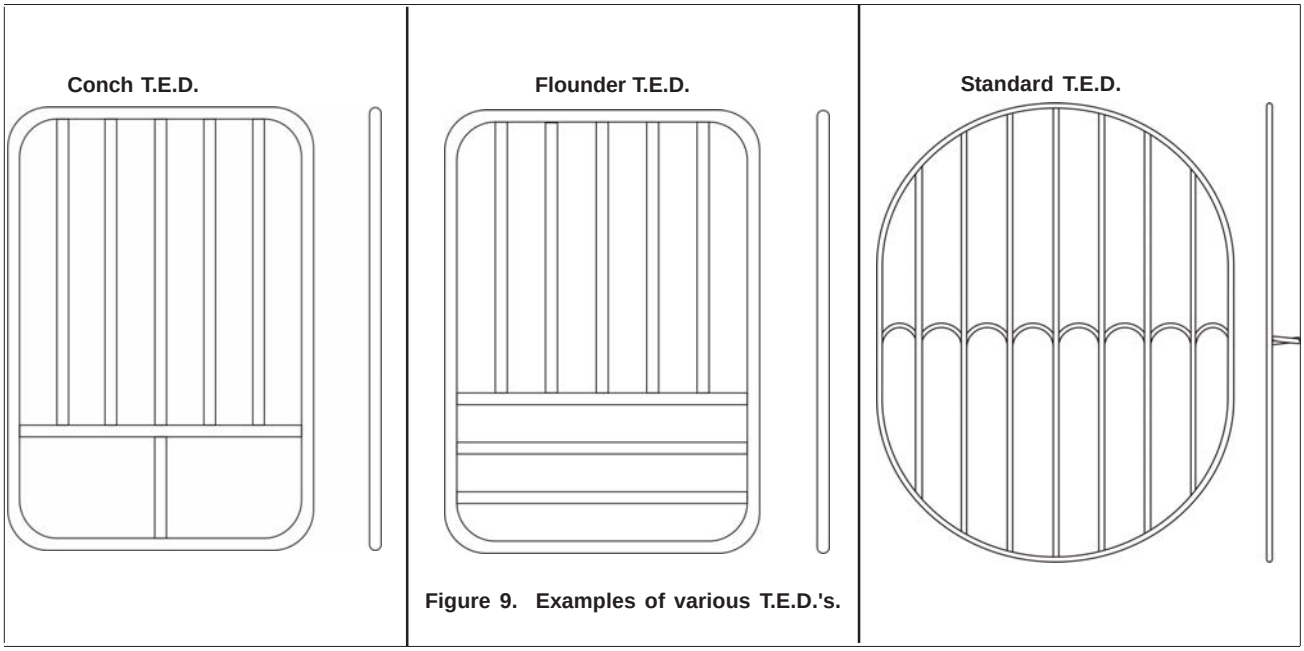

Figure 9. Examples of various T.E.D.'s.

OBOTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

TRAWL GEAR CHARACTERISTICS LOG (Front)

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C OF

GEAR CODE **D** ☐☐☐

NET NAME **4**

NET TYPE **5**

NET BUILDER **6**

GEAR NUMBER(S) **1**

DOORS USED? **2**
NO 0 ___
YES 1 ___

WEIGHT OF ONE DOOR **3**
_____kg

CONSTRUCTION MATERIAL **7**

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

_____ **7A** _____

LENGTH MEASUREMENTS

Headrope **12** _____ft

Footrope/Sweep **13** _____ft

Ground Cable **14** _____fm

Bridle **15** _____fm

FISHING CIRCLE **16**

MESHES _____

MESH SIZE **17** ___.___in

KITE PANEL

KITE USED? **8**
NO 0 ___
YES 1 ___

Number _____**9**_____
Width _____**10**_____in
Length _____**11**_____in

COMMENTS

GROUND GEAR

TYPE **18**		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	___	___	___

_____ _____**18A**_____ _____

SWEEP GEAR

Number ___**19**___

Diameter ___**20**___in

FLOATS

Number ___**21**___

Diameter ___**22**___in

CODEND **23**

HUNG

Unknown	0 ___
Diamond	1 ___
Square	2 ___
Square, Wrapped	3 ___
Combination	8 ___

TWINE TYPE

Single	**24**	1 ___
Double		2 ___
Single on Top/ Double on Bottom		3 ___
Other		9 ___

MESH SIZE **25**

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

LINER USED? **26**
NO 0 ___
YES 1 ___

MESH SIZE **27**

_____ mm _____ mm

_____ mm _____ mm

STRENGTHENER USED?
28 NO 0 ___ YES 1 ___

CHAFING GEAR USED?
29 NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS

USED ? **30**
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS **31**
_____

TYPE **32**

Unknown	0 ___
Wired	1 ___
Wireless	2 ___
Both	3 ___

BRAND **33**

Unknown	0 ___
Furuno®	1 ___
Simrad®	2 ___
Northstar Tech	3 ___
Notus	4 ___
Marport	5 ___
Scanmar	6 ___
Combination	8 ___
Other	9 ___

_____**33A**_____

LOCATION **34**

Unknown	0 ___
Headrope	1 ___
Wings	2 ___
Footrope	3 ___
Headrope & Footrope	4 ___
Door	5 ___
Codend	6 ___
Other Combo	8 ___
Other	9 ___

_____**34A**_____

OF RECEIVERS **35**
_____

EXCLUDER/SEPARATOR DEVICE **36**

USED? NO 0 ___ YES 1 ___

Type Code ___**37**_____

T.E.D. EXTENSION **38**

Mesh Size _____ . _____ in

ESCAPE OUTLET **39**

USED? NO 0 ___ YES 1 ___

TYPE **40**

Unknown	0 ___
Panel	1 ___
Opening	2 ___
Single Flap	3 ___
Double Flap	4 ___
Other	9 ___

_____**40A**_____

MESH SIZE ___**41**_____in

LENGTH
MESHES ___**42**___ OR ___**43**___ in

WIDTH
MESHES ___**42**___ OR ___**43**___ in

SHAPE Type Code ___**44**___

LOCATION Type Code ___**45**___

OBOTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

TRAWL GEAR CHARACTERISTICS LOG (Back)

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C OF

GEAR CODE	GEAR NUMBER(S)
D	1

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination (Comment)
23 =	Flounder 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

OBOTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

TRAWL GEAR CHARACTERISTICS LOG (Front)

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

GEAR CODE	NET NAME	NET TYPE	NET BUILDER
0 5 0	Yankee 42	2 Seam Flatfish Net	Northeastern Trawl Systems Inc

GEAR NUMBER(S): 1

DOORS USED?
NO 0 ___
YES 1 _X_

WEIGHT OF ONE DOOR: 900 kg

CONSTRUCTION MATERIAL

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	_X_	_X_
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

LENGTH MEASUREMENTS

Headrope	60 ft
Footrope/Sweep	72 ft
Ground Cable	30 fm
Bridle	8 fm

FISHING CIRCLE

# MESHES	480
MESH SIZE	5.0 in

KITE PANEL

KITE USED?
NO 0 ___
YES 1 _X_

Number	3
Width	39 in
Length	39 in

COMMENTS

Doors are 1980 lbs each.

GROUND GEAR

TYPE		GROUND CABLE	BRIDLE/ LEG	SWEEP
Unknown	00	___	___	___
Chain	01	___	___	___
Cable / Wire	02	_X_	___	___
Wrapped Cable	03	___	___	___
Rock Hopper	04	___	___	___
Roller	05	___	___	___
Rubber Cookie	06	___	_X_	_X_
Bobbin	07	___	___	___
Plate Gear	08	___	___	___
None	98	___	___	___
Other	99	___	___	___

SWEEP GEAR
Number 30
Diameter 16 in

FLOATS
Number 15
Diameter 8 in

CODEND

HUNG

Unknown	0 ___
Diamond	1 ___
Square	2 _X_
Square, Wrapped	3 ___
Combination	8 ___

TWINE TYPE

Single	1 ___
Double	2 _X_
Single on Top/ Double on Bottom	3 ___
Other	9 ___

MESH SIZE

128 mm 133 mm
128 mm 133 mm
133 mm 134 mm
128 mm 134 mm
127 mm 137 mm

LINER USED?
NO 0 _X_
YES 1 ___

MESH SIZE
_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?
NO 0 _X_ YES 1 ___

CHAFING GEAR USED?
NO 0 ___ YES 1 _X_

GEAR MOUNTED ELECTRONICS

USED ?
NO 0 ___
YES 1 _X_

NUMBER OF TRANSDUCERS: 2

TYPE

Unknown	0 ___
Wired	1 ___
Wireless	2 _X_
Both	3 ___

BRAND

Unknown	0 ___
Furuno®	1 ___
Simrad®	2 _X_
Northstar Tech	3 ___
Notus	4 ___
Marport	5 ___
Scanmar	6 ___
Combination	8 ___
Other	9 ___

_____

LOCATION

Unknown	0 ___
Headrope	1 ___
Wings	2 ___
Footrope	3 ___
Headrope & Footrope	4 ___
Door	5 _X_
Codend	6 ___
Other Combo	8 ___
Other	9 ___

_____

OF RECEIVERS: 1

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 _X_ YES 1 ___

Type Code _____

T.E.D. EXTENSION

Mesh Size _____ . _____ in

ESCAPE OUTLET

USED? NO 0 ___ YES 1 _X_

TYPE

Unknown	0 ___
Panel	1 _X_
Opening	2 ___
Single Flap	3 ___
Double Flap	4 ___
Other	9 ___

_____

MESH SIZE 12 in

LENGTH
MESHES 10 OR _____ in

WIDTH
MESHES 60 OR _____ in

SHAPE Type Code 05

LOCATION Type Code 1

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NMFS FISHERIES OBSERVER PROGRAM

TRAWL GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination (Comment)
23 =	Flounder 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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OBOTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

TRAWL GEAR CHARACTERISTICS LOG

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	___ OF ___

GEAR CODE	NET NAME	NET TYPE	NET BUILDER
☐☐☐			

GEAR NUMBER(S)

DOORS USED?

NO 0 ___
YES 1 ___

WEIGHT OF ONE DOOR

_____kg

CONSTRUCTION MATERIAL

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___
		_____	_____

LENGTH MEASUREMENTS

Headrope _____ft

Footrope/Sweep _____ft

Ground Cable _____fm

Bridle _____fm

FISHING CIRCLE

MESHES _____

MESH SIZE ___.____in

KITE PANEL

KITE USED?
NO 0 ___
YES 1 ___

Number _____
Width _____in
Length _____in

COMMENTS

GROUND GEAR

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	___	___	___
		_____	_____	_____

SWEEP GEAR

Number _____

Diameter _____ in

FLOATS

Number _____

Diameter _____ in

CODEND

HUNG

Unknown	0 ___
Diamond	1 ___
Square	2 ___
Square, Wrapped	3 ___
Combination	8 ___

TWINE TYPE

Single	1 ___
Double	2 ___
Single on Top/ Double on Bottom	3 ___
Other	9 ___

MESH SIZE

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

LINER USED?
NO 0 ___
YES 1 ___

MESH SIZE

_____ mm _____ mm

_____ mm _____ mm

STRENGTHENER USED?
NO 0 ___ YES 1 ___

CHAFING GEAR USED?
NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS

USED ?
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS

_____

TYPE

Unknown	0 ___
Wired	1 ___
Wireless	2 ___
Both	3 ___

BRAND

Unknown	0 ___
Furuno®	1 ___
Simrad®	2 ___
Northstar Tech	3 ___
Notus	4 ___
Marport	5 ___
Scanmar	6 ___
Combination	8 ___
Other	9 ___

_____

LOCATION

Unknown	0 ___
Headrope	1 ___
Wings	2 ___
Footrope	3 ___
Headrope & Footrope	4 ___
Door	5 ___
Codend	6 ___
Other Combo	8 ___
Other	9 ___

_____

OF RECEIVERS

_____

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 ___ YES 1 ___

Type Code _____

T.E.D. EXTENSION

Mesh Size _____ . _____ in

ESCAPE OUTLET

USED? NO 0 ___ YES 1 ___

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 _____

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TRAWL GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination (Comment)
23 =	Flounder 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-W**, 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 two digit code listed below, and in Appendix J. 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 legs, sweep, or headrope.
- 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, 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. 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 Q. 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

NOTE: The following 5 fields, BEGIN/END DATE (#11), BEGIN/END TIME (#12), CAPTAIN'S CATCH ESTIMATE (#13), CODEND (#14), FISH PRESENT (#15), and LOCATION OF CODEND (#16), 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).

13. CAPTAIN'S CATCH ESTIMATE: Record, in whole pounds, the Captain's catch estimate of the total catch prior to pumping the catch onboard. This value will aid in determining the time increments when obtaining a subsample.

14. CODEND?: Record whether the codend was visible at the completion of the pumping process by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

15. FISH PRESENT?: Record whether there were fish present in the net at the completion of the pumping process by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.
2 = Could Not See.

16. LOCATION OF CODEND: Record the location of the net when the remainder of the catch was emptied at the completion of the pumping process by placing an "X" next to the appropriate code:

1 = Off Stern.
2 = Side of Vessel.
3 = On Deck.

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: 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.

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NMFS FISHERIES OBSERVER PROGRAM

TRAWL HAUL LOG

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

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

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	NUMBER OF TURNS 5	TOW SPEED 6	WIRE OUT 7
BEGIN HAUL	/ 3 /	4 :	9960-	N	9960-			____ . ____ kn	fm
BEGIN FISHING	/ 9 /	:					WATER TEMP fahrenheit 8	TARGET SPECIES O	CODE P
END HAUL	/ /	:					____ . ____ o		
GEAR ONBOARD	/ 10 /	:	9960-		9960-				
FISH PUMPING									
BEGIN	/ 11 /	12 :							
END	/ /	:							

VERTICAL OPENING ** 17 ft

HORIZONTAL OPENING ** 18 ft

DOOR SPREAD ** 19

COMMENTS

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

CAPTAIN'S CATCH ESTIMATE (prior to pumping) _____13_____ lbs

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE CODEND? 14 _____ No (0) _____ Yes (1)

WERE THERE FISH PRESENT IN THE CODEND AT THE COMPLETION OF THE PUMPING PROCESS? 15 _____ No (0) _____ Yes (1) _____ Could Not See (2)

WHEN THE CODEND WAS EMPTIED WHERE WAS IT LOCATED? 16 _____ Off Stern (1) _____ Side of Vessel (2) _____ On Deck (3)

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

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TRAWL HAUL LOG

OBS/TRIP ID	D03006-
DATE LANDED mm/yy	01 / 07
PAGE #	1 of 2

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
0 5 0	0 1	0 2 3	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	01	5 kn	320 o	3	20 fm	010

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	01/16/07	13:07	9960-	35 38.3	9960-	75 17.3	1	__2__ . __7__ kn	75 fm
BEGIN FISHING	01/16/07	13:14					WATER TEMP fahrenheit	TARGET SPECIES	CODE
END HAUL	01/16/07	15:07					__54_ . _0__ o	Summer Flounder	
GEAR ONBOARD	01/16/07	15:14	9960-	35 34.2	9960-	75 19.9		VERTICAL OPENING **	
FISH PUMPING								7 ft	
BEGIN	_____	___:___	COMMENTS					HORIZONTAL OPENING **	
END	_____	___:___	**Catch was dumped, therefore no pumping information.**					38 ft	
CAPTAIN'S CATCH ESTIMATE (prior to pumping) _____ lbs			** Only fill in if gear mounted electronics are used.					DOOR SPREAD ** 80	

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE CODEND? _____ No (0) _____ Yes (1)

WERE THERE FISH PRESENT IN THE CODEND AT THE COMPLETION OF THE PUMPING PROCESS? _____ No (0) _____ Yes (1) _____ Could Not See (2)

WHEN THE CODEND WAS EMPTIED WHERE WAS IT LOCATED? _____ Off Stern (1) _____ Side of Vessel (2) _____ On Deck (3)

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

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TRAWL HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
			NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	o		fm	

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	/ /	:	9960-		9960-			____ . ____ kn	fm
BEGIN FISHING	/ /	:					WATER TEMP fahrenheit ____ . ____ o	TARGET SPECIES	CODE
END HAUL	/ /	:							
GEAR ONBOARD	/ /	:	9960-		9960-			VERTICAL OPENING ** ft	
FISH PUMPING									
BEGIN	/ /	:	COMMENTS					HORIZONTAL OPENING ** ft	
END	/ /	:						DOOR SPREAD **	
CAPTAIN'S CATCH ESTIMATE (prior to pumping) _____ lbs			** Only fill in if gear mounted electronics are used.						

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE CODEND? _____ No (0) _____ Yes (1)

WERE THERE FISH PRESENT IN THE CODEND AT THE COMPLETION OF THE PUMPING PROCESS? _____ No (0) _____ Yes (1) _____ Could Not See (2)

WHEN THE CODEND WAS EMPTIED WHERE WAS IT LOCATED? _____ Off Stern (1) _____ Side of Vessel (2) _____ On Deck (3)

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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 soley 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 collected for each codend. 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 selvedges 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.

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

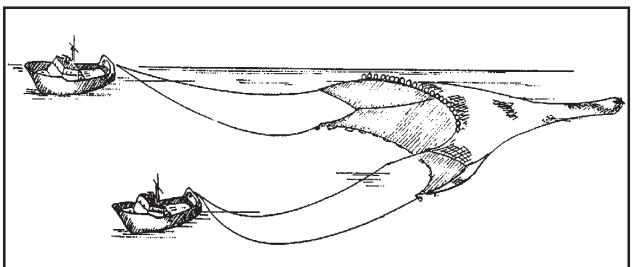

Figure 1. Small boats pair trawling in mid-water.

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.

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.

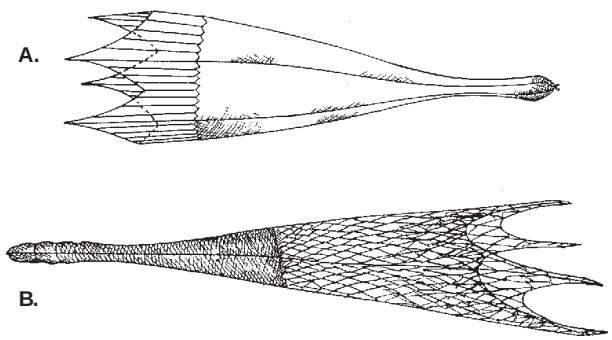

Figure 2. Four-seam mid-water trawls with forepart of (a) parallel ropes, or (b) large mesh size, to decrease water resistance.

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

0 = Unknown.
1 = 2 Seam.
2 = 4 Seam, Equal Panels.
3 = 4 Seam, Unequal Panels.
9 = Other, record the net construction design on line 8A.

NOTE: See Figure 3 for illustration of net

designs.

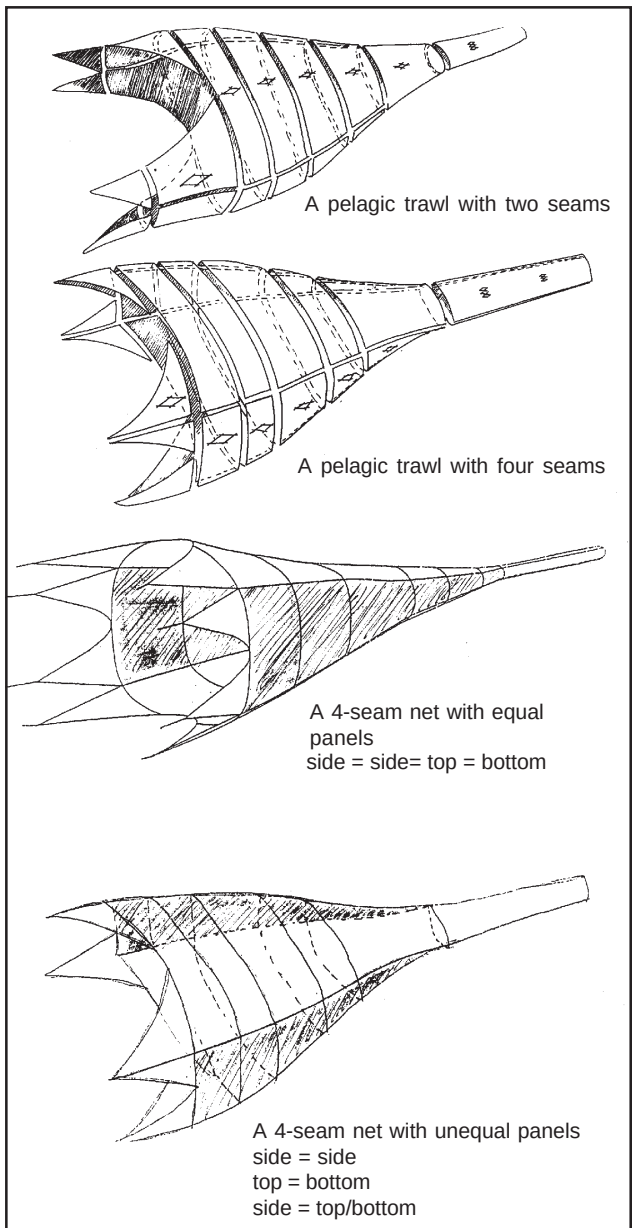

Figure 3. Illustrations of net designs.

9. MINIMUM MESH SIZE: Record, to the nearest tenth of an inch, the minimum inside mesh measurement in this net (not including the codend). This information may be obtained from the Captain.

10. MAXIMUM MESH SIZE: Record, to the nearest tenth of an inch, the maximum inside mesh measurement in this net (typically found in the forward section of the net). This information may be obtained from the Captain.

DOORS

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

0 = No.
1 = Yes.

12. WEIGHT: Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the Captain.

WEIGHTS

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

0 = No.
1 = Yes.

14. 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.

15. WEIGHT - ACTUAL OR ESTIMATED: Record whether the weight recorded in #14 is an actual or estimated weight by placing an "X" next to the appropriate code:

1 = Actual.
2 = Estimated.

CONSTRUCTION MATERIAL

16. TYPE: Record the type of construction material used in the body of the net (not including the codend) and the codend 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 16A.
99 = Other, record the construction material

type on line 16A.

BUOYANCY/RELEASE DEVICES

17. FLOATS USED?: Record whether floats are used on this gear by placing an “X” next to the appropriate code:

0 = No.
1 = Yes.

18. BLOWOUT USED?: Record whether a "blowout" section (see Figure 4) is used in this gear by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

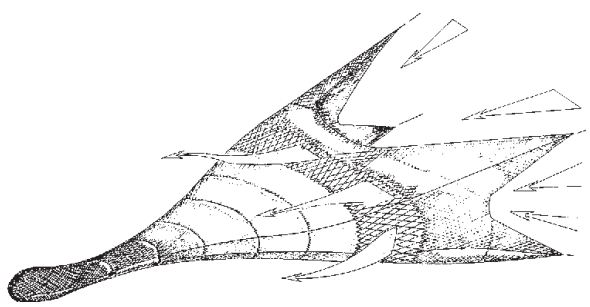

Figure 4. Blowout panel.

19. 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.

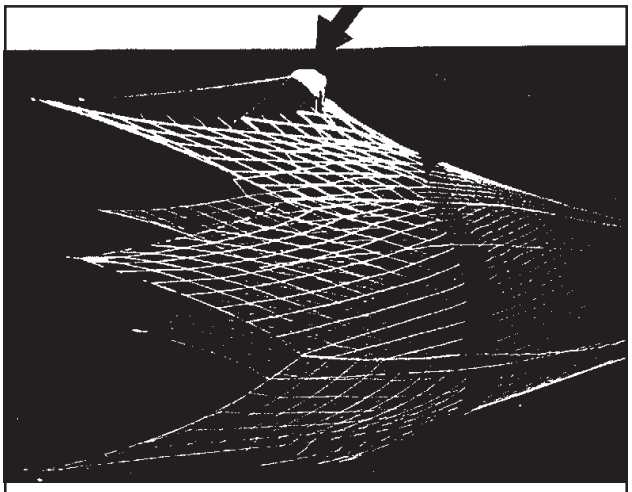

Figure 5. Kite attached to headrope of a pelagic trawl.

KITE PANEL

20. NUMBER: Record the **total** number of panels used in a kite in this net.

21. 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.

22. 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.

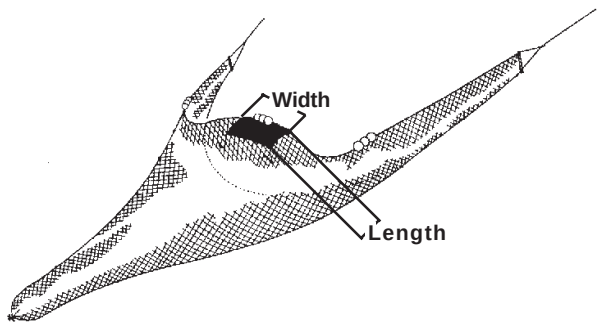

Figure 6. Kite panel measurements .

FLOATS

23. NUMBER: Record the total number of floats attached to the headrope.

24. SIZE: Record the diameter, in whole inches, of the majority of floats attached to the headrope.

LENGTH MEASUREMENTS

25. 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.

26. FOOTROPE/SWEEP: Record, in whole feet, the length of the rope along the bottom of the net. This information may be obtained from the Captain. See Figure 7.

NOTE: This measurement is the distance from the lower bridle on one side of the net to the lower bridle on the other side of the net.

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

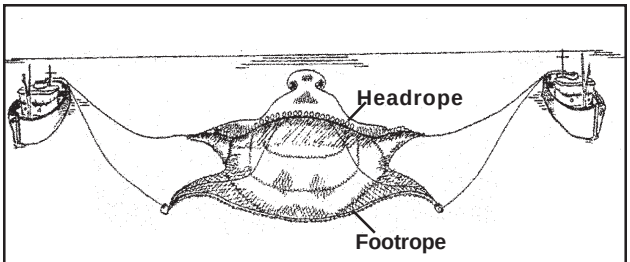

Figure 7. Four seam pelagic pair trawl showing headrope and footrope.

27. TOP BRIDLE: Record, in whole fathoms, the length of the top bridle. This information may be obtained from the Captain. See Figure 9.

28. WING BRIDLE: Record, in whole fathoms, the length of a wing bridle. This information may be obtained from the Captain. See Figure 9.

NOTE: The bridles may also be referred to as legs in some regions.

29. BOTTOM BRIDLE: Record, in whole fathoms, the length of a bottom bridle. This information may be obtained from the Captain. See Figure 9.

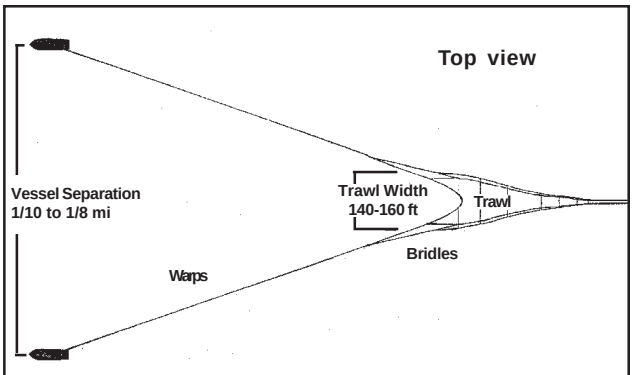

Figure 8. Typical tuna pair trawling configuration.

BRIDLES

30. 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.

31. 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.

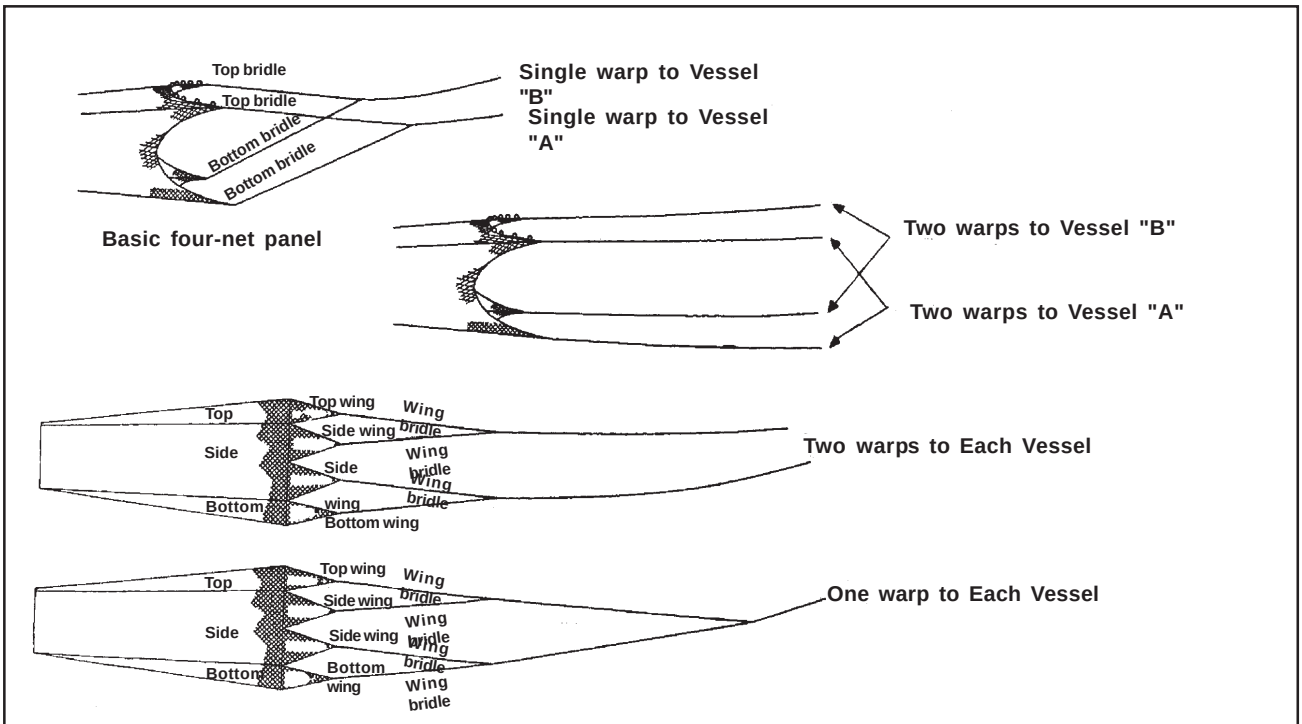

Figure 9. Pair trawl rigging designs showing bridles.

32. 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

33. 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.

34. 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.

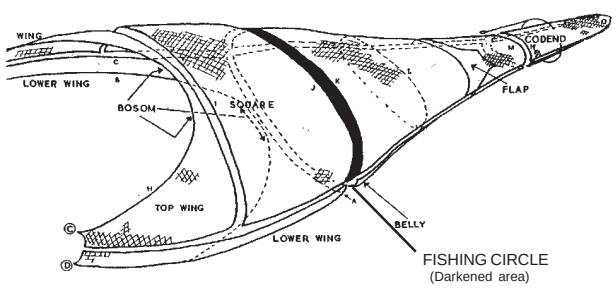

Figure 10. The sections of netting that make a trawl.

CODEND

35. HUNG: Record the hanging configuration of the codend 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 (#41).

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.

36. TWINE TYPE: Record whether the twine used in the codend is 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.

37. 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.

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 P. Vernier Caliper Instructions for further information.

38. LINER USED?: Record whether a liner is used in the net's codend by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

39. LINER MESH SIZE: Record, in whole millimeters, four randomly selected meshes from the liner in the codend. These measurements should be stretched insie 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: 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.

40. 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.

41. 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.

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" next to the appropriate code:

0 = Unknown.
1 = Headrope.
2 = Wings.
3 = Footrope.
4 = Headrope and Footrope.
5 = Door.
6 = Codend.
8 = Other Combination, record all transducer locations on line 46A.
9 = Other, record the transducer location on line 46A.

47. NUMBER OF RECEIVERS: Record the **total** number of receivers used on **both** vessels for the transducer(s).

EXCLUDER/SEPARATOR DEVICE

48. 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.

49. 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.
98 = Combination, record all excluder/separator device types in comments.
99 = Other, record the exluder/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.

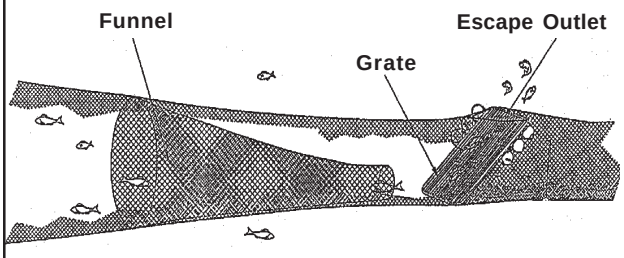

Figure 11. Funnel and Nordmore Grate with an escape outlet.

50. 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).

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 coments.

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.

OBPRG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

PAIR and SINGLE MID-WATER OTTER TRAWL GEAR CHARACTERISTICS LOG (Front)

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C ___ OF ___

GEAR CODE	GEAR NUMBER (S)	NET NAME	NET TYPE	NET BUILDER	YEAR NET MADE
D	1	2	3	4	5

GEAR FISHED 6
Unknown 0 ___
Pelagic 1 ___
Semi-Pelagic 2 ___
Bottom 3 ___
Other 9 ___

NET
CONSTRUCTION 7
Unknown 0 ___
Rope/Large Mesh 1 ___
Parallel Rope Trawl 2 ___
Other 9 ___
_____7A_____

DESIGN 8
Unknown 0 ___
2 Seam 1 ___
4 Seam, Equal Panels 2 ___
4 Seam, Unequal Panels 3 ___
Other 9 ___
_____ 8A_____

MESH SIZE
Minimum ___9__.____in
Maximum __10__.____in

DOORS 11
USED? NO 0 ___ YES 1 ___
WEIGHT _____12_____kg

WEIGHTS 13
USED? NO 0 ___ YES 1 ___
WEIGHT _____14_____lbs
15
Actual 1 ___
Estimated 2 ___

CONSTRUCTION MATERIAL 16

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

BUOYANCY/RELEASE DEVICES

USED?	NO	YES	
FLOATS	0 ___	1 ___	17
BLOWOUT	0 ___	1 ___	18
KITE	0 ___	1 ___	19

KITE PANEL
Number _____20_____
Length _____21_____in
Width _____22_____in

FLOATS
Number ___23_____
Diameter ___24_____

LENGTH MEASUREMENTS
Headrope ___25___ft
Footrope/Sweep ___26___ft
Top Bridle ___27___fm
Wing Bridle ___28___fm
Bottom Bridle ___29___fm

BRIDLES
NUMBER
BRIDLES/WARP __30___
BRIDLES/SIDE __31___
WARPS/BOAT * __32___

FISHING CIRCLE
MESHES ___33____
MESH SIZE ___34____in

COMMENTS

* Fill in only on pair trawl trips.

CODEND
HUNG 35
Unknown 0 ___
Diamond 1 ___
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE 36
Single 1 ___
Double 2 ___
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE 37
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm

LINER USED? 38
NO 0 ___
YES 1 ___

MESH SIZE 39
_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?
40 NO 0 ___ YES 1 ___

CHAFING GEAR USED?
41 NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS
USED ? 42
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS
__43___

TYPE 44
Unknown 0 ___
Wired 1 ___
Wireless 2 ___
Both 3 ___

BRAND 45
Unknown 0 ___
Furuno® 1 ___
Simrad® 2 ___
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___
_____45A_____

LOCATION 46
Unknown 0 ___
Headrope 1 ___
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 ___
Codend 6 ___
Other Combo 8 ___
Other 9 ___
_____46A_____

OF RECEIVERS
_____47_____

EXCLUDER/SEPARATOR DEVICE
USED? NO 0 ___ YES 1 ___ 48
Type Code ___49___
T.E.D. EXTENSION 50
Mesh Size _____ . _____ in

ESCAPE OUTLET
USED? NO 0 ___ YES 1 ___ 51
TYPE 52
Unknown 0 ___
Panel 1 ___
Opening 2 ___
Single Flap 3 ___
Double Flap 4 ___
Other 9 ___
_____52A_____
MESH SIZE ___53___in

LENGTH 54
MESHES _____ OR _____ in

WIDTH
MESHES _____ OR _____ in

SHAPE Type Code ___56___
LOCATION Type Code ___57___

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NMFS FISHERIES OBSERVER PROGRAM

PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG (Back)

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C OF

GEAR CODE	GEAR NUMBER (S)
D	1

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination (Comment)
23 =	Flounder 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

OBPRG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG (Front)

OBS/TRIP ID	C01052-
DATE LANDED mm/yy	10/05
PAGE #	1 OF 1

GEAR CODE	GEAR NUMBER (S)	NET NAME	NET TYPE	NET BUILDER	YEAR NET MADE
1 7 0	1	Semi-Pelagic Trawl	Four Seam Squid Trawl	Swan Net Gundry	2005

GEAR FISHED
Unknown 0 ___
Pelagic 1 _X_
Semi-Pelagic 2 ___
Bottom 3 ___
Other 9 ___

NET CONSTRUCTION
Unknown 0 ___
Rope/Large Mesh 1 _X_
Parallel Rope Trawl 2 ___
Other 9 ___

DESIGN
Unknown 0 ___
2 Seam 1 ___
4 Seam, Equal Panels 2 _X_
4 Seam, Unequal Panels 3 ___
Other 9 ___

MESH SIZE
Minimum ___1.5___in
Maximum _120.1____in

DOORS
USED? NO 0 _X_ YES 1 ___
WEIGHT _____kg

WEIGHTS
USED? NO 0 ___ YES 1 _X_
WEIGHT ___4000___lbs
Actual 1 ___
Estimated 2 _X_

CONSTRUCTION MATERIAL 16

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	_X_	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	_X_
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

BUOYANCY/RELEASE DEVICES

USED?	NO	YES
FLOATS	0 _X_	1 ___
BLOWOUT	0 _X_	1 ___
KITE	0 _X_	1 ___

KITE PANEL
Number _____
Length _____in
Width _____in
FLOATS
Number _____
Diameter _____

LENGTH MEASUREMENTS
Headrope __400___ft
Footrope/Sweep __400___ft
Top Bridle __15___fm
Wing Bridle __15___fm
Bottom Bridle __15___fm

BRIDLES

	NUMBER
BRIDLES/WARP	___2___
BRIDLES/SIDE	___2___
WARPS/BOAT *	___2___

FISHING CIRCLE
MESHES ___90___
MESH SIZE ___504___in

COMMENTS

* Fill in only on pair trawl trips.

CODEND
HUNG
Unknown 0 ___
Diamond 1 _X_
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE
Single 1 ___
Double 2 _X_
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE
__190__ mm __189__ mm
__170__ mm __194__ mm
__210__ mm __187__ mm
__193__ mm __192__ mm
__191__ mm __195__ mm

LINER USED?
NO 0 ___
YES 1 _X_

MESH SIZE
__57__ mm __56__ mm
__58__ mm __58__ mm

STRENGTHENER USED?
NO 0 ___ YES 1 _X_

CHAFING GEAR USED?
NO 0 ___ YES 1 _X_

GEAR MOUNTED ELECTRONICS
USED ?
NO 0 ___
YES 1 _X_

NUMBER OF TRANSDUCERS
___1___

TYPE
Unknown 0 ___
Wired 1 _X_
Wireless 2 ___
Both 3 ___

BRAND
Unknown 0 ___
Furuno® 1 ___
Simrad® 2 _X_
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___
_____

LOCATION
Unknown 0 ___
Headrope 1 _X_
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 ___
Codend 6 ___
Other Combo 8 ___
Other 9 ___
_____

OF RECEIVERS
_____1_____

EXCLUDER/SEPARATOR DEVICE
USED? NO 0 _X_ YES 1 ___
Type Code _____

T.E.D. EXTENSION
Mesh Size _____ . _____ in

ESCAPE OUTLET
USED? NO 0 _X_ YES 1 ___

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 _____

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NMFS FISHERIES OBSERVER PROGRAM

PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER (S)

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination (Comment)
23 =	Flounder 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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OBPRG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG (Front)

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

GEAR CODE	GEAR NUMBER (S)	NET NAME	NET TYPE	NET BUILDER	YEAR NET MADE

GEAR FISHED

Unknown 0 ___
Pelagic 1 ___
Semi-Pelagic 2 ___
Bottom 3 ___
Other 9 ___

_____

NET

CONSTRUCTION
Unknown 0 ___
Rope/Large Mesh 1 ___
Parallel Rope Trawl 2 ___
Other 9 ___

_____

DESIGN
Unknown 0 ___
2 Seam 1 ___
4 Seam, Equal Panels 2 ___
4 Seam, Unequal Panels 3 ___
Other 9 ___

_____

MESH SIZE
Minimum _____.____in
Maximum _____.____in

DOORS

USED? NO 0 ___ YES 1 ___

WEIGHT _____kg

WEIGHTS

USED? NO 0 ___ YES 1 ___

WEIGHT _____lbs

Actual 1 ___
Estimated 2 ___

CONSTRUCTION MATERIAL

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

_____ _____

BUOYANCY/RELEASE DEVICES

USED?	NO	YES
FLOATS	0 ___	1 ___
BLOWOUT	0 ___	1 ___
KITE	0 ___	1 ___

KITE PANEL
Number _____
Length _____in
Width _____in

FLOATS
Number _____

Diameter _____

LENGTH MEASUREMENTS

Headrope _____ft
Footrope/Sweep _____ft
Top Bridle _____fm
Wing Bridle _____fm
Bottom Bridle _____fm

BRIDLES

	NUMBER
BRIDLES/WARP	_____
BRIDLES/SIDE	_____
WARPS/BOAT *	_____

FISHING CIRCLE

MESHES _____
MESH SIZE _____in

COMMENTS

* Fill in only on pair trawl trips.

CODEND

HUNG
Unknown 0 ___
Diamond 1 ___
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE
Single 1 ___
Double 2 ___
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm

LINER USED?
NO 0 ___
YES 1 ___

MESH SIZE
_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?
NO 0 ___ YES 1 ___

CHAFING GEAR USED?
NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS

USED ?
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS
_____

TYPE
Unknown 0 ___
Wired 1 ___
Wireless 2 ___
Both 3 ___

BRAND
Unknown 0 ___
Furuno® 1 ___
Simrad® 2 ___
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___

_____

LOCATION
Unknown 0 ___
Headrope 1 ___
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 ___
Codend 6 ___
Other Combo 8 ___
Other 9 ___

_____

OF RECEIVERS
_____

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 ___ YES 1 ___

Type Code _____

T.E.D. EXTENSION

Mesh Size _____ . _____ in

ESCAPE OUTLET

USED? NO 0 ___ YES 1 ___

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 _____

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PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG (Back)

OBS/TRIP ID	
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GEAR CODE	GEAR NUMBER (S)

ADDITIONAL COMMENTS

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

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 dumped before coming onboard, the haul should be marked as unobserved and all visually observed discards should be noted in the species section 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 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-W**, 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 two digit code listed below, and in Appendix J. 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 legs, sweep, or headrope.
- 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, 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 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 Q. 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.

OPENING OF NET

NOTE: The following 3 fields, VERTICAL OPENING (#11), HORIZONTAL OPENING (#12), and DOOR SPREAD (#13), should only be filled out if Gear Mounted Electronics are used.

11. VERTICAL OPENING: Record, in whole feet, the average distance from the top of the mouth to the bottom of the mouth while the net is fishing. This information may be obtained from the Captain.

12. HORIZONTAL OPENING: Record, in whole feet, the average width of the mouth of the net, from wing tip to wing tip, while the net is fishing. This information may be obtained from the Captain.

13. 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.

14. 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.

15. 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.

FISH PUMPING

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

17. 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).

18. CAPTAIN'S CATCH ESTIMATE: Record, in whole pounds, the Captain's catch estimate of the total catch prior to pumping the catch onboard. This value will aid in determining the time increments when obtaining a subsample.

19. CODEND?: Record whether the codend was visible at the completion of the pumping process by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

20. FISH PRESENT?: Record whether there were fish present in the net at the completion of the pumping process by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.
2 = Could Not See.

21. LOCATION OF CODEND: Record the location of the net when the remainder of the catch was emptied at the completion of the pumping process by placing an "X" next to the appropriate code:

1 = Off Stern.
2 = Side of Vessel.
3 = On Deck.

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.

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PAIR and SINGLE MID-WATER TRAWL HAUL LOG

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

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

HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	/ 3 /	4 :	9960-	N	9960-	
BEGIN FISHING	/ 9 /	:				
END HAUL	/ /	:	9960-		9960-	
GEAR ONBOARD	/ 10 /	:				
FISH PUMPING						
BEGIN	/ 16 /	17 :				
END	/ /	:				

CAPTAIN'S CATCH ESTIMATE (prior to pumping)

18 _____ lbs

COMMENTS

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

NUMBER OF TURNS	5			
TOW SPEED	6	____ . ____ kn		
WIRE OUT	7	fm		
WATER TEMP fahrenheit	8	____ . ____ o		
TARGET SPECIES	O	CODE	P	
VERTICAL OPENING **	11	ft		
HORIZONTAL OPENING **	12	ft		
DOOR SPREAD **	13	ft		
DEPTH RANGE, HEADROPE	14	___ fm		
DISTANCE RANGE BETWEEN BOATS *	15	___ ft		

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE CODEND?	19	_____ No (0)	_____ Yes (1)		
WERE THERE FISH PRESENT IN THE CODEND AT THE COMPLETION OF THE PUMPING PROCESS?	20	_____ No (0)	_____ Yes (1)	_____ Could Not See (2)	
WHEN THE CODEND WAS EMPTIED WHERE WAS IT LOCATED?	21	_____ Off Stern (1)	_____ Side of Vessel (2)	_____ On Deck (3)	

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

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PAIR and SINGLE MID-WATER TRAWL HAUL LOG

OBS/TRIP ID	P68021-
DATE LANDED mm/yy	10/05
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GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
1 7 0	0 1	0 0 1	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	02	10 kn	225 o	2 ft	48 fm	010

HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	10/11/06	23:28	9960-	43 37.4	9960-	69 42.7	2	4.1 kn	210 fm
BEGIN FISHING	10/11/06	23:32							
END HAUL	10/12/06	05:04	9960-	43 34.6	9960-	69 43.2			
GEAR ONBOARD	10/12/06	---------							
FISH PUMPING									
BEGIN	10/12/06	07:45							
END	10/12/06	09:14							

WATER TEMP fahrenheit	TARGET SPECIES	CODE
55.2 o	Atlantic Herring	

VERTICAL OPENING **	HORIZONTAL OPENING **	DOOR SPREAD **
ft	ft	ft

DEPTH RANGE, HEADROPE: 22 — 28 fm

DISTANCE RANGE BETWEEN BOATS *: 200 — 300 ft

COMMENTS

Gear never came onboard after after haul was complete.

CAPTAIN'S CATCH ESTIMATE (prior to pumping): 300,000 lbs

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

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE CODEND? ____ No (0) __X__ Yes (1)

WERE THERE FISH PRESENT IN THE CODEND AT THE COMPLETION OF THE PUMPING PROCESS? ____ No (0) __X__ Yes (1) ____ Could Not See (2)

WHEN THE CODEND WAS EMPTIED WHERE WAS IT LOCATED? ____ Off Stern (1) __X__ Side of Vessel (2) ____ On Deck (3)

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Atlantic Herring		K	295,000	100	R	E							
Atlantic Herring		D	2,000	048	R	E							
Spiny Dogfish		D	150	001	R	E							
Haddock		D	100	025	R	E							
Atlantic Mackerel		K	2,750	100	R	E							

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PAIR and SINGLE MID-WATER TRAWL HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
			NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	o	ft	fm	

HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	/ /	:	9960-		9960-			___ . ___ kn	fm
BEGIN FISHING	/ /	:					WATER TEMP fahrenheit	TARGET SPECIES	CODE
END HAUL	/ /	:	9960-		9960-		___ . ___ o		
GEAR ONBOARD	/ /	:	COMMENTS				VERTICAL OPENING ** ft	DEPTH RANGE, HEADROPE	
FISH PUMPING									
BEGIN	/ /	:					HORIZONTAL OPENING ** ft	___ fm	
END	/ /	:						DISTANCE RANGE BETWEEN BOATS *	
CAPTAIN'S CATCH ESTIMATE (prior to pumping)							DOOR SPREAD ** ft	___ ft	

_____ lbs

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

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE CODEND? _____ No (0) _____ Yes (1)

WERE THERE FISH PRESENT IN THE CODEND AT THE COMPLETION OF THE PUMPING PROCESS? _____ No (0) _____ Yes (1) _____ Could Not See (2)

WHEN THE CODEND WAS EMPTIED WHERE WAS IT LOCATED? _____ Off Stern (1) _____ Side of Vessel (2) _____ On Deck (3)

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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 soley 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 only one of the two nets is deployed, this would be considered the configuration of a bottom otter trawl.

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 that are hauled during the trip, complete only one Twin Trawl Gear Characteristics Log, and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). 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.

Codend: Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvedges 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 Strengthener: 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.

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.

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.

2. NET LOCATION: Record the location where the net is deployed.

1 = Port.
2 = Starboard.
9 = Other.

DOORS

3. 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.

4. WEIGHT: Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the captain.

5. 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.

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

7. 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.

CONSTRUCTION MATERIAL

8. TYPE: Record the type of construction material used in the body of the net (excluding the codend) and the codend 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.

9. 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.

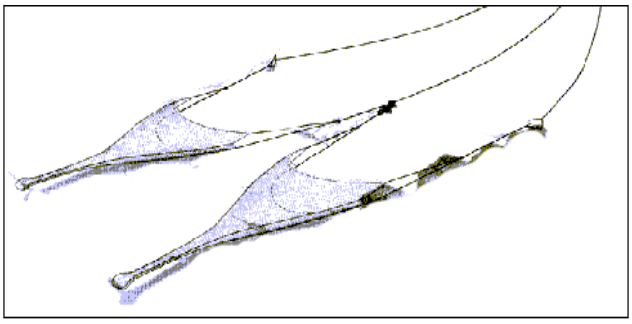

Figure 1. Example of nets connected.

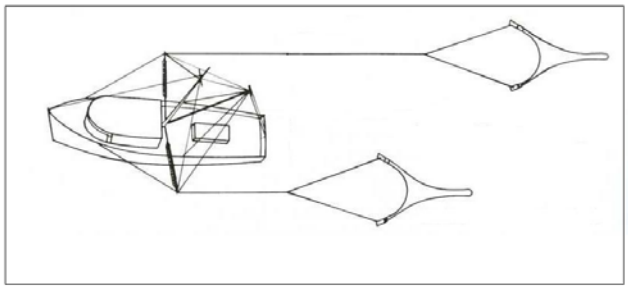

Figure 2. Example of nets not connected.
Photo courtesy of: Sainsbury, J. (1996). Commercial fishing methods. 3rd ed. Cambridge: Univeristy Press.

KITE PANEL

10. 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.

11. NUMBER: Record the **total** number of panels used in a kite in this net.

12. 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.

13. 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

14. 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.

15. 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.

16. 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.

17. 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.

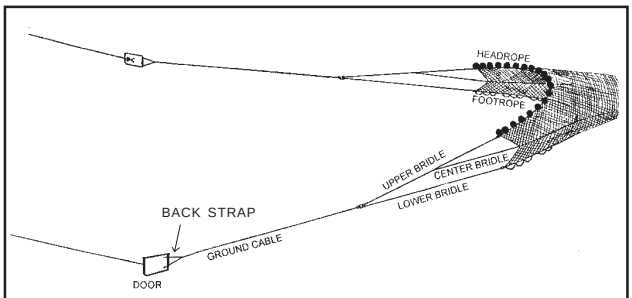

Figure 3. Doors, ground cable, bridles, footrope, and headrope.

FISHING CIRCLE

18. 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.

19. FISHING CIRCLE MESH SIZE: Record, to the nearest tenth of an inch, the largest mesh measurement (inside knot to knot) from the fishing circle. This information may be obtained from the Captain. See figure 4.

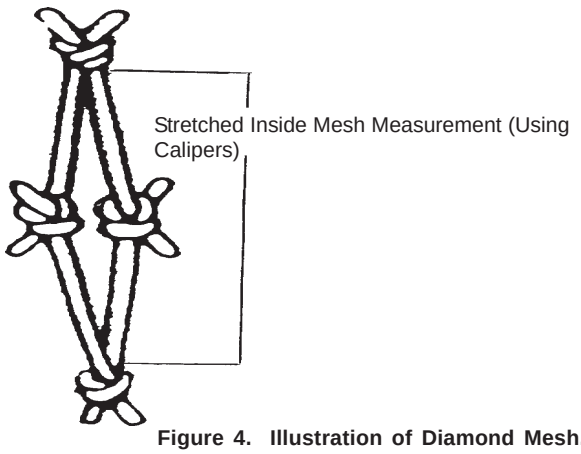

Figure 4. Illustration of Diamond Mesh.

GROUND GEAR

20. 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 20A.

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" (5) for SWEEP GROUND GEAR TYPE. See Figure 5.

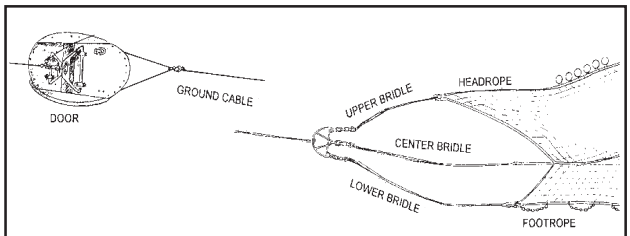

Figure 5. Doors, gound cable, bridles, headrope, and footrope.

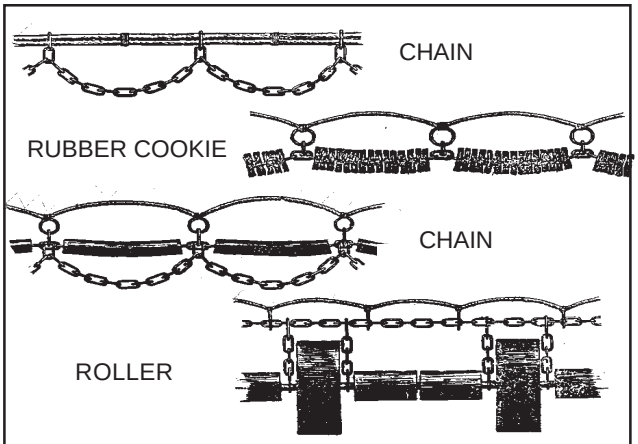

Figure 6. Types of sweeps.

SWEEP GEAR

21. 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.

22. 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

23. NUMBER: Record the total number of floats attached to the headrope.

24. SIZE: Record the diameter, in whole inches, of the majority of floats attached to the headrope.

CODEND

25. HUNG: Record the hanging configuration of the codend 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 (#31).

NOTE: See Figure 8 for the location of the codend.

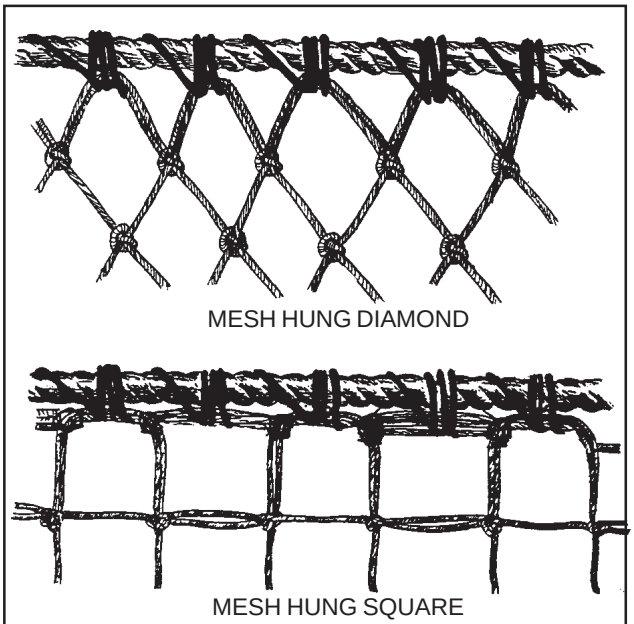

Figure 7. Mesh hanging patterns.

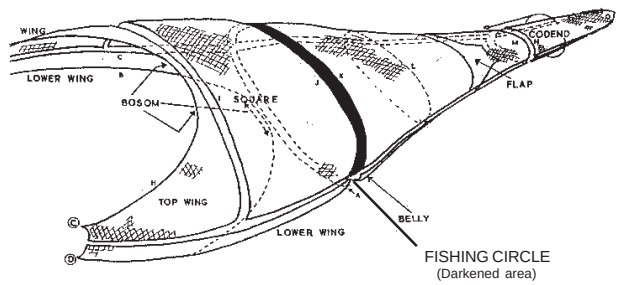

Figure 8. The sections of netting that make a trawl.

26. TWINE TYPE: Record whether the twine used in the codend is 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.

27. 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 P. 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.

28. 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 intro-

duction.

29. LINER MESH SIZE: Record, in whole millimeters, four 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 P. Vernier Caliper Instructions for further information.

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

30. 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.

31. CHAFING GEAR USED?: Record whether chaffing 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.

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 transducer ers used on this gear by placing an "X" next to the appropriate code (see Figures 3 and 8):

0 = Unknown.
1 = Headrope.
2 = Wings.
3 = Footrope.
4 = Headrope and Footrope.
5 = Door.
6 = Codend.
8 = Other Combination, record all transducer locations on line 36A.
9 = Other, record the transducer location on line 36A.

37. NUMBER OF RECEIVERS: Record the **total** number of receivers used on this vessel for the transducer(s).

EXCLUDER/SEPARATOR DEVICE

38. 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.

39. 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. (see Figure 9)
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.
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.

40. 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).

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 8):

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.

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 coments.

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.

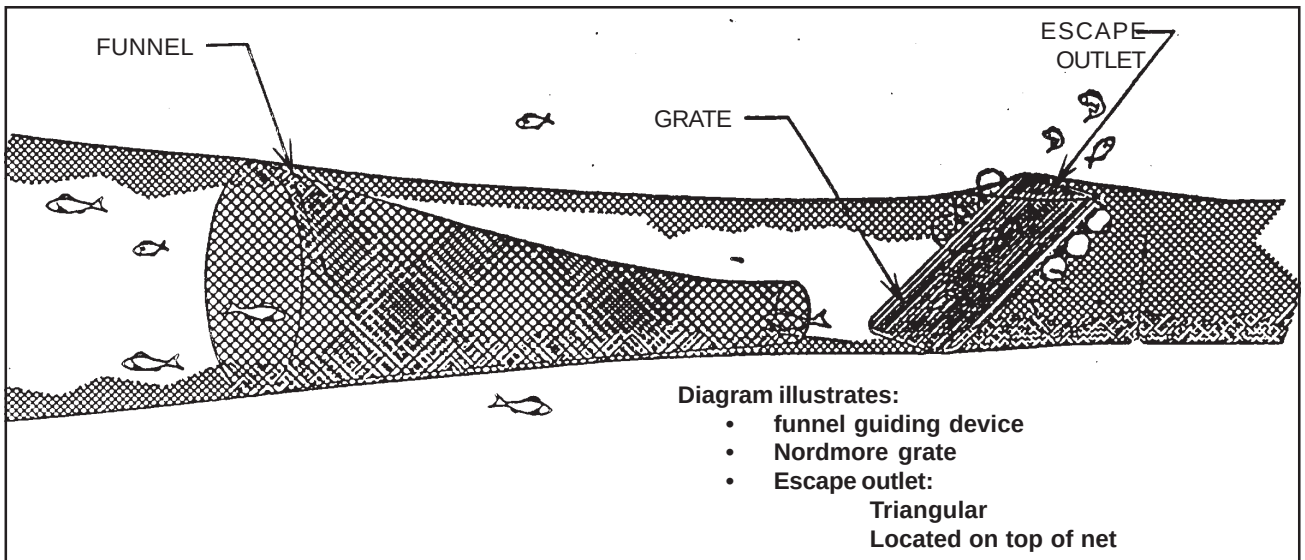

Figure 9. Funnel, Nordmore grate, and escape outlet.

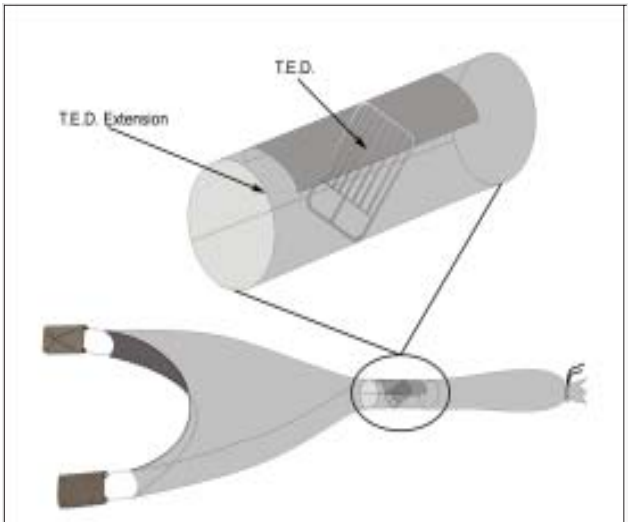

Figure 10. T.E.D. and T.E.D. Extension

OBTTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL GEAR CHARACTERISTICS LOG (Front)

GEAR CODE	OBS/TRIP ID	A
D	DATE LANDED mm/yy	B /
	PAGE #	C OF

GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER
1	5	6	7

NET LOCATION 2
Port 1___
Starboard 2___
Other 9___

DOORS USED?
NO 0 ___ 3
YES 1 ___

WEIGHT OF ONE DOOR
_____4_____kg

CONSTRUCTION MATERIAL 8

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

_____ 8A _____

LENGTH MEASUREMENTS

Headrope _____ft 14
Footrope/Sweep _____ft 15
Ground Cable _____fm 16
Bridle _____fm 17

NETS CONNECTED? 9 NO 0 ___ YES 1 ___

KITE PANEL
KITE USED? 10
NO 0 ___
YES 1 ___
Number _____11_____
Width _____12_____in
Length _____13_____in

FISHING CIRCLE

MESHES _____ 18
MESH SIZE ___.____in 19

COMMENTS

GROUND GEAR 20

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	___	___	___

_____ _____20A_____ _____

SWEEP GEAR
Number _____ 21
Diameter _____ in 22

FLOATS
Number _____ 23
Diameter _____ in 24

CODEND
HUNG 25
Unknown 0 ___
Diamond 1 ___
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE 26
Single 1 ___
Double 2 ___
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE 27
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm

LINER USED? 28
NO 0 ___
YES 1 ___

MESH SIZE 29
_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?
30 NO 0 ___ YES 1 ___

CHAFING GEAR USED?
31 NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS
USED ? 32
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS
__33__

TYPE 34
Unknown 0 ___
Wired 1 ___
Wireless 2 ___
Both 3 ___

BRAND 35
Unknown 0 ___
Furuno® 1 ___
Simrad® 2 ___
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___
_____35A_____

LOCATION 36
Unknown 0 ___
Headrope 1 ___
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 ___
Codend 6 ___
Other Combo 8 ___
Other 9 ___
_____36A_____

OF RECEIVERS
_____37_____

EXCLUDER/SEPARATOR DEVICE 38
USED? NO 0 ___ YES 1 ___

Type Code ___39___

T.E.D. EXTENSION 40

Mesh Size _____ . _____ in

ESCAPE OUTLET 41
USED? NO 0 ___ YES 1 ___

TYPE 42
Unknown 0 ___
Panel 1 ___
Opening 2 ___
Single Flap 3 ___
Double Flap 4 ___
Other 9 ___

_____42A_____

MESH SIZE __43____in

LENGTH
MESHES __44____ OR __45____in

WIDTH
MESHES __44____ OR __45____in

46
SHAPE Type Code _____

47
LOCATION Type Code _____

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NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL GEAR CHARACTERISTICS LOG (Back)

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C OF

GEAR CODE	GEAR NUMBER
D	1

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination
23 =	Flounder T.E.D.	99 =	Other

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

OBTTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL GEAR CHARACTERISTICS LOG (Front)

GEAR CODE	OBS/TRIP ID	
	DATE LANDED mm/yy	/
	PAGE #	___ OF ___

GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER
0 1	Bottom Trawl	2-Seam Shrimp Trawl	Shuman

NET LOCATION
Port 1_X_
Starboard 2___
Other 9___

DOORS USED?
NO 0 ___
YES 1 _X_

WEIGHT OF ONE DOOR
___270_____kg

CONSTRUCTION MATERIAL

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	_X_	_X_
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

_____ _____

LENGTH MEASUREMENTS
Headrope __100___ft
Footrope/Sweep __170___ft
Ground Cable __55___fm
Bridle __50___fm

FISHING CIRCLE
MESHES __600___
MESH SIZE __5.0__in

NETS CONNECTED? NO 0 ___ YES 1 _X_

KITE PANEL
KITE USED?
NO 0 ___
YES 1 _X_

Number _____3_____
Width _____39_____in
Length _____39_____in

COMMENTS

GROUND GEAR

TYPE		GROUND CABLE	BRIDLE/ LEG	SWEEP
Unknown	00	___	___	___
Chain	01	___	___	_X_
Cable / Wire	02	___	___	___
Wrapped Cable	03	___	___	___
Rock Hopper	04	___	___	_X_
Roller	05	___	___	___
Rubber Cookie	06	_X_	_X_	___
Bobbin	07	___	___	___
Plate Gear	08	___	___	___
None	98	___	___	___
Other	99	___	___	___

_____ _____ _____

SWEEP GEAR
Number __120_
Diameter __18__ in

FLOATS
Number __70__
Diameter __8___ in

CODEND

HUNG
Unknown 0 ___
Diamond 1_X_
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE
Single 1 ___
Double 2_X_
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE
__54__ mm __60__ mm
__62__ mm __61__ mm
__58__ mm __60__ mm
__57__ mm __57__ mm
__59__ mm __62__ mm

LINER USED?
NO 0_X_
YES 1 ___

MESH SIZE
_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?
NO 0 _X_ YES 1 ___

CHAFING GEAR USED?
NO 0 ___ YES 1 _X_

GEAR MOUNTED ELECTRONICS

USED ?
NO 0 ___
YES 1_X_

NUMBER OF TRANSDUCERS
__2____

TYPE
Unknown 0 ___
Wired 1 ___
Wireless 2 _X_
Both 3 ___

BRAND
Unknown 0 ___
Furuno® 1 ___
Simrad® 2 _X_
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___
_____

LOCATION
Unknown 0 ___
Headrope 1 ___
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 _X_
Codend 6 ___
Other Combo 8 ___
Other 9 ___
_____

OF RECEIVERS
___1_____

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 _X_ YES 1 ___

Type Code _____

T.E.D. EXTENSION

Mesh Size _____ . _____ in

ESCAPE OUTLET

USED? NO 0 _X_ YES 1 ___

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 _____

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NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination
23 =	Flounder T.E.D.	99 =	Other

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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OBTTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL GEAR CHARACTERISTICS LOG (Front)

GEAR CODE	OBS/TRIP ID	
	DATE LANDED mm/yy	/
	PAGE #	OF

GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER

NET LOCATION
Port 1___
Starboard 2___
Other 9___

DOORS USED?
NO 0 ___
YES 1 ___

WEIGHT OF ONE DOOR
_____kg

CONSTRUCTION MATERIAL

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

_____ _____

LENGTH MEASUREMENTS

Headrope _____ft

Footrope/Sweep _____ft

Ground Cable _____fm

Bridle _____fm

FISHING CIRCLE

MESHES _____

MESH SIZE ___.____in

NETS CONNECTED? NO 0 ___ YES 1 ___

KITE PANEL
KITE USED?
NO 0 ___
YES 1 ___

Number _____
Width _____in
Length _____in

COMMENTS

GROUND GEAR

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	___	___	___

_____ _____ _____

SWEEP GEAR
Number _____
Diameter _____ in

FLOATS
Number _____
Diameter _____ in

CODEND
HUNG
Unknown 0 ___
Diamond 1 ___
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE
Single 1 ___
Double 2 ___
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm

LINER USED?
NO 0 ___
YES 1 ___

MESH SIZE
_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?
NO 0 ___ YES 1 ___

CHAFING GEAR USED?
NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS
USED ?
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS
_____

TYPE
Unknown 0 ___
Wired 1 ___
Wireless 2 ___
Both 3 ___

BRAND
Unknown 0 ___
Furuno® 1 ___
Simrad® 2 ___
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___
_____

LOCATION
Unknown 0 ___
Headrope 1 ___
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 ___
Codend 6 ___
Other Combo 8 ___
Other 9 ___
_____

OF RECEIVERS
_____

EXCLUDER/SEPARATOR DEVICE
USED? NO 0 ___ YES 1 ___

Type Code _____

T.E.D. EXTENSION
Mesh Size _____ . _____ in

ESCAPE OUTLET
USED? NO 0 ___ YES 1 ___

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 _____

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NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination
23 =	Flounder T.E.D.	99 =	Other

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-W**, 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 two digit code listed below, and in Appendix J. 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 legs, sweep, or headrope.
- 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, 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. 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 Q. 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 the side of the net to the door on 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.

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NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL HAUL LOG

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

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

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	3 / /	4 :	9960-	N	9960-		5	6 ____ . ____ kn	7 fm
BEGIN FISHING	10 / /	:					WATER TEMP fahrenheit 8 o ____ . ____	TARGET SPECIES O	CODE P
END HAUL	/ /	:	9960-		9960-			NET OBSERVED 9	Port 1 ___ Starboard 2 ___ Both 3 ___
GEAR ONBOARD	11 / /	:	COMMENTS						

VERTICAL OPENING ** 12 ft

HORIZONTAL OPENING ** 13 ft

DOOR SPREAD ** 14 ft

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W

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

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL HAUL LOG

OBS/TRIP ID	D03006-
DATE LANDED mm/yy	01 / 01
PAGE #	1 of 2

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
0 5 3	0 1	0 0 7	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	02	15 kn	320 o	4 ft	35 fm	010

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	NUMBER OF TURNS	TOW SPEED	WIRE OUT
BEGIN HAUL	03 / 08 / 06	21 : 52	9960-	40 00.3	9960-	71 18.2	0	2 . 7 kn	120 fm
BEGIN FISHING	03 / 08 / 06	22 : 01							
END HAUL	03 / 09 / 06	01 : 16	9960-	40 12.1	9960-	71 16.5			
GEAR ONBOARD	03 / 09 / 06	01 : 32	COMMENTS						

WATER TEMP fahrenheit	TARGET SPECIES	CODE
__43__._ 0__ o	Atlantic Longfin Squid	

NET OBSERVED		
	Port	1 ___
	Starboard	2 ___
	Both	3 _X_

VERTICAL OPENING **	HORIZONTAL OPENING **	DOOR SPREAD **
8 ft	40 ft	85 ft

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

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Atl. Longfin Squid		K	720	100	R	E
Silver Hake		K	455	100	R	E
Monkfish		K	82	100	R	A
Spiny Dogfish		D	55	001	R	E
Barndoor Skate		D	22	001	R	A
Redfish, nk		K	3	100	R	A
Seastar Starfish, nk		D	2	001	R	E
Conch, nk		D	5	001	R	E
Jonah Crab		D	8	001	R	E

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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NMFS FISHERIES OBSERVER PROGRAM

TWIN TRAWL HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
			NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	o	ft	fm	

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	/ /	:	9960-		9960-	
BEGIN FISHING	/ /	:				
END HAUL	/ /	:	9960-		9960-	
GEAR ONBOARD	/ /	:	COMMENTS			

NUMBER OF TURNS	TOW SPEED	WIRE OUT
	_____ . _____ kn	fm

WATER TEMP fahrenheit	TARGET SPECIES	CODE
o _____ . _____		

NET OBSERVED		
	Port	1 ___
	Starbord	2 ___
	Both	3 ___

VERTICAL OPENING **	HORIZONTAL OPENING **	DOOR SPREAD **
ft	ft	ft

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

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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 soley 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 ScallopTrawl 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 that are hauled during the trip, complete only one Scallop Trawl Gear Characteristics Log, and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). 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.

Codend: Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvedges 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 Strengthener: 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.

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.

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.

2. NET LOCATION: Record the location where the net is deployed.

1 = Port.
2 = Starboard.
4 = Aft.
9 = Other.

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

DOORS

3. 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.

4. WEIGHT: Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the captain.

5. 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.

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

7. 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.

CONSTRUCTION MATERIAL

8. TYPE: Record the type of construction material used in the body of the net (excluding the codend) and the codend 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.

9. 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.

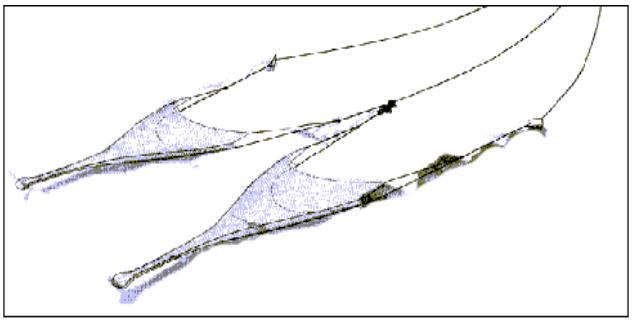

Figure 1. Example of nets connected.

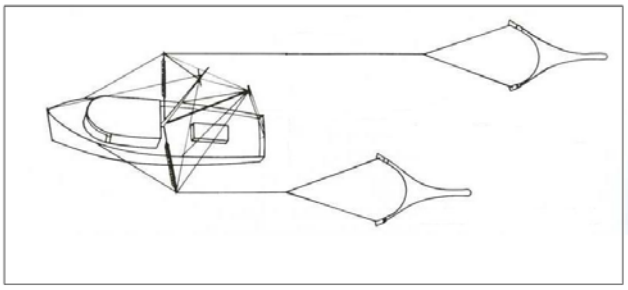

Figure 2. Example of nets not connected.
Photo courtesy of: Sainsbury, J. (1996). Commercial fishing methods. 3rd ed. Cambridge: Univeristy Press.

KITE PANEL

10. 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.

11. NUMBER: Record the **total** number of panels used in a kite in this net.

12. 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.

13. 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

14. 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.

15. 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.

16. 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.

17. 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.

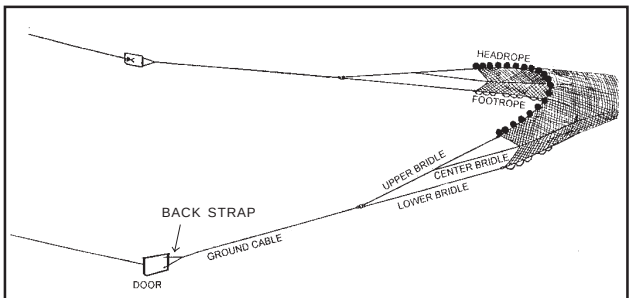

Figure 3. Doors, ground cable, bridles, footrope, and headrope.

FISHING CIRCLE

18. 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.

19. FISHING CIRCLE MESH SIZE: Record, to the nearest tenth of an inch, the largest mesh measurement (inside knot to knot) from the fishing circle. This information may be obtained from the Captain. See figure 4.

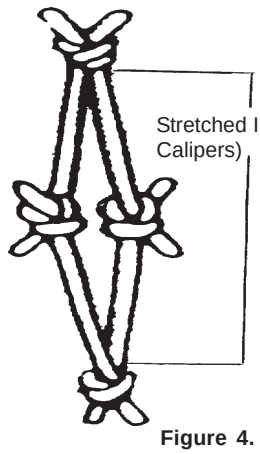

Figure 4. Illustration of Diamond Mesh.

GROUND GEAR

20. 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 20A.

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" (5) for SWEEP GROUND GEAR TYPE. See Figure 5.

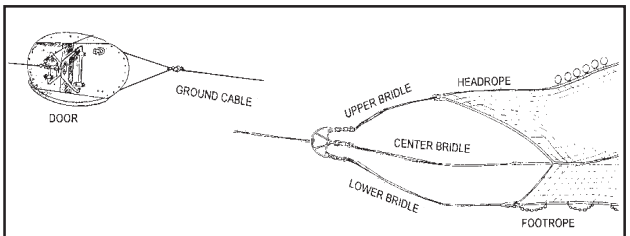

Figure 5. Doors, gound cable, bridles, headrope, and footrope.

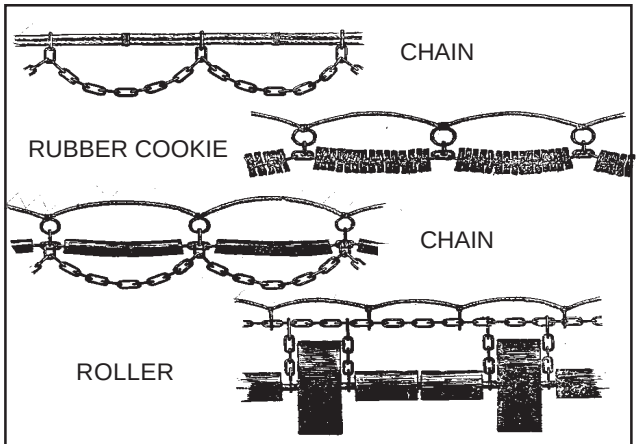

Figure 6. Types of sweeps.

SWEEP GEAR

21. 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.

22. 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

23. NUMBER: Record the total number of floats attached to the headrope.

24. SIZE: Record the diameter, in whole inches, of the majority of floats attached to the headrope.

CODEND

25. HUNG: Record the hanging configuration of the codend 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 (#31).

NOTE: See Figure 8 for the location of the codend.

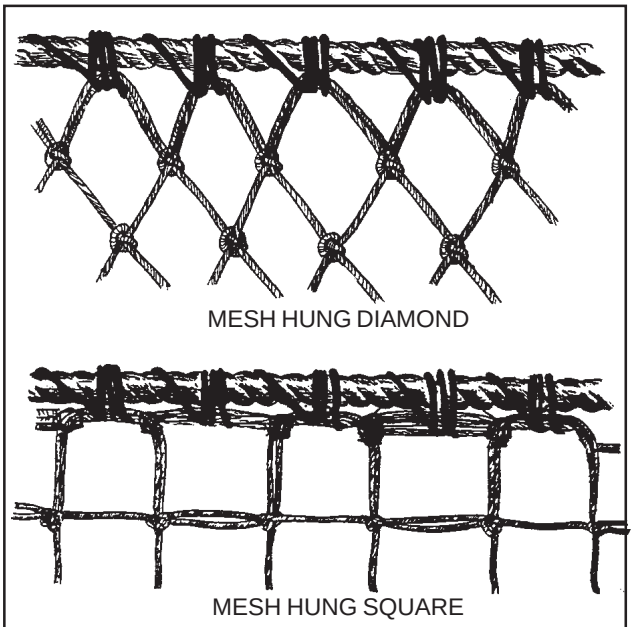

Figure 7. Mesh hanging patterns.

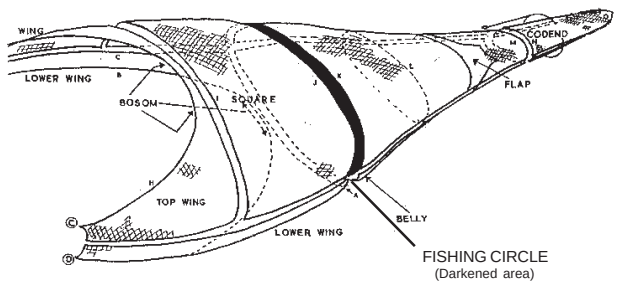

Figure 8. The sections of netting that make a trawl.

26. TWINE TYPE: Record whether the twine used in the codend is 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.

27. 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 P. 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.

28. 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 intro-

duction.

29. LINER MESH SIZE: Record, in whole millimeters, four 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 P. Vernier Caliper Instructions for further information.

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

30. 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.

31. CHAFING GEAR USED?: Record whether chaffing 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.

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 transducer ers used on this gear by placing an "X" next to the appropriate code (see Figures 3 and 8):

0 = Unknown.
1 = Headrope.
2 = Wings.
3 = Footrope.
4 = Headrope and Footrope.
5 = Door.
6 = Codend.
8 = Other Combination, record all transducer locations on line 36A.
9 = Other, record the transducer location on line 36A.

37. NUMBER OF RECEIVERS: Record the **total** number of receivers used on this vessel for the transducer(s).

EXCLUDER/SEPARATOR DEVICE

38. 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.

39. 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. (see Figure 9)
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.
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.

40. 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).

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 8):

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.

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 coments.

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.

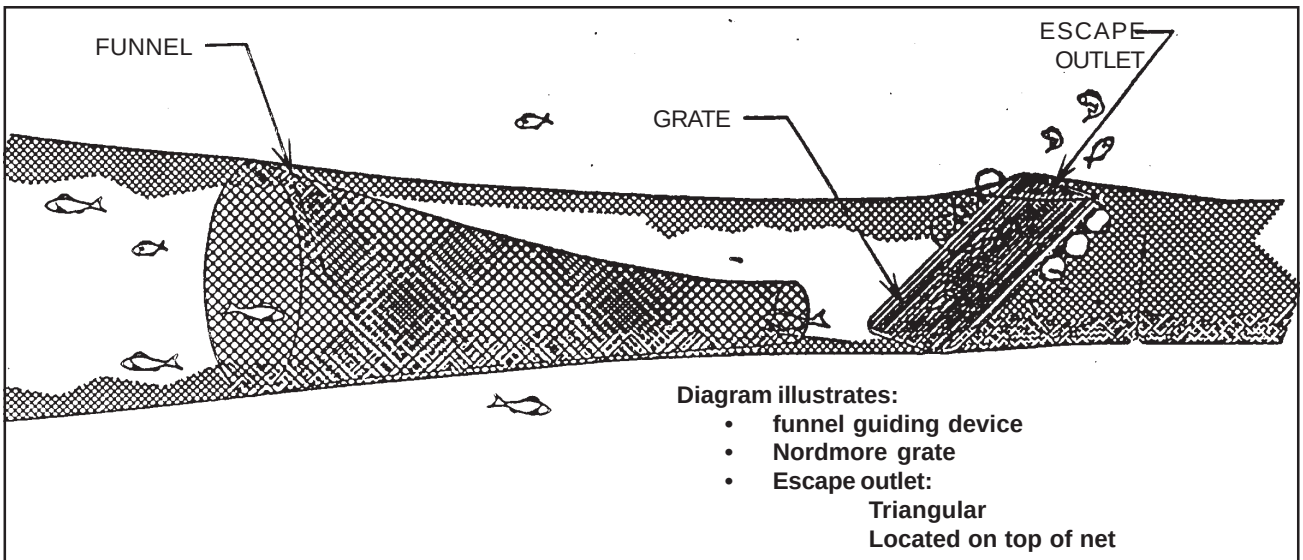

Figure 9. Funnel, Nordmore grate, and escape outlet.

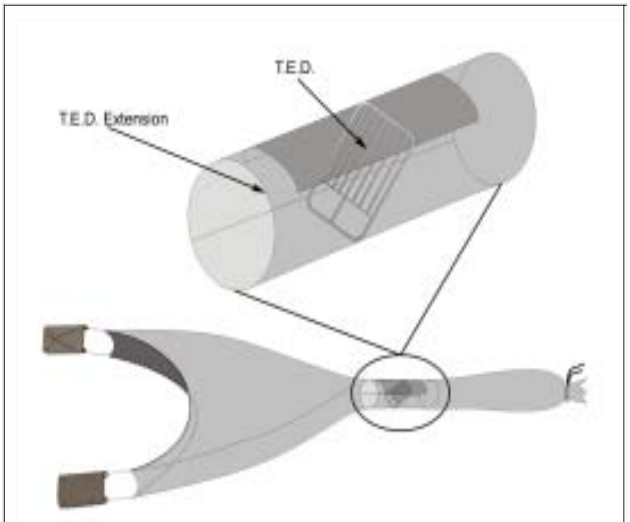

Figure 10. T.E.D. and T.E.D. Extension

OBSTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL GEAR CHARACTERISTICS LOG (Front)

GEAR CODE	OBS/TRIP ID	A
___ D	DATE LANDED mm/yy	B /
	PAGE #	C OF ___

GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER
___ 1	5	6	7

NET LOCATION 2
Port 1___
Starboard 2___
Aft 3___
Other 9___

DOORS USED? 3
NO 0 ___
YES 1 ___

WEIGHT OF ONE DOOR
___4___kg

CONSTRUCTION MATERIAL 8

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

___ 8A ___

LENGTH MEASUREMENTS
Headrope _____ft 14
Footrope/Sweep _____ft 15
Ground Cable _____fm 16
Bridle _____fm 17

NETS CONNECTED? 9 NO 0 ___ YES 1 ___

KITE PANEL
KITE USED? 10
NO 0 ___
YES 1 ___
Number ___11___
Width ___12___in
Length ___13___in

FISHING CIRCLE
MESHES _____ 18
MESH SIZE ___.___in 19

COMMENTS

GROUND GEAR 20

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	___	___	___

_____ ___20A___ _____

SWEEP GEAR
Number _____ 21
Diameter _____ in 22

FLOATS
Number _____ 23
Diameter _____ in 24

CODEND
HUNG 25
Unknown 0 ___
Diamond 1 ___
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE 26
Single 1 ___
Double 2 ___
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE 27
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm

LINER USED? 28
NO 0 ___
YES 1 ___

MESH SIZE 29
_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?
30 NO 0 ___ YES 1 ___

CHAFING GEAR USED?
31 NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS
USED ? 32
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS
__33__

TYPE 34
Unknown 0 ___
Wired 1 ___
Wireless 2 ___
Both 3 ___

BRAND 35
Unknown 0 ___
Furuno® 1 ___
Simrad® 2 ___
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___
___35A___

LOCATION 36
Unknown 0 ___
Headrope 1 ___
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 ___
Codend 6 ___
Other Combo 8 ___
Other 9 ___
___36A___

OF RECEIVERS
___37___

EXCLUDER/SEPARATOR DEVICE 38
USED? NO 0 ___ YES 1 ___

Type Code ___39___

T.E.D. EXTENSION 40
Mesh Size _____ . _____ in

ESCAPE OUTLET 41
USED? NO 0 ___ YES 1 ___

TYPE 42
Unknown 0 ___
Panel 1 ___
Opening 2 ___
Single Flap 3 ___
Double Flap 4 ___
Other 9 ___

_____42A_____

MESH SIZE __43___in

LENGTH
MESHES __44___ OR __45___in

WIDTH
MESHES __44___ OR __45___in

46
SHAPE Type Code _____

47
LOCATION Type Code _____

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL GEAR CHARACTERISTICS LOG (Back)

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C OF

GEAR CODE	GEAR NUMBER
D	1

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination
23 =	Flounder T.E.D.	99 =	Other

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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OBSTG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL GEAR CHARACTERISTICS LOG (Front)

GEAR CODE	OBS/TRIP ID	
	DATE LANDED mm/yy	/
	PAGE #	OF

GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER
0 1	Bottom Trawl	4-Seam Scallop Trawl	Superior Trawl

NET LOCATION

Port 1_X_
Starboard 2___
Aft 3___
Other 9___

DOORS USED?

NO 0 ___
YES 1 _X_

WEIGHT OF ONE DOOR ___270_____kg

CONSTRUCTION MATERIAL

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	_X_	_X_
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

NETS CONNECTED? NO 0 ___ YES 1 _X_

KITE PANEL

KITE USED?
NO 0 ___
YES 1 _X_

Number _____3_____
Width _____39_____in
Length _____39_____in

FISHING CIRCLE

MESHES __60___
MESH SIZE __5.5___in

COMMENTS

GROUND GEAR

TYPE		GROUND CABLE	BRIDLE/ LEG	SWEEP
Unknown	00	___	___	___
Chain	01	___	___	_X_
Cable / Wire	02	_X_	_X_	___
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

CODEND

HUNG

Unknown 0 ___
Diamond 1_X_
Square 2 ___
Square, Wrapped 3 ___
Combination 8 ___

TWINE TYPE

Single 1 ___
Double 2_X_
Single on Top/ Double on Bottom 3 ___
Other 9 ___

MESH SIZE

__141__ mm __143__ mm
__145__ mm __147__ mm
__145__ mm __142__ mm
__143__ mm __150__ mm
__146__ mm __149__ mm

LINER USED?

NO 0_X_
YES 1 ___

MESH SIZE

_____ mm _____ mm
_____ mm _____ mm

STRENGTHENER USED?

NO 0 _X_ YES 1 ___

CHAFING GEAR USED?

NO 0 _X_ YES 1 ___

GEAR MOUNTED ELECTRONICS

USED ?
NO 0_X_
YES 1 ___

NUMBER OF TRANSDUCERS

_____

TYPE

Unknown 0 ___
Wired 1 ___
Wireless 2 ___
Both 3 ___

BRAND

Unknown 0 ___
Furuno® 1 ___
Simrad® 2 ___
Northstar Tech 3 ___
Notus 4 ___
Marport 5 ___
Scanmar 6 ___
Combination 8 ___
Other 9 ___

_____

LOCATION

Unknown 0 ___
Headrope 1 ___
Wings 2 ___
Footrope 3 ___
Headrope & Footrope 4 ___
Door 5 ___
Codend 6 ___
Other Combo 8 ___
Other 9 ___

_____

OF RECEIVERS

_____

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 _X_ YES 1 ___

Type Code _____

T.E.D. EXTENSION

Mesh Size _____ . _____ in

ESCAPE OUTLET

USED? NO 0 _X_ YES 1 ___

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 _____

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:

00 =	Unknown	24 =	Bent Rod T.E.D.
01 =	Nordmore Grate	25 =	Conch T.E.D.
03 =	Separator Panel	26 =	Flat Bottom T.E.D.
04 =	Guiding Device	27 =	Whelk T.E.D.
05 =	Raised Footrope	28 =	Flexible T.E.D.
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.
21 =	Standard T.E.D.	30 =	Experimental T.E.D.
22 =	Weedless T.E.D.	98 =	Combination
23 =	Flounder T.E.D.	99 =	Other

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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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL GEAR CHARACTERISTICS LOG (Front)

GEAR CODE	OBS/TRIP ID	
	DATE LANDED mm/yy	/
	PAGE #	OF

GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER

NET LOCATION

Port 1___
Starboard 2___
Aft 3___
Other 9___

DOORS USED?

NO 0 ___
YES 1 ___

WEIGHT OF ONE DOOR

_____kg

CONSTRUCTION MATERIAL

TYPE		NET BODY	CODEND
Unknown	00	___	___
Nylon	01	___	___
Poly	02	___	___
Kevlar®	03	___	___
Spectra®	04	___	___
Tenex®	05	___	___
Nomex®	06	___	___
Combination	98	___	___
Other	99	___	___

_____ _____

LENGTH MEASUREMENTS

Headrope _____ft

Footrope/Sweep _____ft

Ground Cable _____fm

Bridle _____fm

NETS CONNECTED? NO 0 ___ YES 1 ___

KITE PANEL

KITE USED?
NO 0 ___
YES 1 ___

Number _____
Width _____in
Length _____in

FISHING CIRCLE

MESHES _____

MESH SIZE ___.____in

COMMENTS

GROUND GEAR

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	___	___	___

_____ _____ _____

SWEEP GEAR

Number _____

Diameter _____ in

FLOATS

Number _____

Diameter _____ in

CODEND

HUNG

Unknown	0 ___
Diamond	1 ___
Square	2 ___
Square, Wrapped	3 ___
Combination	8 ___

TWINE TYPE

Single	1 ___
Double	2 ___
Single on Top/ Double on Bottom	3 ___
Other	9 ___

MESH SIZE

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

LINER USED?

NO 0 ___
YES 1 ___

MESH SIZE

_____ mm _____ mm

_____ mm _____ mm

STRENGTHENER USED?

NO 0 ___ YES 1 ___

CHAFING GEAR USED?

NO 0 ___ YES 1 ___

GEAR MOUNTED ELECTRONICS

USED ?
NO 0 ___
YES 1 ___

NUMBER OF TRANSDUCERS

_____

TYPE

Unknown	0 ___
Wired	1 ___
Wireless	2 ___
Both	3 ___

BRAND

Unknown	0 ___
Furuno®	1 ___
Simrad®	2 ___
Northstar Tech	3 ___
Notus	4 ___
Marport	5 ___
Scanmar	6 ___
Combination	8 ___
Other	9 ___

_____

LOCATION

Unknown	0 ___
Headrope	1 ___
Wings	2 ___
Footrope	3 ___
Headrope & Footrope	4 ___
Door	5 ___
Codend	6 ___
Other Combo	8 ___
Other	9 ___

_____

OF RECEIVERS

_____

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 ___ YES 1 ___

Type Code _____

T.E.D. EXTENSION

Mesh Size _____ . _____ in

ESCAPE OUTLET

USED? NO 0 ___ YES 1 ___

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 _____

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER

ADDITIONAL COMMENTS

EXCLUDER/SEPARATOR DEVICE TYPE CODES:				ESCAPE OUTLET SHAPE CODES:		ESCAPE OUTLET LOCATION CODES:	
00 =	Unknown	24 =	Bent Rod T.E.D.	00 =	Unknown	0 =	Unknown
01 =	Nordmore Grate	25 =	Conch T.E.D.	01 =	Rectangular	1 =	Net Top
03 =	Separator Panel	26 =	Flat Bottom T.E.D.	05 =	Trapezoid	2 =	Net Bottom
04 =	Guiding Device	27 =	Whelk T.E.D.	06 =	Square	3 =	Net Side
05 =	Raised Footrope	28 =	Flexible T.E.D.	07 =	Diamond	4 =	Codend Top
20 =	T.E.D., Unknown	29 =	Parker Soft T.E.D.	08 =	Triangular	5 =	Codend Bottom
21 =	Standard T.E.D.	30 =	Experimental T.E.D.	09 =	Semi-Circle	8 =	Combination (Comment)
22 =	Weedless T.E.D.	98 =	Combination	11 =	Horizontal Cut	9 =	Other (Comment)
23 =	Flounder T.E.D.	99 =	Other	99 =	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 - W**, 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 two digit code listed below, and in Appendix J. 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 legs, sweep, or headrope.
- 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, 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, *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.*, 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.

15. 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.

16. 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).

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:
<u>If one set of doors are used</u>: Record, in whole feet, the average distance from the door on the side of the net to the door on side of the net while the net is fishing. This information may be obtained from the Captain.
<u>If two sets of doors are used:</u> 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.

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
052	1	E	F NO 0 ___ YES 1 ___	G NO 0 ___ YES 1 ___	H NO 0 ___ YES 1 ___	I	J kn	K °	L ft	M fm	2

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	3 / /	4 :	9960-	N	9960-	
BEGIN FISHING	8 / /	:				
END HAUL	/ /	:	9960-	N	9960-	
GEAR ONBOARD	9 / /	:				

NET OBSERVED 5
Port 1 ___
Starboard 2 ___
Both 3 ___
Aft 4 ___

TOW SPEED 6 . kn

WIRE OUT 7 fm

TARGET SPECIES SEA SCALLOPS CODE 8009

COMMENTS

SEA SCALLOP BUSHELS (optional)
KEPT DISCARDED
OF BUSHELS ____.___10 ____.___11
AVG LB / BUSHEL ____.___12 ____.___13

NUMBER OF TURNS ____14_____

SEA SCALLOP CLAPPERS OBS? 1 NO 0 ___ YES 1 ___

WATER TEMP fahrenheit 15 ____ . ____ °

VERTICAL OPENING 17 ft **
HORIZONTAL OPENING 18 ft **
DOOR SPREAD 19 ft **

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

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Scallops, Sea		K		100									
Q	R	S	T	U	V	W							

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL HAUL LOG

OBS/TRIP ID	C97013-
DATE LANDED mm/yy	06 / 06
PAGE #	1 of 2

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
052	0 1	0 2 1	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	01	10 kn	90 °	2 ft	35 fm	010

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	06/12/06	12 : 25	9960-	35 38.3	9960-	75 17.3
BEGIN FISHING	06/12/06	12 : 29				
END HAUL	06/12/06	13 : 21	9960-	35 34.2	9960-	75 19.9
GEAR ONBOARD	06/12/06	13 : 38				

NET OBSERVED: Port 1 ___ Starboard 2 ___ Both 3 _X_ Aft 4 ___

TOW SPEED: 3.1 kn

WIRE OUT: 75 fm

TARGET SPECIES: SEA SCALLOPS CODE: 8009

COMMENTS

SEA SCALLOP BUSHELS (optional)

	KEPT	DISCARDED
# OF BUSHELS	8.25	2.75
AVG LB / BUSHEL	61.0	65.0

NUMBER OF TURNS: 1

SEA SCALLOP CLAPPERS OBS? NO 0 ___ YES 1 _X_

WATER TEMP fahrenheit: 60 . 0 °

VERTICAL OPENING	HORIZONTAL OPENING	DOOR SPREAD
6 ft **	12 ft **	15 ft **

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

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Scallops, Sea		K	486	100	R	E							
Scallops, Sea		D	16	002	R	E							
Monkfish (tails)		K	26	100	D	A							
Yellowtail Fl.		K	13	100	R	A							
Sand Dollar		D	70	001	R	E							
Clappers, Scallop		D	10	054	R	E							
Little Skate		D	22	001	R	A							

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
052	☐☐	☐☐☐	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	°	ft	fm	

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	/ /	:	9960-		9960-	
BEGIN FISHING	/ /	:				
END HAUL	/ /	:	9960-		9960-	
GEAR ONBOARD	/ /	:				

NET OBSERVED		TOW SPEED	WIRE OUT
Port	1 ___	. kn	fm
Starboard	2 ___		
Both	3 ___	TARGET SPECIES	CODE
Aft	4 ___	SEA SCALLOPS	8009

COMMENTS

SEA SCALLOP BUSHELS (optional)	KEPT	DISCARDED
# OF BUSHELS	____.____	____.____
AVG LB / BUSHEL	____.____	____.____

NUMBER OF TURNS _____

WATER TEMP fahrenheit ____ . ____ °

SEA SCALLOP CLAPPERS OBS? NO 0 ___ YES 1 ___

VERTICAL OPENING	HORIZONTAL OPENING	DOOR SPREAD
ft **	ft **	ft **

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

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Scallops, Sea		K		100									

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** and **N**, 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 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 nets** for this haul.

NOTE: Kept is defined as brought on board the vessel and retained for market or consumptive purposes.

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL GEAR OFF-WATCH HAUL LOG

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

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
1	BEGIN	2 / /	3 :		N			
	END	/ /	:					4 .

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

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SCALLOP TRAWL GEAR OFF-WATCH HAUL LOG

OBS/TRIP ID	E05012-
DATE LANDED mm/yy	03 / 01
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HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
0 3 0	BEGIN	03/ 06 / 01	23 : 55		41 07.2		69 22.8	
	END	03/ 07 / 01	00 : 55		41 08.3		69 25.6	8 . 50
0 3 1	BEGIN	03/ 07 / 01	01 : 00		41 08.3		69 25.6	
	END	03/ 07 / 01	01 : 55		41 07.4		69 22.3	9 . 00
0 3 2	BEGIN	03/ 07 / 01	02 : 00		41 07.4		69 22.3	
	END	03/ 07 / 01	02 : 55		41 07.9		69 24.9	7 . 75
0 3 3	BEGIN	03/ 07 / 01	03 : 00		41 07.9		69 24.9	
	END	03/ 07 / 01	03 :55		41 06.9		69 21.5	9 . 50
0 3 4	BEGIN	03/ 07 / 01	04 : 00		41 06.9		69 21.5	
	END	03/ 07 / 01	04 :55		41 07.6		69 23.4	12 . 25
0 3 5	BEGIN	03/ 07 / 01	05 : 00		41 07.6		69 23.4	
	END	03/ 07 / 01	05 : 55		41 07.2		69 22.8	10 . 25
	BEGIN	/ /	:					
	END	/ /	:					.
	BEGIN	/ /	:					
	END	/ /	:					.
	BEGIN	/ /	:					
	END	/ /	:					.

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP TRAWL OFF-WATCH HAUL LOG

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) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

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) **hauled** 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/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

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 3, 4, and 5.

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 3 and 6.

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

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.

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.

3. 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 3 and 6.

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 6.

4. FRAME WIDTH: Record, in whole feet, the dredge frame width. See Figure 3.

5. PRESSURE PLATE USED?: Record whether a forward angled steel plate (see Figures 3 and 6) is used on top of the frame by placing an “X” next to the appropriate code:

0 = No.
1 = Yes.

CHAINS

6. ROCK CHAINS USED?: Record whether rock chains (see Figure 5) are hung perpendicular to the dredge frame by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

7. NUMBER: Record the number of rock chains used.

NOTE: If there are a different number of rock chains between each tickler chain, leave this field blank. Record the number of rock chains in the COMMENTS section.

Example: There are 4 rock chains between the dredge frame and the first tickler, 7 rock chains between the first and second tickler, etc.

8. TICKLER CHAINS USED?: Record whether tickler chains (see Figure 5) are hung parallel to the dredge frame by placing an “X” next to the appropriate code:

0 = No.
1 = Yes.

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

10. CONFIGURATION: Record the type of configuration of the scallop dredge by placing an "X" next to the appropriate code:

1 = Standard.
2 = Turtle Chain Mat.

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 using tickler and rock chains connected to each other at the intersection point to create squares or rectangles with lengths of each side $\leq$ 14 inches. See Figure 1.

NOTE: The number of tickler and rock chains will be dependent on the size of the dredge frame width.

Figure 1. Turtle Chain Mat for excluding turtles

TWINE TOP

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

12. # 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).

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

14. HUNG: Record the hanging configuration of the twine top by placing an "X" next to the appropriate code:

0 = Unknown.
1 = Diamond.
2 = Square.
8 = Combination, record the hanging configuration in COMMENTS.

15. # RINGS: Record the number of rings that the twine top is hung from. See Figure 2.

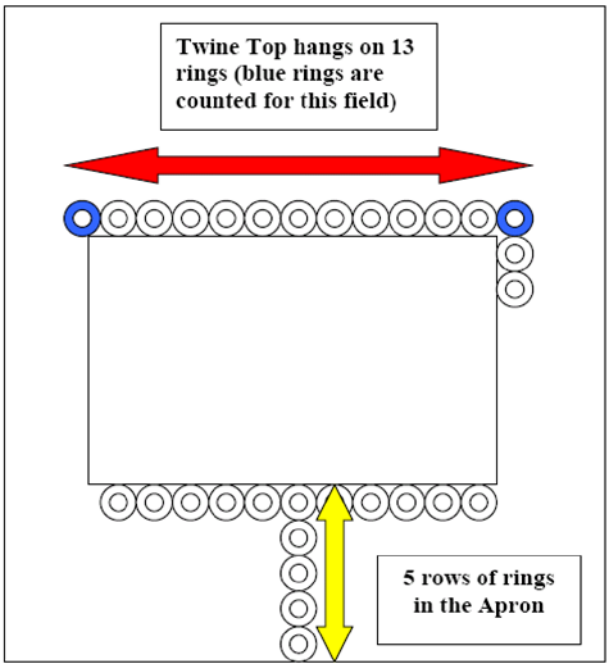

Figure 2. Example of Number of Rings on which Twine Top Hangs and Rows of Rings in Apron.

CHAIN BAG

chaffing gear is used on the bottom of the chain bag by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

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

18. 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 P. Vernier Caliper Instructions for further information.

Example: 3/8.

19. # 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 2.

20. 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 P. Vernier Caliper Instructions for further information.

21. 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 P. Vernier Caliper Instructions for further information.

22. 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 P. 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.

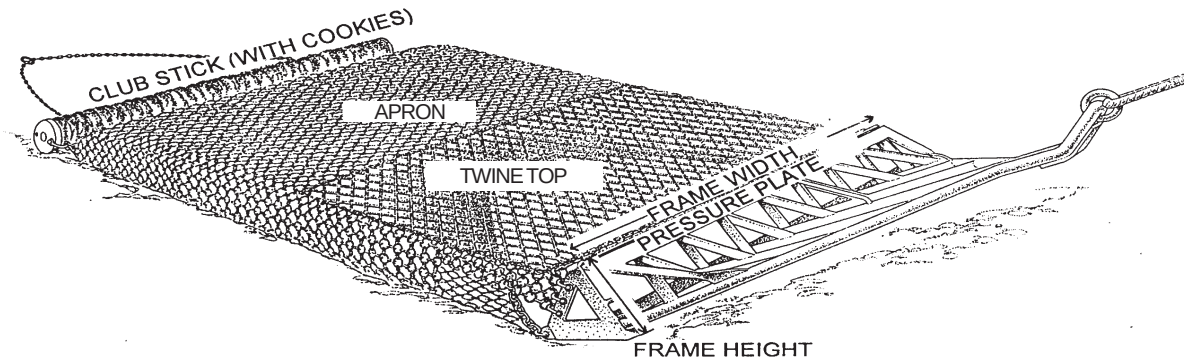

Figure 3. New Bedford style scallop dredge.

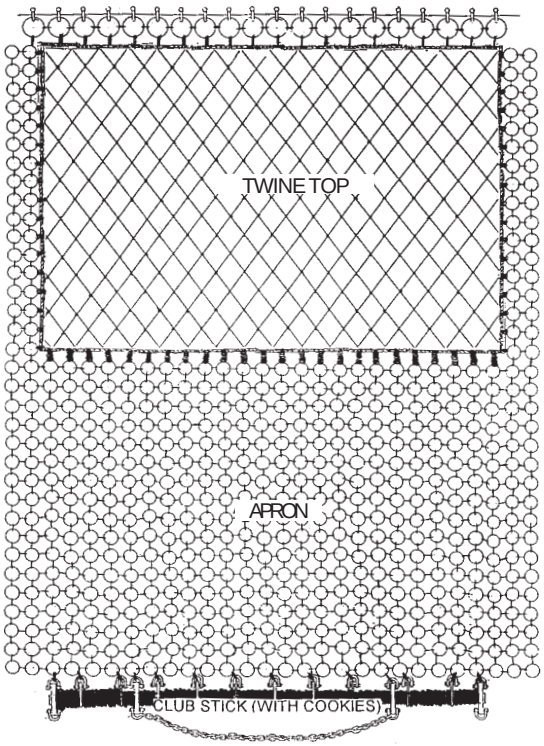

Figure 4. Top of chain bag.

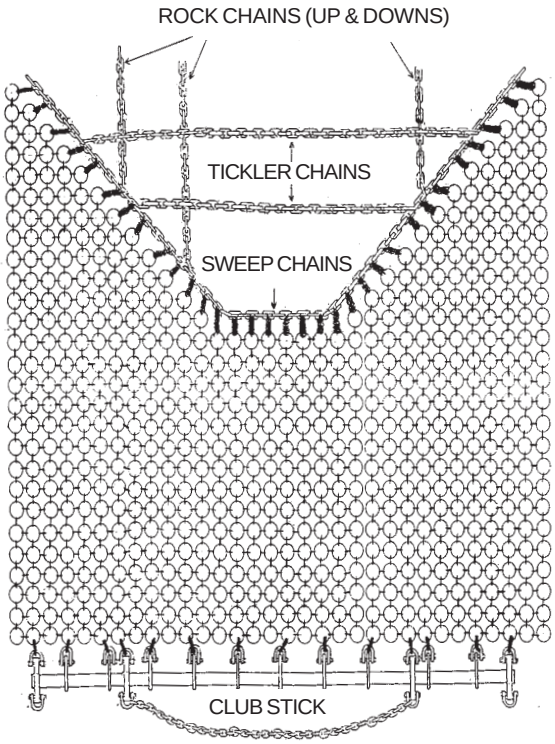

Figure 5. Bottom of chain bag.

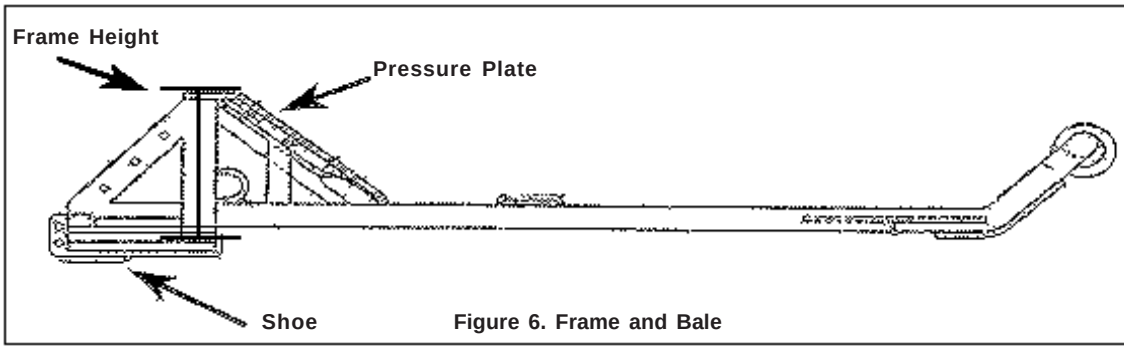

Figure 6. Frame and Bale

OBSDG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM
SCALLOP DREDGE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
GEAR CODE	GEAR NUMBER
D	1

PORT DREDGE (P) If dredge is fished off the stern, check box here - **AFT (A) __2__ (Describe below under "Port Dredge")**

DREDGE FRAME

FRAME HEIGHT **3** _____in FRAME WIDTH **4** _____ft

PRESSURE PLATE USED? **5** NO 0 ___ YES 1 ___

CHAINS

USED?	NO	YES	NUMBER
6 ROCK	0 ___	1 ___	____ **7**
8 TICKLER	0 ___	1 ___	____ **9**

CONFIGURATION **10**
STANDARD 1____
TURTLE CHAIN MAT 2____

TWINE TOP MESH SIZE mm **11**
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm

MESHES HUNG **14**
WIDE ____**12**____
LONG____**13**____

Unknown	0 ___
Diamond	1 ___
Square	2 ___
Combination	8 ___

RINGS ON WHICH TWINE TOP HANGS ____**15**_____

CHAIN BAG
CHAFFING GEAR USED? NO 0 ___ YES 1 ___ **16**

AVG # OF LINKS BTW 2 RINGS _____ **17**

LINK STOCK SIZE _____/_____ **18**

ROWS OF RINGS IN APRON _____ **19**

INSIDE RING SIZE mm
(10 random measurements)

TOP OF BAG __**20**__ _____ _____ _____ _____ _____ _____ _____ _____ _____

BOTTOM OF BAG __**21**__ _____ _____ _____ _____ _____ _____ _____ _____ _____

OUTSIDE RING SIZE ___**22**_____mm

PORT DREDGE COMMENTS

STARBOARD DREDGE (S)

DREDGE FRAME

FRAME HEIGHT _____in FRAME WIDTH _____ft

PRESSURE PLATE USED? NO 0 ___ YES 1 ___

CHAINS

USED?	NO	YES	NUMBER
ROCK	0 ___	1 ___	____
TICKLER	0 ___	1 ___	____

CONFIGURATION
STANDARD 1____
TURTLE CHAIN MAT 2____

TWINE TOP MESH SIZE mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm
_____ mm _____ mm

MESHES HUNG
WIDE _____
LONG_____

Unknown	0 ___
Diamond	1 ___
Square	2 ___
Combination	8 ___

RINGS ON WHICH TWINE TOP HANGS _____

CHAIN BAG
CHAFFING GEAR USED? NO 0 ___ YES 1 ___

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE _____/_____

ROWS OF RINGS IN APRON _____

INSIDE RING SIZE mm
(10 random measurements)

TOP OF BAG _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

OUTSIDE RING SIZE _____mm

STARBOARD DREDGE COMMENTS

OBSDG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

SCALLOP DREDGE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	E05012-	
DATE LANDED mm/yy	03 / 03	
GEAR CODE	GEAR NUMBER	
1 3 2	1	

PORT DREDGE (P)

If dredge is fished off the stern, check box here - **AFT (A)** _____ **(Describe below under "Port Dredge")**

DREDGE FRAME

FRAME HEIGHT ___19_____in FRAME WIDTH ____13____ft

PRESSURE PLATE USED? NO 0 ___ YES 1 _X_

CHAINS

USED?	NO	YES	NUMBER
ROCK	0 ___	1 _X_	_9__
TICKLER	0 ___	1 _X_	_6__

CONFIGURATION

STANDARD 1____

TURTLE CHAIN MAT 2__X__

TWINE TOP

MESH SIZE mm

__258__ mm __254__ mm

__261__ mm __256__ mm

__255__ mm __256__ mm

__254__ mm __259__ mm

__254__ mm __257__ mm

MESHES

WIDE ___75_____

LONG___6_____

HUNG

Unknown 0 ___

Diamond 1 _X_

Square 2 ___

Combination 8 ___

RINGS ON WHICH TWINE TOP HANGS ____32_____

CHAIN BAG

CHAFFING GEAR USED? NO 0 ___ YES 1 _X_

INSIDE RING SIZE mm (10 random measurements)

AVG # OF LINKS BTW 2 RINGS ___2_____

LINK STOCK SIZE ___5_/_16__

ROWS OF RINGS IN APRON ____9_____

TOP OF BAG _102__ _105__ _103__ _103__ _105__ _102__ _103__ _103__ _103__ _105__

BOTTOM OF BAG _106__ _106__ _104__ _103__ _104__ _104__ _105__ _102__ _103__ _104__

OUTSIDE RING SIZE ____123_____mm

PORT DREDGE COMMENTS

*** Rock and tickler chains connected at intersection points. Captain said squares equal 12 inches on each side & is a turtle chain mat.**

STARBOARD DREDGE (S)

DREDGE FRAME

FRAME HEIGHT ___19_____in FRAME WIDTH ____13____ft

PRESSURE PLATE USED? NO 0 ___ YES 1 _X_

CHAINS

USED?	NO	YES	NUMBER
ROCK	0 ___	1 _X_	_9__
TICKLER	0 ___	1 _X_	_5__

CONFIGURATION

STANDARD 1____

TURTLE CHAIN MAT 2__X__

TWINE TOP

MESH SIZE mm

__254__ mm __255__ mm

__254__ mm __255__ mm

__257__ mm __256__ mm

__255__ mm __260__ mm

__255__ mm __259__ mm

MESHES

WIDE ___77_____

LONG___7_____

HUNG

Unknown 0 ___

Diamond 1 _X_

Square 2 ___

Combination 8 ___

RINGS ON WHICH TWINE TOP HANGS ____32_____

CHAIN BAG

CHAFFING GEAR USED? NO 0 ___ YES 1 _X_

INSIDE RING SIZE mm (10 random measurements)

AVG # OF LINKS BTW 2 RINGS ___2_____

LINK STOCK SIZE ___5_/_16__

ROWS OF RINGS IN APRON ____9_____

TOP OF BAG _103__ _105__ _102__ _105__ _105__ _102__ _104__ _103__ _105__ _105__

BOTTOM OF BAG _102__ _103__ _105__ _104__ _103__ _103__ _105__ _104__ _103__ _105__

OUTSIDE RING SIZE ____124_____mm

STARBOARD DREDGE COMMENTS

*** Same comments as port dredge.**

OBSDG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM
SCALLOP DREDGE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	
DATE LANDED mm/yy /	
GEAR CODE	GEAR NUMBER
☐☐☐	☐

PORT DREDGE (P)

If dredge is fished off the stern, check box here - **AFT (A)** _____ **(Describe below under "Port Dredge")**

DREDGE FRAME

FRAME HEIGHT FRAME WIDTH

_____in _____ft

PRESSURE PLATE USED? NO 0 ___ YES 1 ___

CHAINS

USED?	NO	YES	NUMBER
ROCK	0 ___	1 ___	____
TICKLER	0 ___	1 ___	____

CONFIGURATION

STANDARD 1_____

TURTLE CHAIN MAT 2_____

TWINE TOP

MESH SIZE mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

MESHES HUNG

WIDE _____

LONG_____

Unknown	0 ___
Diamond	1 ___
Square	2 ___
Combination	8 ___

RINGS ON WHICH TWINE TOP HANGS _____

CHAIN BAG

CHAFFING GEAR USED? NO 0 ___ YES 1 ___

INSIDE RING SIZE mm

(10 random measurements)

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE _____/_____

ROWS OF RINGS IN APRON _____

TOP OF BAG _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

OUTSIDE RING SIZE _____mm

PORT DREDGE COMMENTS

STARBOARD DREDGE (S)

DREDGE FRAME

FRAME HEIGHT FRAME WIDTH

_____in _____ft

PRESSURE PLATE USED? NO 0 ___ YES 1 ___

CHAINS

USED?	NO	YES	NUMBER
ROCK	0 ___	1 ___	____
TICKLER	0 ___	1 ___	____

CONFIGURATION

STANDARD 1_____

TURTLE CHAIN MAT 2_____

TWINE TOP

MESH SIZE mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

_____ mm _____ mm

MESHES HUNG

WIDE _____

LONG_____

Unknown	0 ___
Diamond	1 ___
Square	2 ___
Combination	8 ___

RINGS ON WHICH TWINE TOP HANGS _____

CHAIN BAG

CHAFFING GEAR USED? NO 0 ___ YES 1 ___

INSIDE RING SIZE mm

(10 random measurements)

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE _____/_____

ROWS OF RINGS IN APRON _____

TOP OF BAG _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

OUTSIDE RING SIZE _____mm

STARBOARD DREDGE COMMENTS

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 - W**, 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 two digit code listed below and in Appendix J. 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.
- 999 = 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(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. 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. 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).

11. WATER TEMPERATURE: Record, to the nearest tenth of a degree Fahrenheit, the surface sea water temperature when the gear has been set and the winches are locked. The temperature must be recorded for every on-watch observed haul during the entire trip.

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

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

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.

OBSDH OBHAU OBSPP 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

SCALLOP DREDGE HAUL LOG

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C ☐ of ☐

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

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	3 / /	4 :	9960-	N	9960-	
BEGIN FISHING	8 / /	:				
END HAUL	/ /	:	9960-		9960-	
GEAR ONBOARD	9 / /	:				

DREDGE OBSERVED 5	TOW SPEED	WIRE OUT
Port 1 ___ Starboard 2 ___ Both 3 ___ Aft 4 ___	6 . kn	7 fm

TARGET SPECIES	CODE
O	P

SEA SCALLOP CLAPPERS OBS?
NO 0 ___ 10
YES 1 ___

WATER TEMPERATURE (fahrenheit)
____ . ____ o 11

(optional)	KEPT	DISCARDED
# OF BUSHELS	12 .	13 .
AVG LB / BUSHEL	14 .	15 .

COMMENTS

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

OBSDH OBHAU OBSPP 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

SCALLOP DREDGE HAUL LOG

OBS/TRIP ID	E05012-
DATE LANDED mm/yy	03 / 01
PAGE #	1 of 2

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
132	0 1	1 3 5	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	04	5 kn	0 °	3 ft	35 fm	710

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	03/12/01	5:00	9960-	41 07.2	9960-	69 22.8
BEGIN FISHING	03/12/01	5:06				
END HAUL	03/12/01	5:55	9960-	41 07.3	9960-	69 23.0
GEAR ONBOARD	03/12/01	6:08				

DREDGE OBSERVED: Port 1 ___ Starboard 2 ___ Both 3 _X_ Aft 4 ___

TOW SPEED: 3 . 5 kn

WIRE OUT: 100 fm

TARGET SPECIES: SEA SCALLOPS CODE: 8009

SEA SCALLOP CLAPPERS OBS? NO 0 ___ YES 1 _X_

WATER TEMPERATURE (fahrenheit): 58.0 °

(optional)	KEPT	DISCARDED
# OF BUSHELS	8.25	0.00
AVG LB / BUSHEL	69.0	

COMMENTS

Monkfish tails retained.

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Scallops, Sea	8009	K	569	100	R	E	Little Skate		D	50	001	R	E
Monkfish, (tail)		K	29	100	D	A	Clapper, Scallop Sea		D	200	054	R	E
Monkfish		D	18	012	R	A							
Yellowtail Flounder		K	6	100	R	A							
Shells NK		D	200	054	R	E							
Starfish, Seastar NK		D	150	001	R	E							
Debris, Rock		D	1000	053	R	E							
Jonah Crab		D	15	001	R	E							

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP DREDGE HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
132	☐☐	☐☐☐	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	°	ft	fm	

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing
BEGIN HAUL	/ /	:	9960-		9960-	
BEGIN FISHING	/ /	:				
END HAUL	/ /	:	9960-		9960-	
GEAR ONBOARD	/ /	:				

DREDGE OBSERVED	
Port	1 ___
Starboard	2 ___
Both	3 ___
Aft	4 ___

SEA SCALLOP CLAPPERS OBS?	
NO	0 ___
YES	1 ___

TOW SPEED	WIRE OUT
. kn	fm

TARGET SPECIES	CODE
SEA SCALLOPS	**8009**

WATER TEMPERATURE (fahrenheit)

____ . ____ o

(optional)	KEPT	DISCARDED
# OF BUSHELS	____ . ____	____ . ____
AVG LB / BUSHEL	____ . ____	____ . ____

COMMENTS

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Scallops, Sea		K		100									

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** and **N**, 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.

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP DREDGE OFF-WATCH HAUL LOG

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

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
1	BEGIN	2 / /	3 :		N			
	END	/ /	:					4 .

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

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NMFS FISHERIES OBSERVER PROGRAM

SCALLOP DREDGE OFF-WATCH HAUL LOG

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) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
0 3 0	BEGIN	03/ 06 / 01	23 : 55		41 07.2		69 22.8	
	END	03/ 07 / 01	00 : 55		41 08.3		69 25.6	8 . 50
0 3 1	BEGIN	03/ 07 / 01	01 : 00		41 08.3		69 25.6	
	END	03/ 07 / 01	01 : 55		41 07.4		69 22.3	9 . 00
0 3 2	BEGIN	03/ 07 / 01	02 : 00		41 07.4		69 22.3	
	END	03/ 07 / 01	02 : 55		41 07.9		69 24.9	7 . 75
0 3 3	BEGIN	03/ 07 / 01	03 : 00		41 07.9		69 24.9	
	END	03/ 07 / 01	03 :55		41 06.9		69 21.5	9 . 50
0 3 4	BEGIN	03/ 07 / 01	04 : 00		41 06.9		69 21.5	
	END	03/ 07 / 01	04 :55		41 07.6		69 23.4	12 . 25
0 3 5	BEGIN	03/ 07 / 01	05 : 00		41 07.6		69 23.4	
	END	03/ 07 / 01	05 : 55		41 07.2		69 22.8	10 . 25
	BEGIN	/ /	:					
	END	/ /	:					.
	BEGIN	/ /	:					
	END	/ /	:					.
	BEGIN	/ /	:					
	END	/ /	:					.

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SCALLOP DREDGE OFF-WATCH HAUL LOG

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) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.
HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	SEA SCALLOPS # OF BUSHELS KEPT
☐☐☐	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.

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 consecu-

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 L. 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 COM-

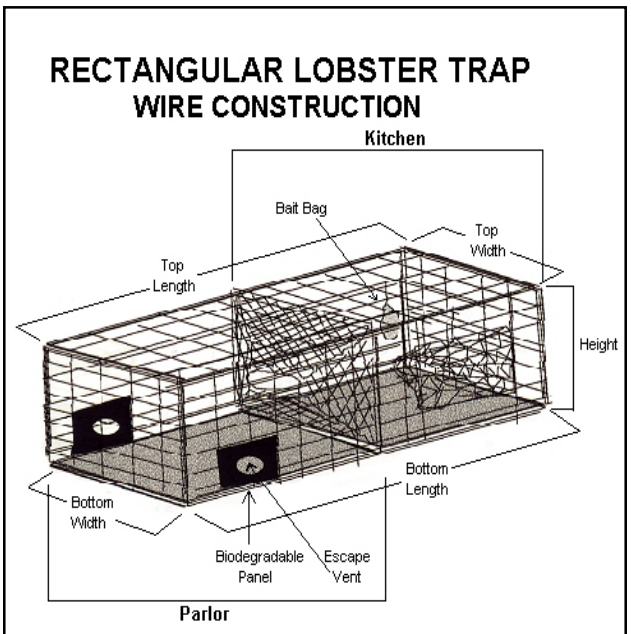


Figure 1. Typical lobster trap configuration.

MENTS.

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 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 P. 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 P. Vernier Caliper Instructions for further information.

18. LOCATION: Record the location of 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 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 P. 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 L. 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.

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.

30. 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.

31. 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.

32. 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 L. 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

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

0 = No.
1 = Yes.

34. LENGTH: Record, in whole feet, the **average** length of the gangion(s) used on this gear. This information may be obtained from the Captain.

35. 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 L. 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.

36. 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

37. NUMBER OF BUOYLINE(S): Record the number of buoyline(s) used on this gear. See Figure 2.

38. LENGTH : Record, in whole feet, the **average** length of the buoyline(s) used on this gear. This information may be obtained from the Captain.

39. 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 L. 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.

40. 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 (#39), otherwise dash '-' the field.

Example: The Captain states that he has 75% sinking line and 25% floating. This should be recorded as ‘75/25’.

41. 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.

ANCHORS

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

0 = No.
1 = Yes.

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

44. 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.

45. WEIGHT - ACTUAL OR ESTIMATED: Record whether the weight recorded in ANCHOR WEIGHT (#42) is an actual or estimated value by circling the appropriate letter code:

A = Actual.
E = Estimated.

46. TYPE(S): Indicate which type(s) of anchor(s) are used on this gear by placing and “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).
3 = Combination, record all anchor types used in the COMMENTS.
4 = Other, record the anchor type on line 46A.

NOTE: For examples of common anchor types, reference Figure 2 in the Gillnet Gear Characteristics Log section of this manual.

ANCHOR LINE

47. 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.

48. 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 L. Material / Other Codes:

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

NOTE: This information may be obtained from the Captain..

49. 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.

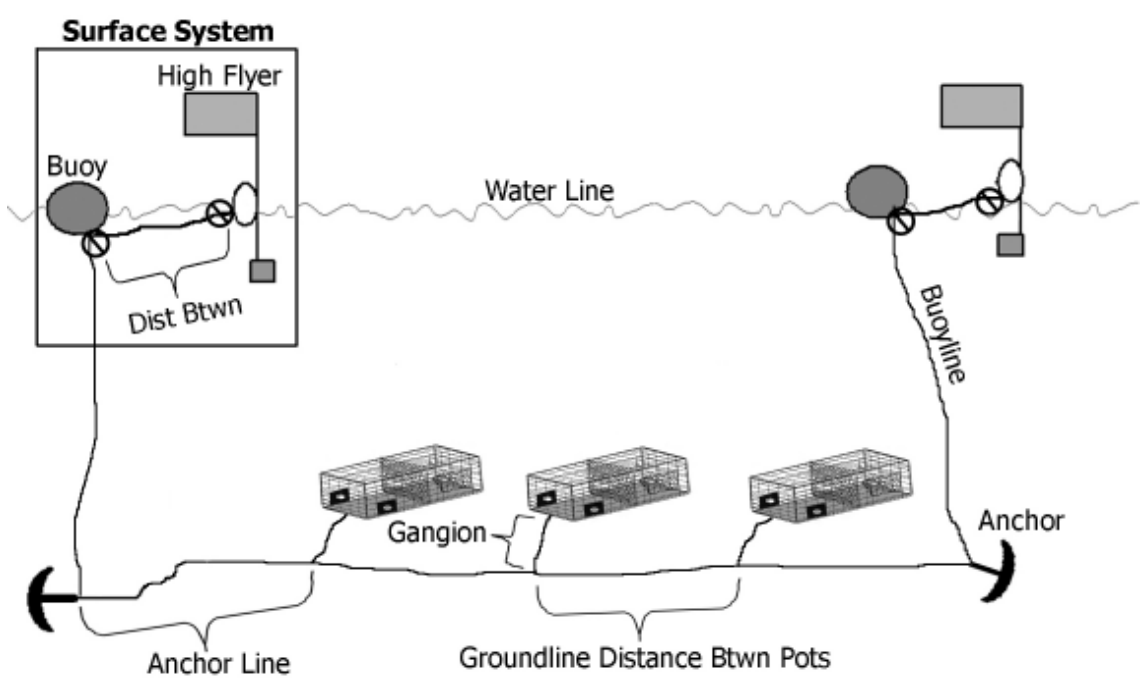


Figure 2. Typical pot / trap trawl gear configuration. Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

OBPTG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG (Front)

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

GEAR CODE: D

GEAR NUMBER(S): 1

NUMBER OF POTS: 2

POT CHARACTERISTICS

Shape Code: 3

Side Construction Code: 4

DIMENSIONS

	Length (in)	Width (in)
Top	5	6
Bottom	7	8

Height: 9 in

GROUNDLINE BETWEEN POTS

Length of Line Btwn Pots (avg): 10 ft

Type Code: 11

Diameter: 12 / in

ESCAPE VENT

	NO	YES
USED? 13	0	1

Number: 14

Shape Code: 15

Length: 16 . in

Height: 17 . in

Location: 18

Unknown	0
Top	1
Side	2
End	3
Combination	8
Other	9

18A

ENTRANCE

Number: 19

Inside Ring Size: 20 . in

Location: 21

Unknown	0
Top	1
Side	2
End	3
Combination	8
Other	9

21A

BIODEGRADABLE PANEL

	NO	YES
USED? 22	0	1

Attachment Type: 23

Unknown	0
Iron Hog Rings	1
Degradable Plastic	2
Softwood Lathe	3
Uncoated Wire	4
Other	9

23A

BAIT

Method: 24

Unknown	0	
String	1	
Bait Bag	2	X
Other	9	

24A

SURFACE SYSTEM

of High Flyer(s): 25

# of Buoy(s): 26

Length of Line Btwn High Flyer & Buoy(s) (avg): 27 ft

Type Code: 28

Diameter: 29 / in

WEAK LINKS

	NO	YES
30 USED ON SURFACE?	0	1

Number (total): 31

Type Code: 32

GANGIONS

	NO	YES
USED? 33	0	1

Length (avg): 34 ft

Type Code: 35

Diameter: 36 / in

BUOYLINE

of Buoyline(s): 37

Length (avg): 38 ft

Type Code: 39

Percent of Type (sinking / floating): 40 % / %

Diameter: 41 / in

ANCHOR(S)

	NO	YES
USED? 42	0	1

Number: 43

Weight (total): 44 lbs (circle one) A / E 45

Type: 46

Unknown	0
Danforth-style	1
Dead Weight	2
Combination	8
Other	9

46A

ANCHOR LINE

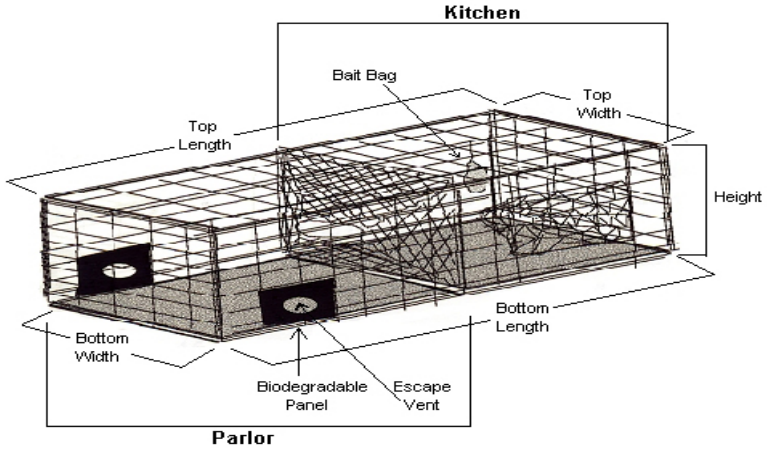
Length of Line Btwn Anchor & Gangion (avg): 47 ft

Type Code: 48

Diameter: 49 / in

COMMENTS

RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION



OBPTG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)	NUMBER OF POTS
D	1	2

DIAGRAM FOR REFERENCE ONLY

⊘ = Weak Link

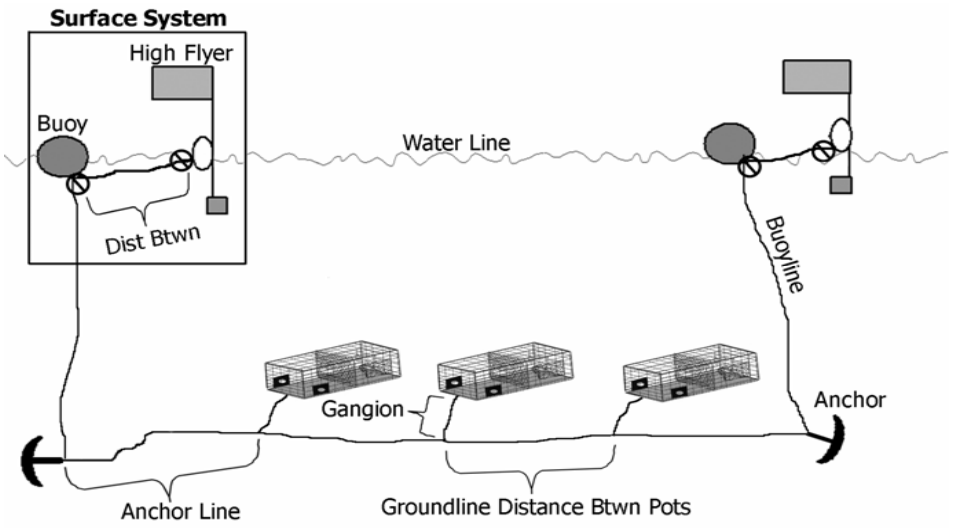


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

ADDITIONAL COMMENTS

FOR OFFICE USE ONLY

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

OBPTG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG (Front)

OBS/ TRIP ID	A75025-		
DATE LAND (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

POT CHARACTERISTICS

Shape Code: 05

Side Construction Code: 1

DIMENSIONS

	Length (in)	Width (in)
Top	48	26
Bottom	48	32

Height: 18 in

GROUNDLINE BETWEEN POTS

Length of Line Btwn Pots (avg): 138 ft

Type Code: 1

Diameter: 3 / 8 in

ESCAPE VENT

	NO	YES
USED?	0	1 X

Number: 3

Shape Code: 01

Length: 5 . 8 in

Height: 1 . 8 in

Location

Unknown	0	
Top	1	X
Side	2	
End	3	
Combination	8	
Other	9	

ENTRANCE

Number: 2

Inside Ring Size: 7 . 0 in

Location

Unknown	0	
Top	1	
Side	2	X
End	3	
Combination	8	
Other	9	

BIODEGRADABLE PANEL

	NO	YES
USED?	0	1 X

Attachment Type

Unknown	0	
Iron Hog Rings	1	
Degradable Plastic	2	
Softwood Lathe	3	X
Uncoated Wire	4	
Other	9	

BAIT

Method

Unknown	0	
String	1	
Bait Bag	2	X
Other	9	

SURFACE SYSTEM

of High Flyer(s): 2

# of Buoy(s): 2

Length of Line Btwn High Flyer & Buoy(s) (avg): 5 ft

Type Code: 1

Diameter: 5 / 8 in

WEAK LINKS

	NO	YES
USED ON SURFACE?	0	1 X

Number (total): 4

Type Code: 2

GANGIONS

	NO	YES
USED?	0	1 X

Length (avg): 4 ft

Type Code: 1

Diameter: 3 / 8 in

BUOYLINE

of Buoyline(s): 2

Length (avg): 100 ft

Type Code: 8

Percent of Type (sinking / floating): 67% / 33%

Diameter: 5 / 8 in

ANCHOR(S)

	NO	YES
USED?	0	1 X

Number: 2

Weight (total): 44 lbs (circle one) A / (E)

Type

Unknown	0	
Danforth-style	1	X
Dead Weight	2	
Combination	8	
Other	9	

ANCHOR LINE

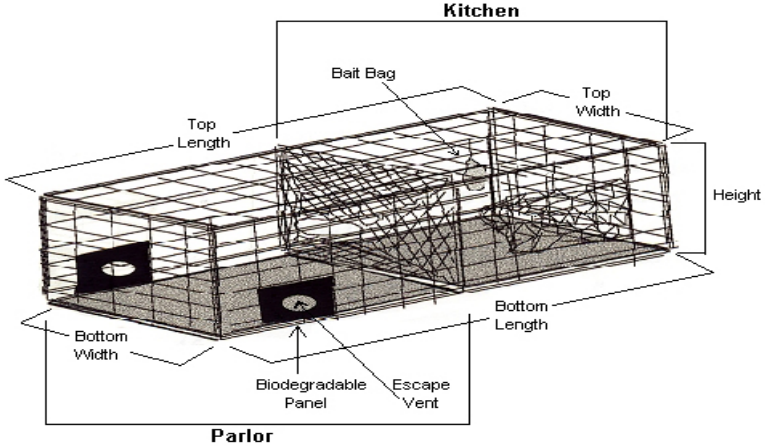
Length of Line Btwn Anchor & Gangion (avg): 10 ft

Type Code: 1

Diameter: 3 / 8 in

COMMENTS

RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION



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NMFS FISHERIES OBSERVER PROGRAM

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)	NUMBER OF POTS

DIAGRAM FOR REFERENCE ONLY

⊘ = Weak Link

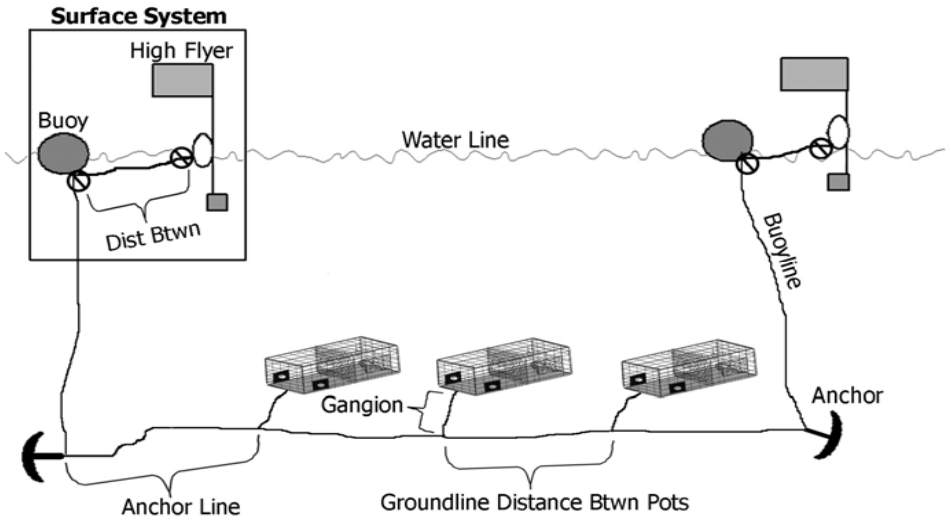


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

ADDITIONAL COMMENTS

FOR OFFICE USE ONLY

SHAPE CODES:	SIDE CONSTRUCTION CODES:	LINE / GANGION TYPE CODES:	WEAK LINK TYPE CODES:
00 = Unknown	0 = Unknown	0 = Unknown	0 = Unknown
01 = Rectangular	1 = Wood Lathe	1 = Sinking / Neutrally Buoyant	1 = Rope of Appropriate Breaking Strength
02 = Round / Oval	2 = Plastic Coated Wire	2 = Floating	2 = Off the Shelf
03 = 1/2 Round	3 = Twine Mesh	8 = Combination	3 = Overhand Knot
04 = Cone	4 = Plastic Mesh	9 = Other	4 = Hog Rings
05 = Trapezoid	8 = Combination		8 = Combination
99 = Other	9 = Other		9 = Other

OBPTG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG (Front)

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

NUMBER OF POTS

POT CHARACTERISTICS

Shape Code _____

Side Construction Code _____

DIMENSIONS

	Length (in)	Width (in)
Top	_____	_____
Bottom	_____	_____

Height _____ in

GROUNDLINE BETWEEN POTS

Length of Line Btwn Pots (avg) _____ ft

Type Code _____

Diameter ___/___ in

ESCAPE VENT NO YES

USED? 0 ___ 1 ___

Number _____

Shape Code _____

Length ___.___ in

Height ___.___ in

Location

Unknown	0 ___
Top	1 ___
Side	2 ___
End	3 ___
Combination	8 ___
Other	9 ___

_____

ENTRANCE

Number _____

Inside Ring Size ___.___ in

Location

Unknown	0 ___
Top	1 ___
Side	2 ___
End	3 ___
Combination	8 ___
Other	9 ___

_____

BIODEGRADABLE PANEL NO YES

USED? 0 ___ 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 ___

_____

SURFACE SYSTEM

# of High Flyer(s) _____

# of Buoy(s) _____

Length of Line Btwn High Flyer & Buoy(s) (avg) _____ ft

Type Code _____

Diameter ___/___ in

WEAK LINKS NO YES

USED ON SURFACE? 0 ___ 1 ___

Number (total) _____

Type Code _____

GANGIONS NO YES

USED? 0 ___ 1 ___

Length (avg) _____ ft

Type Code _____

Diameter ___/___ in

BUOYLINE

# of Buoyline(s) _____

Length (avg) _____ ft

Type Code _____

Percent of Type (sinking / floating) ___% / ___%

Diameter ___/___ in

ANCHOR(S) NO YES

USED? 0 ___ 1 ___

Number _____

Weight (total) _____ lbs (circle one) A / E

Type

Unknown	0 ___
Danforth-style	1 ___
Dead Weight	2 ___
Combination	8 ___
Other	9 ___

_____

ANCHOR LINE

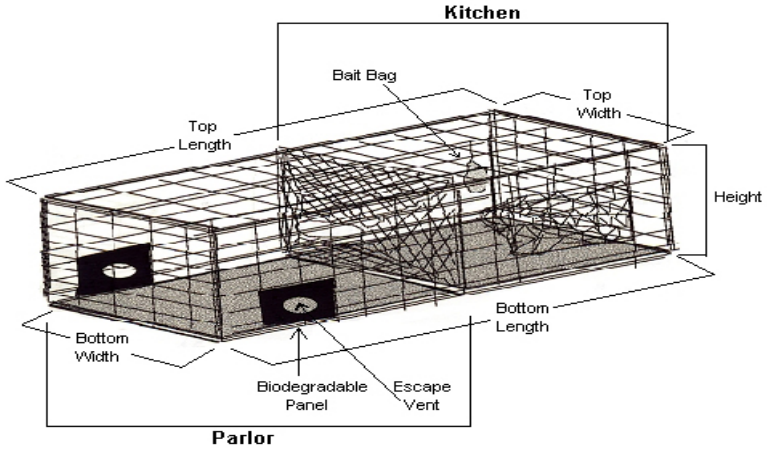
Length of Line Btwn Anchor & Gangion (avg) _____ ft

Type Code _____

Diameter ___/___ in

COMMENTS

RECTANGULAR LOBSTER TRAP WIRE CONSTRUCTION



OBPTG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG (Back)

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

GEAR CODE	GEAR NUMBER(S)	NUMBER OF POTS

DIAGRAM FOR REFERENCE ONLY

⊘ = Weak Link

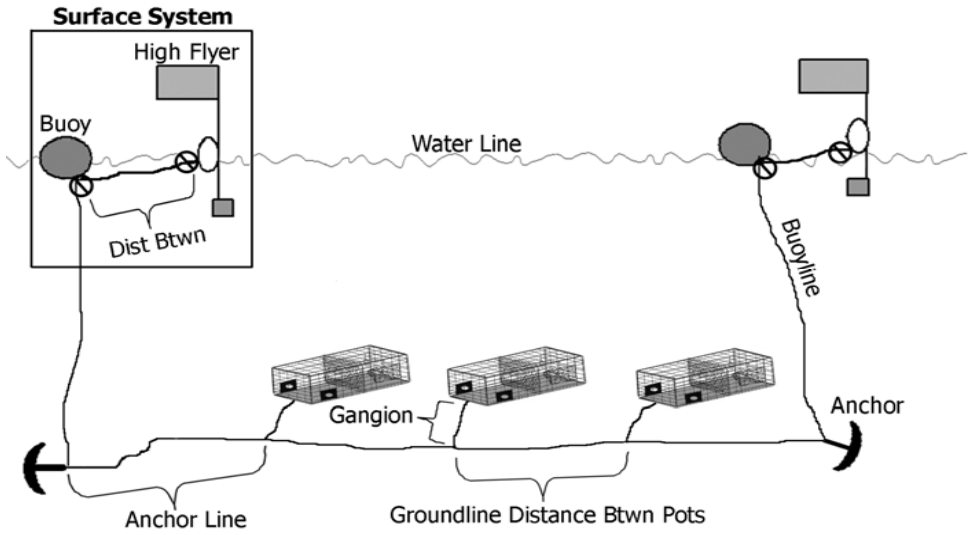


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

ADDITIONAL COMMENTS

FOR OFFICE USE ONLY

SHAPE CODES:	SIDE CONSTRUCTION CODES:	LINE / GANGION TYPE CODES:	WEAK LINK TYPE CODES:
00 = Unknown	0 = Unknown	0 = Unknown	0 = Unknown
01 = Rectangular	1 = Wood Lathe	1 = Sinking / Neutrally Buoyant	1 = Rope of Appropriate Breaking Strength
02 = Round / Oval	2 = Plastic Coated Wire	2 = Floating	2 = Off the Shelf
03 = 1/2 Round	3 = Twine Mesh	8 = Combination	3 = Overhand Knot
04 = Cone	4 = Plastic Mesh	9 = Other	4 = Hog Rings
05 = Trapezoid	8 = Combination		8 = Combination
99 = Other	9 = Other		9 = Other

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-W**, 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 two digit code listed below, and in Appendix J. 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 Q. 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 O. 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 appro-

priate one digit code listed below, and in Appendix O. 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 O. 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 sponding field name.

OBPTH OBHAU OBSPP 12/01/03

NMFS FISHERIES OBSERVER PROGRAM
LOBSTER, CRAB & FISH POT HAUL LOG

OBS/ TRIP ID	A
DATE LAND (mm/yy)	B /
PAGE #	C ___ of ___

GEAR CODE	GEAR NUMBER(S)	HAUL #	HAUL OBS? F	CATCH? G	INC TAKE? H	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
D	1	E	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	I	J kn	K o	L ft	M fm	2

SET INFO		DATE AND TIME mm/dd/yy	24 hours	OR EST SOAK DUR	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing
SET	BEGIN	3 / /	4 :	5	9960-	N	9960-	
	END	/ /	:	. hrs	9960-		9960-	
HAUL INFO		DATE	TIME	WATER TEMP				
HAUL	BEGIN	/ /	:		9960-		9960-	
	END	/ /	:	6 . o F	9960-		9960-	

TARGET SPECIES O CODE(S) P

NUMBER OF POTS SET 7 HAULED 8 LOST 9

BAIT

	10 LBS	11 KIND	12 TYPE	13 COND
#1	___	___	___	___
#2	___	___	___	___

COMMENTS

SET METHOD 14

Unknown	00 ___	Visual	05 ___
Temperature	01 ___	Mixed	98 ___
Bottom Contours	02 ___	Other	99 ___
Compass/ Loran	03 ___		
Tide/ Current	04 ___		14A

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

OBPTH OBHAU OBSPP 12/01/03

NMFS FISHERIES OBSERVER PROGRAM

LOBSTER, CRAB & FISH POT HAUL LOG

OBS/ TRIP ID	A74025 -
DATE LAND (mm/yy)	06 / 01
PAGE #	1 of 2

GEAR CODE	GEAR NUMBER(S)	HAUL #	HAUL OBS?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
2 0 0	13	0 1 3	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	02	5 kn	225 o	2 ft	122 fm	410

SET INFO		DATE AND TIME mm/dd/yy	24 hours	OR EST SOAK DUR	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing
SET	BEGIN	/ /	:		9960-		9960-	
	END	/ /	:	168 . 0 hrs	9960-		9960-	
HAUL INFO		DATE	TIME	WATER TEMP				
HAUL	BEGIN	06 / 19 / 01	21 : 52		9960-	41 32.3	9960-	69 35.8
	END	06 / 19 / 01	20 : 21	58 . 0 o F	9960-	41 32.7	9960-	69 35.5

TARGET SPECIES CODE(S)

American Lobster

NUMBER OF POTS		BAIT	LBS	KIND	TYPE	COND
SET	__40__	#1	_150_	_05_	_2__	__3__
HAULED	__40__	#2	_150_	_03_	_1__	__1__
LOST	__0__					

COMMENTS

SET METHOD

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

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

OBPTH OBHAU OBSPP 12/01/03

NMFS FISHERIES OBSERVER PROGRAM
LOBSTER, CRAB & FISH POT HAUL LOG

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

GEAR CODE	GEAR NUMBER(S)	HAUL #	HAUL OBS?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
			NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	o	ft	fm	

SET INFO		DATE AND mm/dd/yy	TIME 24 hours	OR EST SOAK DUR	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing
SET	BEGIN	/ /	:		9960-		9960-	
	END	/ /	:	. hrs	9960-		9960-	
HAUL INFO		DATE	TIME	WATER TEMP				
HAUL	BEGIN	/ /	:		9960-		9960-	
	END	/ /	:	o . F	9960-		9960-	

TARGET SPECIES CODE(S)

NUMBER OF POTS

SET _____

HAULED _____

LOST _____

BAIT

	LBS	KIND	TYPE	COND
#1	____	____	____	_____
#2	____	____	____	_____

COMMENTS

SET METHOD

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

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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-shaped pocket for trapping fish during hauling.

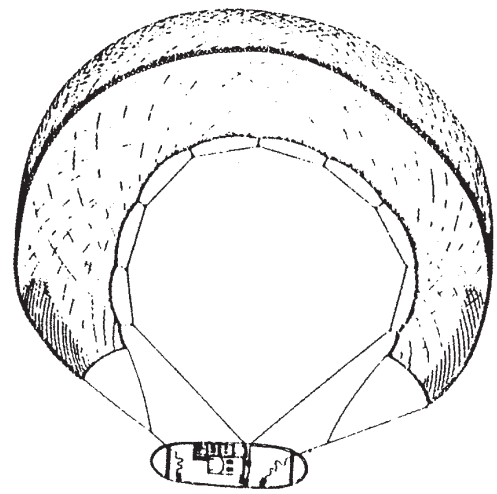


Figure 1. Purse Seine. (Source: *Commercial Fishing Methods: an introduction to vessels and gears, 3rd ed.* by John C. Sainsbury, published by Blackwell Science)

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 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

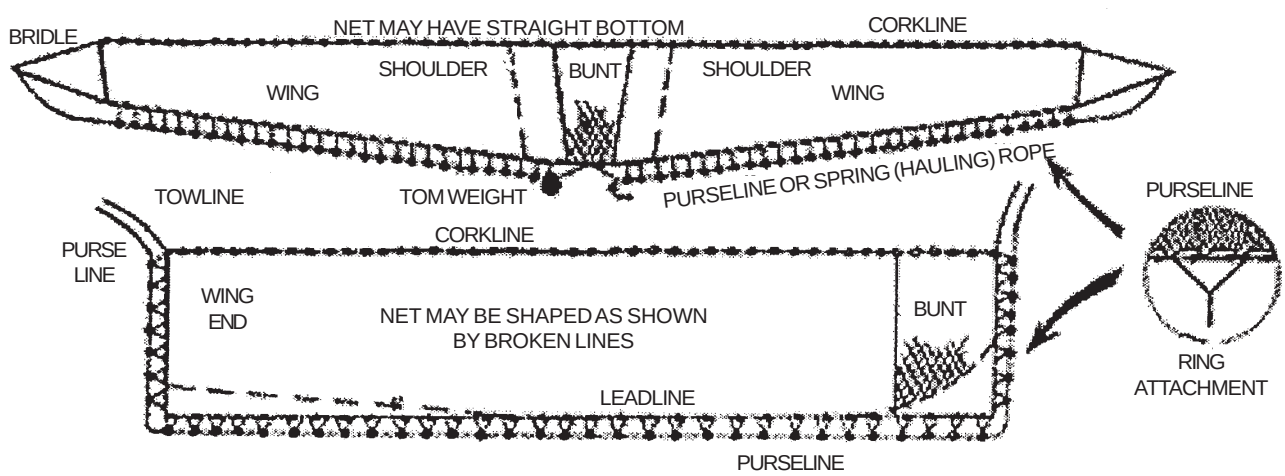


Figure 2. Purse Seine Gear. (Source: *Commercial Fishing Methods: an introduction to vessels and gears, 3rd ed.* by John C. Sainsbury, published by Blackwell Science)

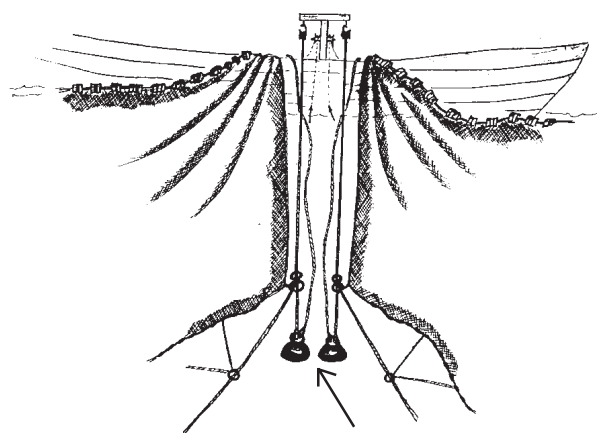


Figure 3. Tom Weights. (Source: *Commercial Fishing Methods: an introduction to vessels and gears, 3rd ed.* by John C. Sainsbury, published by Blackwell Science)

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 $^1/_4$ ". 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 wether 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.
9 = Other, record the hauling device on line 21A.

PURSE RINGS

22. TYPE: Record the type of rings used to secure the purse line to the net by place an "X" next to the appropriate code:

0 = Unknown.
1 = Round.
2 = Snap.
3 = 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.

OBPSG 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

PURSE SEINE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	A
DATE LANDED mm/yy	B /

GEAR NUMBER(S)	GEAR CODE
1	D

SEINE CHARACTERISTICS:

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

CONSTRUCTION MATERIAL

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

GEAR CHARACTERISTICS:

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

HAULING DEVICE 21

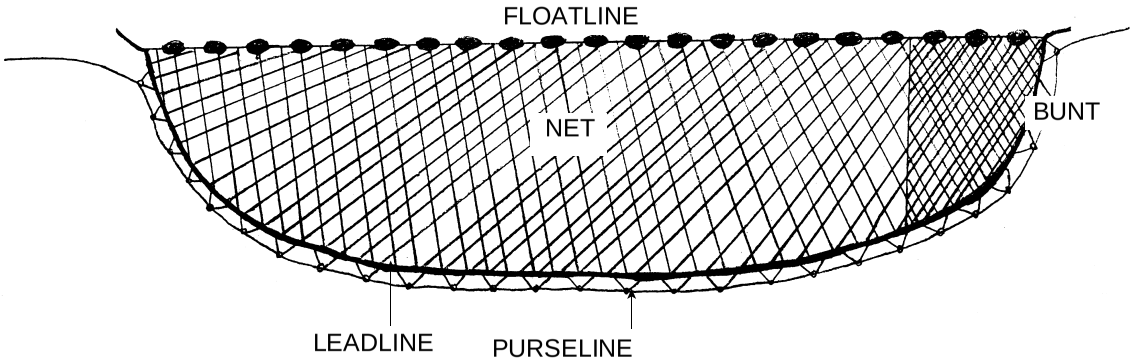
Unknown	0 ___	Drum	3 ___
Power Block	1 ___	Other	9 ___
Triplex	2 ___		

21A

PURSE RINGS:

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

(diagram for reference only)



COMMENTS

OBPSG 01/01/06

NMFS FISHERIES OBSERVER PROGRAM

PURSE SEINE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	E66035-
DATE LANDED mm/yy	09 / 01

GEAR NUMBER(S)	GEAR CODE
1	1 2 4

SEINE CHARACTERISTICS:

	NET	SACK / BUNT
LENGTH (fm)	500	120
DEPTH (fm)	30	30
MESH SIZE (in)	8 . 00	4 . 00
TWINE SIZE (mm)	2	2

CONSTRUCTION MATERIAL

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

GEAR CHARACTERISTICS:

	LENGTH (fm)	DIAMETER (in)
FLOATLINE	500	0 . 70
LEADLINE	500	0 . 40
PURSE LINE	600	0 . 60
LEADLINE WEIGHT		4500 lbs
ADDITIONAL WEIGHTS	No 0 X	Yes 1 ___ ___ lbs

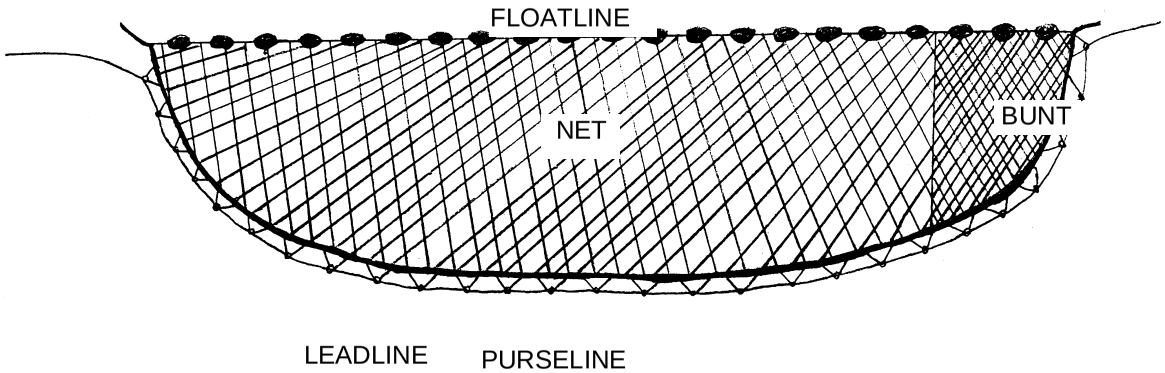
HAULING DEVICE

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 ___

(diagram for reference only)



COMMENTS

LL WT: 65 lb / 100fm * 500fm = 32500

OBPSG 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

PURSE SEINE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	
DATE LANDED mm/yy	/

GEAR NUMBER(S)

GEAR CODE

GEAR CHARACTERISTICS:

	LENGTH (fm)	DIAMETER (in)
FLOATLINE	_____	.
LEADLINE	_____	.
PURSE LINE	_____	.
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)	_____	_____
DEPTH (fm)	_____	_____
MESH SIZE (in)	.	.
TWINE SIZE (mm)	_____	_____

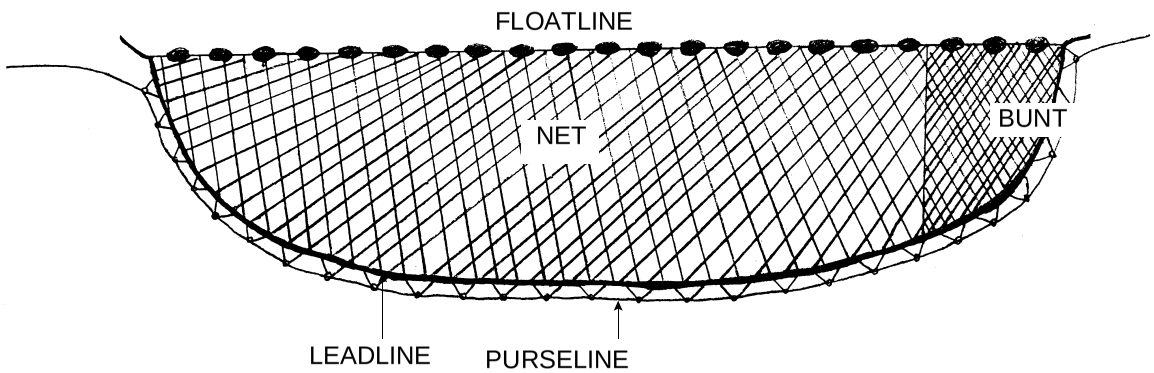
CONSTRUCTION MATERIAL

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.

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-W**, 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 two digit code listed below, and in Appendix J. 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 54, 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.

6. 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 Q. 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.

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

0 = No.
1 = Yes.

8. TIME UP: Record the local time, using the 24 hour clock (0000 - 2359), when the spotter plane took off this day. Arrange with the captain to have the pilot provide you with this information over the radio.

9. TIME DOWN: Record the local time, using the 24 hour clock (0000 - 2359), when the spotter plane landed this day. Arrange with the captain to have the pilot provide you with this information over the radio.

10. 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.

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

0 = No.
1 = Yes.

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

0 = No.
1 = Yes.

13. 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.

FISH PUMPING

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

15. 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).

16. CAPTAIN'S CATCH ESTIMATE: Record, in whole pounds, the Captain's catch estimate of the total catch prior to pumping the catch onboard.

17. BUNT: Record whether the bunt was visible at the completion of the pumping process by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

18. FISH PRESENT?: Record whether there were fish present in the net at the completion of the pumping process by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.
2 = Could Not See.

19. LOCATION OF NET: Record the location of the net when the remainder of the catch at the completion of the pumping process was emptied by placing an "X" next to the appropriate code:

1 = Off Stern.
2 = Side of Vessel.
3 = On Deck.

COMMENTS

Record any additional information about this gear, *i.e.* unusual set methods, bringing the fish aboard using a suction pump. 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.

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NMFS FISHERIES OBSERVER PROGRAM

PURSE SEINE SET LOG

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

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

SET INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	SET SPEED	TARGET SPECIES	CODE
BEGIN	3 / /	4 :	9960-	N	9960-		5 . kn	O	P
END	/ /	:							

COMMENTS

FISH PUMPING		
BEGIN	/ / 14	: 15
END	/ /	:

CAPTAIN'S CATCH ESTIMATE (prior to pumping) 16 _____ lbs

WATER TEMP (fahrenheit) 6 . °

PLANE USED? 7 NO 0 _____ YES 1 _____

TIME UP 8 : hr

TIME DOWN 9 : hr

NO 0 YES 1

SET BY 10 PLANE ? ___ ___

SET ON 11 DEBRIS ? ___ ___

SUCCESSFUL 12 SET ? ___ ___

FISH 13 LOST ? ___ ___

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE BUNT? 17 _____ No (0) _____ Yes (1)

WERE THERE FISH PRESENT IN THE NET AT THE COMPLETION OF THE PUMPING PROCESS? 18 _____ No (0) _____ Yes (1) _____ Could Not See (2)

WHEN THE NET WAS EMPTIED WHERE WAS IT LOCATED? 19 _____ Off Stern (1) _____ Side of Vessel (2) _____ On Deck (3)

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

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NMFS FISHERIES OBSERVER PROGRAM

PURSE SEINE SET LOG

OBS/TRIP ID	E66035-
DATE LANDED mm/yy	09/01
PAGE #	1 of 3

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
1 2 1	0 1	0 0 1	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	03	10 kn	225 °	2 ft	69 fm	510

SET INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	SET SPEED	TARGET SPECIES	CODE
BEGIN	09/14/01	20:42	9960-	45 51.3 °	9960-	70 28.7 °	6.0 kn	Atlantic Herring	
END	09/14/01	20:58							
FISH PUMPING									
BEGIN	09/14/01	21:15							
END	09/14/01	21:55							

CAPTAIN'S CATCH ESTIMATE (prior to pumping): 135,000 lbs

COMMENTS

WATER TEMP (fahrenheit): 57.8 °

PLANE USED? NO 0 __X_____ YES 1 _____

TIME UP : hr

TIME DOWN : hr

	NO 0	YES 1
SET BY PLANE ?	_X__	___
SET ON DEBRIS ?	_X__	___
SUCCESSFUL SET ?	____	_X_
FISH LOST ?	_X__	___

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE BUNT? ____ No (0) __X_ Yes (1)

WERE THERE FISH PRESENT IN THE NET AT THE COMPLETION OF THE PUMPING PROCESS? ____ No (0) __X_ Yes (1) ____ Could Not See (2)

WHEN THE NET WAS EMPTIED WHERE WAS IT LOCATED? ____ Off Stern (1) __X_ Side of Vessel (2) ____ On Deck (3)

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Atlantic Herring		K	134,200	100	R	E							
Atlantic Herring		D	50	038	R	E							
Spiny Dogfish		D	425	001	R	E							
Atlantic Mackerel		K	320	100	R	E							
Short-Fin Squid		D	5	001	R	E							

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NMFS FISHERIES OBSERVER PROGRAM

PURSE SEINE SET LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
☐☐☐	☐☐	☐☐☐	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	°	ft	fm	

SET INFO	DATE mm/dd/yy	TIME 24 hours	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) STATION 1	**LATITUDE /** Bearing	STATION 2	**LONGITUDE /** Bearing	SET SPEED	TARGET SPECIES	CODE
BEGIN	/ /	:	9960-		9960-		. kn		
END	/ /	:							

COMMENTS

WATER TEMP (fahrenheit) ° .

NO 0 YES 1

SET BY PLANE ? ___ ___

PLANE USED? NO 0 _____ YES 1 _____

SET ON DEBRIS ? ___ ___

TIME UP : hr

SUCCESSFUL SET ? ___ ___

TIME DOWN : hr

FISH LOST ? ___ ___

FISH PUMPING

BEGIN	/ /	:
END	/ /	:

CAPTAIN'S CATCH ESTIMATE (prior to pumping) _____ lbs

WHEN THE PUMPING PROCESS WAS COMPLETED WERE YOU ABLE TO SEE THE BUNT? _____ No (0) _____ Yes (1)

WERE THERE FISH PRESENT IN THE NET AT THE COMPLETION OF THE PUMPING PROCESS? _____ No (0) _____ Yes (1) _____ Could Not See (2)

WHEN THE NET WAS EMPTIED WHERE WAS IT LOCATED? _____ Off Stern (1) _____ Side of Vessel (2) _____ On Deck (3)

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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.

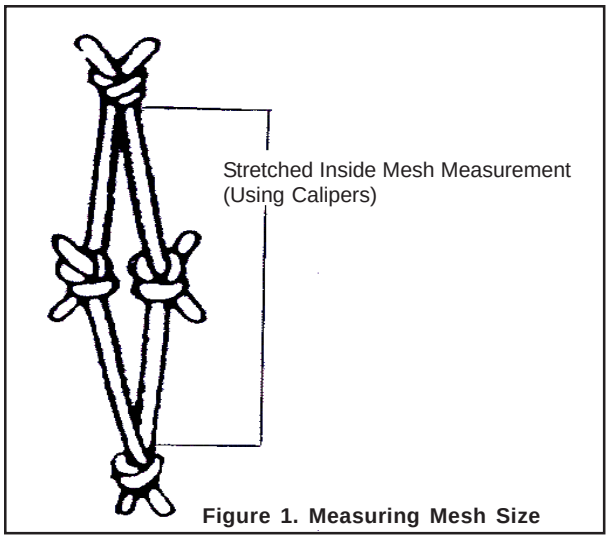

Figure 1. Measuring Mesh Size

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 P. 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 Q. 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:

0 = Unknown.
1 = Dukane.
2 = Airmar.
3 = Fumunda.
8 = Combination, record all brands in the COMMENTS.
9 = 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 P. 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 Q. 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 monotwist 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.

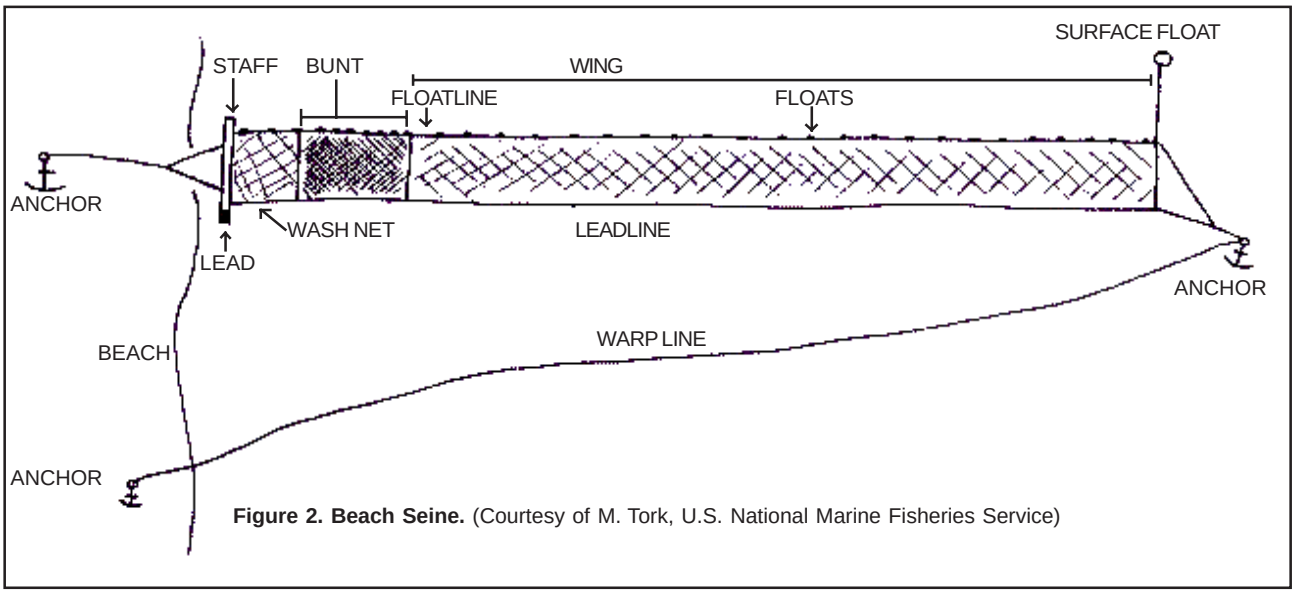

Figure 2. Beach Seine. (Courtesy of M. Tork, U.S. National Marine Fisheries Service)

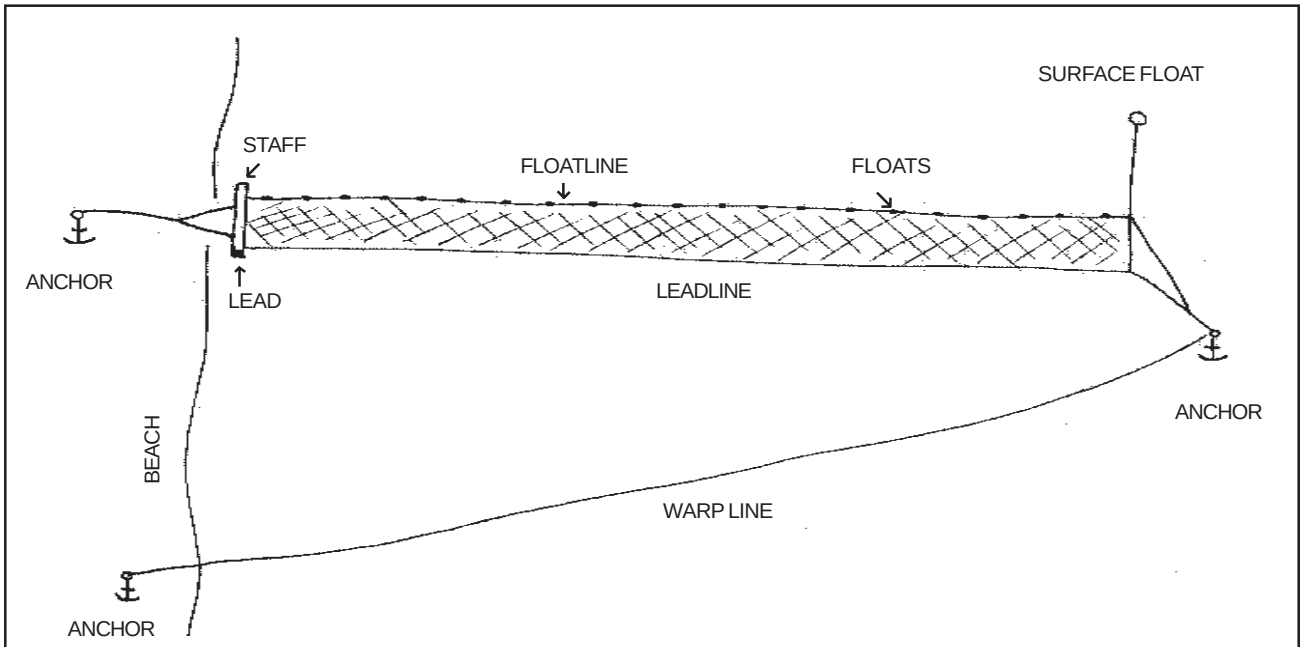

Figure 3. Beach Anchored Gillnet. (Courtesy of M. Tork, U.S. National Marine Fisheries Service)

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NMFS FISHERIES OBSERVER PROGRAM

BEACH SEINE GEAR LOG

OBS/ TRIP ID	A
DATE LAND (mm/yy)	B /

GEAR CODE [ ] [D] [ ]

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

Weight (total) 23 lb

Actual 1 ____ 24
Estimated 2 ____

Type 22
- Unknown 0____
- Danforth-style 1____
- Dead Weight 2____
- Combination 8____
- Other 9____

____22A____

LEADLINE WEIGHT 25 lbs / net

MM DETERRENT DEVICES USED?

ACTIVE 26 0___ 1___

Number 27

Frequency 29 kHz

Brand(s) 28
- Unknown 0___
- Dukane 1___
- Airmar 2___
- Fumunda 3___
- Combination 8___
- Other 9___ __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 15
- Unknown 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	Combination	98
Green	05	Other	99
Blue	06		

COMMENTS

OBBSG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

BEACH SEINE GEAR LOG

OBS/ TRIP ID	V03011-
DATE LAND (mm/yy)	12 / 06

GEAR CODE: 0 7 0

GEAR NUMBER(S): 1

NUMBER OF NETS: 2

BUNT CHARACTERISTICS:

USED? No (0)____ Yes(1)__X_

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__X__
- Other 9_____

_____

GEAR CHARACTERISTICS:

USED ?	NO	YES	MEASUREMENTS	
WASH NET	0_X_	1___	Length _____	ft
FLOATS	0___	1_X_	Dist Between 5	ft
ANCHOR (S)	0___	1_X_		

Number 4

Weight (total) 110 lb

Actual 1 ____
Estimated 2 _X__

Type
- Unknown 0_____
- Danforth-style 1_____
- Dead Weight 2_____
- Combination 8__X__
- Other 9_____

danforth & sandbags

LEADLINE WEIGHT 37 lbs / net

MM DETERRENT DEVICES USED?

ACTIVE 0_X_ 1___

Number _____

Frequency _____ kHz

Brand(s)
- Unknown 0___
- Dukane 1___
- Airmar 2___
- Fumunda 3___
- Combinatior 8___
- Other 9___ _____

PASSIVE 0_X_ 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__X___	1__X___	1_____	1_____	1_____
Other	9_____	9_____	9_____	9_____	9_____
	_____	_____	_____	_____	_____

FLOATLINE MATERIAL
- Unknown 0 ___
- Floating (foam core) 1 ___
- Twisted polypropylene 2 _X_
- Other 9 ___

_____

COLOR CODES

Unknown	00	Multi-color	07
Clear	01	Red	08
White	02	Orange	09
Pink	03	Purple	10
Black	04	Combinatior	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

OBBSG 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

BEACH SEINE GEAR LOG

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

NUMBER OF NETS

BUNT CHARACTERISTICS:

USED? No (0)____ Yes(1)____

LENGTH _____ ft

HEIGHT _____.____ ft

MESH SIZE ____.____ in (circle one) A / E

MESH COUNT, VERTICAL _____

HANGING RATIO _____/_____

TWINE SIZE _____ (circle one) A / E

STRANDS _____

COLOR CODE_____

NET MATERIAL
- Unknown 0_____
- Nylon 1_____
- Other 9_____

_____

GEAR CHARACTERISTICS:

USED ?	NO	YES	MEASUREMENTS		
WASH NET	0___	1___	Length	_____	ft
FLOATS	0___	1___	Dist Between	_____	ft
ANCHOR (S)	0___	1___			

Number _____

Weight (total) _____ lb

Actual 1 ____

Estimated 2 ____

Type
- Unknown 0_____
- Danforth-style 1_____
- Dead Weight 2_____
- Combination 8_____
- Other 9_____

_____

LEADLINE WEIGHT _____ lbs / net

MM DETERRENT DEVICES USED?

ACTIVE 0___ 1___

Number _____

Frequency _____ kHz

Brand(s)
- Unknown 0___
- Dukane 1___
- Airmar 2___
- Fumunda 3___
- Combinatior 8___
- Other 9___ _____

PASSIVE 0___ 1___ Number _____

WING CHARACTERISTICS:

	Net # ____	Net # ____	Net # ____	Net # ____	Net # ____
LENGTH (ft)					
HEIGHT (ft)	.	.	.	.	.
MESH SIZE (in)	.	.	.	.	.
A / E (circle)	A / E	A / E	A / E	A / E	A / E
MESH COUNT, VERTICAL					
HANGING RATIO	/	/	/	/	/
TWINE SIZE					
A / E (circle)	A / E	A / E	A / E	A / E	A / E
# STRANDS					
COLOR CODE					
NET MATERIAL					
Unknown	0_____	0_____	0_____	0_____	0_____
Nylon	1_____	1_____	1_____	1_____	1_____
Other	9_____	9_____	9_____	9_____	9_____
	_____	_____	_____	_____	_____

FLOATLINE MATERIAL
- Unknown 0 ___
- Floating (foam core) 1 ___
- Twisted polypropylene 2 ___
- Other 9 ___

_____

COLOR CODES

Unknown	00	Multi-color	07
Clear	01	Red	08
White	02	Orange	09
Pink	03	Purple	10
Black	04	Combinatior	98
Green	05	Other	99
Blue	06		

COMMENTS

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 Biosampliing 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-W**, 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 two digit code listed below, and in Appendix J. 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 (Set End), 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 Q. 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 regardless 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 because 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.

OBBSH OBHAU OBSPP 12/01/03

NMFS FISHERIES OBSERVER PROGRAM

BEACH SEINE / BEACH ANCHORED HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS?	MM WATCH?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	GEAR COND CODE
D	1	E	F NO 0 ___ YES 1 ___	2 NO 0 ___ YES 1 ___	G NO 0 ___ YES 1 ___	H NO 0 ___ YES 1 ___	I	J kn	K o	L ft	3

HAUL INFO		DATE	TIME (24 hours)	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			
				Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing
HAUL	BEGIN	4 / /	5 :				
	END	/ /	:		N		

EST SOAK DUR	TARGET SPECIES	CODE(S)
6 . hrs	O	P

COMMENTS

WATER TEMP 7 . o F

NUMBER OF NETS	
SET	8
HAULED	9
LOST	10

IF MM DETERRENTS USED:	ACTIVE	PASSIVE
HAULED	11	13
LOST	12	14

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

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NMFS FISHERIES OBSERVER PROGRAM

BEACH SEINE / BEACH ANCHORED HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS?	MM WATCH?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	GEAR COND CODE
0 7 0	0 1	0 0 1	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	02	7 kn	45 o	1 ft	210

HAUL INFO		DATE	TIME (24 hours)	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing
HAUL	BEGIN	06 / 26 / 01	05 : 16				
	END	06 / 26 / 01	06 : 03		35 13.8		75 32.8

EST SOAK DUR	TARGET SPECIES	CODE(S)
14 . 3 hrs	Weakfish	

COMMENTS

Net set approximately 3 PM yesterday.

Fishing in Hatteras Bight.

WATER TEMP: 61 . 0 o F

NUMBER OF NETS	
SET	2
HAULED	2
LOST	0

IF MM DETERRENTS USED:	ACTIVE	PASSIVE
HAULED		
LOST		

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Weakfish		K	320	100	R	E							
Bluefish		K	200	100	R	E							
Northern Kingfish		K	25	100	R	E							
Butterfish		K	8	100	R	A							
Atl. Menhaden		D	10	001	R	E							
Horseshoe Crab		D	12	001	R	A							

OBBSH OBHAU OBSPP 12/01/03

NMFS FISHERIES OBSERVER PROGRAM

BEACH SEINE / BEACH ANCHORED HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS?	MM WATCH?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	GEAR COND CODE
☐☐☐	☐☐	☐☐☐	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	o	ft	

HAUL INFO		DATE	TIME (24 hours)	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX)			
				Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing
HAUL	BEGIN	/ /	:	9960-		9960-	
	END	/ /	:				

EST SOAK DUR	TARGET SPECIES	CODE(S)
. hrs		

COMMENTS

WATER TEMP

o

. F

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

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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

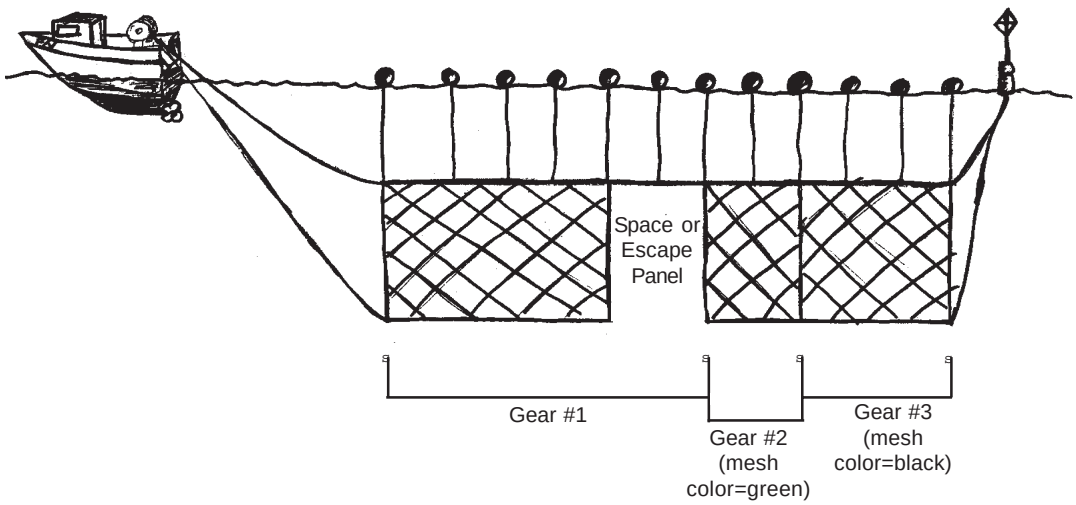


Figure 1. Pelagic Drift Gillnet gear numbering example.

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 Q. 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.

NMFS FISHERIES OBSERVER PROGRAM
PELAGIC DRIFT GILLNET GEAR LOG

OBS/ TRIP ID	A
DATE LAND (mm/yy)	B /

GEAR NUMBER(S): 1

GEAR CODE: D

NETS STACKED ? 2 NO 0 ___ YES 1 ___

NET CHARACTERISTICS:

LENGTH 3 ft

HEIGHT 4 . ft

MESH SIZE 5 . in

MESH COUNT VERTICAL 6

HANGING RATIO 7 /

TWINE SIZE 8

STRANDS 9

NET MATERIAL 10

- Unknown 0 ___
- Nylon 1 ___
- Other 9 ___

10A

NET COLOR 11

- Unknown 00 ___
- Clear 01 ___
- White 02 ___
- Pink 03 ___
- Black 04 ___
- Green 05 ___
- Blue 06 ___
- Multi-color 07 ___
- Red 08 ___
- Other 99 ___

11A

USED?		NO	YES	MEASUREMENTS		
FLOATS	12	0 ___	1 ___	Number	13	
				Dist Between	14	ft
DROPLINES	15	0 ___	1 ___	Length	16	ft
SPACE OR ESCAPE PANEL	17	0 ___	1 ___	Width	18.	ft
LEADLINE	19	0 ___	1 ___	Weight	20	lbs
ADDITIONAL WTS	21	0 ___	1 ___	Weight	22	lbs
MM DETERRENT DEVICES						
ACTIVE	23	0 ___	1 ___	Number	24	
PASSIVE	25	0 ___	1 ___	Number	26	
TIED TO VESSEL OR OTHER ANCHOR METHOD	27	0 ___	1 ___	Weight	28	lbs

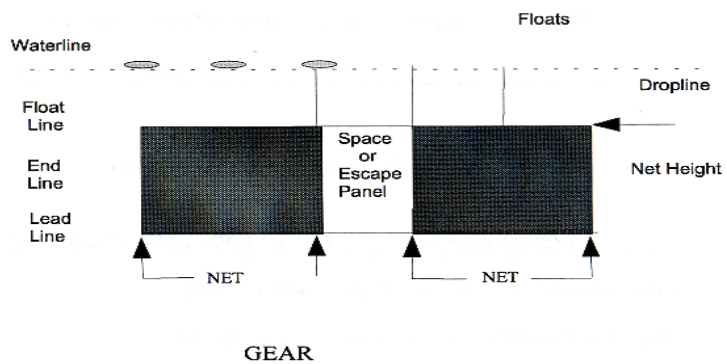
Actual 29 1 ___
Estimated 2 ___

ANCHOR METHOD 30

- Unknown 0 ___
- Tied to Vessel Only 1 ___
- Anchored Only 2 ___
- Tied & Anchored 3 ___
- Other 9 ___

30A

(diagram for reference only)



COMMENTS ON DESCRIPTION OF SPACE OR ESCAPE PANEL

COMMENTS ON METHODS OF SETTING OR HAULING GEAR

OTHER COMMENTS

NMFS FISHERIES OBSERVER PROGRAM
PELAGIC DRIFT GILLNET GEAR LOG

OBS/ TRIP ID	B98045-
DATE LAND (mm/yy)	10 / 01

GEAR NUMBER(S)	GEAR CODE
1	1 1 5

NETS STACKED ? NO 0 X YES 1 ___

NET CHARACTERISTICS:

LENGTH 4338 ft

HEIGHT 123.3 ft

MESH SIZE 22.0 in

MESH COUNT VERTICAL 70

HANGING RATIO 1 / 3

TWINE SIZE 30

STRANDS 3

NET MATERIAL
- Unknown 0 ___
- Nylon 1 X
- Other 9 ___

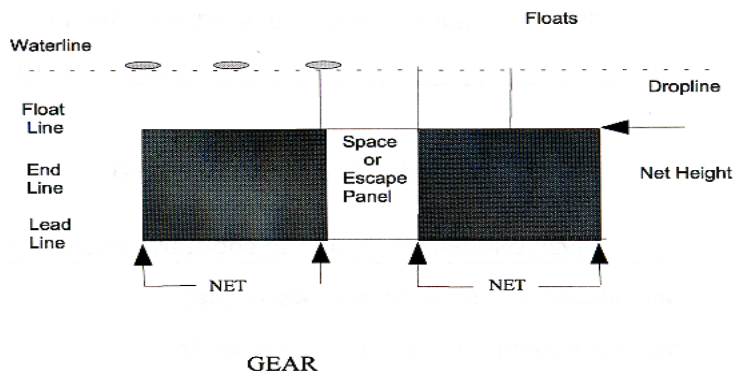
NET COLOR
- Unknown 00 ___
- Clear 01 ___
- White 02 ___
- Pink 03 ___
- Black 04 ___
- Green 05 ___
- Blue 06 ___
- Multi-color 07 ___
- Red 08 X
- Other 99 ___

USED?	NO	YES	MEASUREMENTS		
FLOATS	0 ___	1 X	Number	43	
			Dist Between	100	ft
DROPLINES	0 ___	1 X	Length	30	ft
SPACE OR ESCAPE PANEL	0 ___	1 X	Width	55.0	ft
LEADLINE	0 ___	1 X	Weight	470	lbs
ADDITIONAL WTS	0 X	1 ___	Weight		lbs
MM DETERRENT DEVICES					
ACTIVE	0 X	1 ___	Number		
PASSIVE	0 X	1 ___	Number		
TIED TO VESSEL OR OTHER ANCHOR METHOD	0 ___	1 X	Weight	0	lbs

Actual 1 ___
Estimated 2 ___

ANCHOR METHOD
- Unknown 0 ___
- Tied to Vessel Only 1 X
- Anchored Only 2 ___
- Tied & Anchored 3 ___
- Other 9 ___

(diagram for reference only)



COMMENTS ON DESCRIPTION OF SPACE OR ESCAPE PANEL

Space is designed to aid in hauling the 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: 65 lbs/ 600 ft: 50/600 x 4338 ~470 lbs

NMFS FISHERIES OBSERVER PROGRAM
PELAGIC DRIFT GILLNET GEAR LOG

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

GEAR NUMBER(S) | GEAR CODE ☐☐☐

NETS STACKED ? NO 0 ___ YES 1 ___

NET CHARACTERISTICS:

LENGTH _____ft

HEIGHT _____._____ft

MESH SIZE _____._____ in

MESH COUNT VERTICAL _____

HANGING RATIO _____/_____

TWINE SIZE _____

STRANDS _____

NET MATERIAL
- Unknown 0 ____
- Nylon 1 ____
- Other 9 ____

_____

NET COLOR
- Unknown 00 ___
- Clear 01 ___
- White 02 ___
- Pink 03 ___
- Black 04 ___
- Green 05 ___
- Blue 06 ___
- Multi-color 07 ___
- Red 08 ___
- Other 99 ___

_____

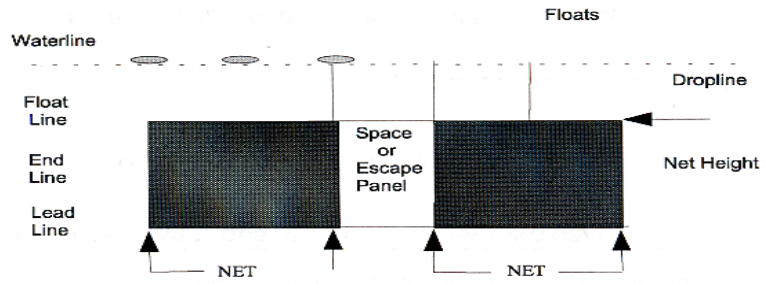
USED?	**NO**	**YES**	**MEASUREMENTS**	
FLOATS	0 ___	1 ___	Number	_____
			Dist Between	_____ft
DROPLINES	0 ___	1 ___	Length	_____ft
SPACE OR ESCAPE PANEL	0 ___	1 ___	Width	_____ft
LEADLINE	0 ___	1 ___	Weight	_____ lbs
ADDITIONAL WTS	0 ___	1 ___	Weight	_____ lbs
MM DETERRENT DEVICES USD?				
ACTIVE	0 ___	1 ___	Number	_____
PASSIVE	0 ___	1 ___	Number	_____
TIED TO VESSEL OR OTHER ANCHOR METHOD	0 ___	1 ___	Weight	_____ lbs

Actual 1 ___
Estimated 2 ___

ANCHOR METHOD
- Unknown 0 ___
- Tied to Vessel Only 1 ___
- Anchored Only 2 ___
- Tied & Anchored 3 ___
- Other 9 ___

_____

(diagram for reference only)



GEAR

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-W**, 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 J. 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 Q. 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.

OBGPH OBHAU OBSPP 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

PELAGIC DRIFT GILLNET HAUL LOG

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C ☐ of ☐

GEAR CODE	GEAR NUMBER(S)	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
☐ D ☐	1	☐ E ☐	F NO 0 ___ YES 1 ___	G NO 0 ___ YES 1 ___	H NO 0 ___ YES 1 ___	I	J kn	K o	L ft	M fm	2

SET/HAUL INFO		DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	LATITUDE / Bearing	Station 2	LONGITUDE / Bearing	TEMP fahrenheit
SET	BEGIN	/ 3 /	4 :		N			5 . o
	END	/ /	:					. o
HAU	BEGIN	/ /	:					. o
	END	/ /	:					. o

COMMENTS

IF MM DETERRENTS USED:

	ACTIVE	PASSIVE
NUMBER HAULED	6	8
NUMBER LOST	7	9

LIGHT STICKS USED ?

NO 0 ___ 11 NUMBER

YES 1 ___ 12

DEPTH RANGE, LEADLINE

10 __ fm

TARGET SPECIES	CODE
O	P

SET METHOD 13

Unknown	00 ___
Temperature	01 ___
Bottom Contours	02 ___
Compass / Loran	03 ___
Tide / Current	04 ___
Visual	05 ___
Eddy	06 ___
Mixed	98 ___
Other	99 ___

13A

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W

:

OBGPH OBHAU OBSPP 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

PELAGIC DRIFT GILLNET HAUL LOG

OBS/TRIP ID	B98045-
DATE LANDED mm/yy	10/01
PAGE #	1 of 4

GEAR CODE	GEAR NUMBER(S)	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
1 1 5	1,2	0 0 8	NO 0 ___ YES 1 X	NO 0 ___ YES 1 X	NO 0 ___ YES 1 X	02	15 kn	280 o	2 ft	400 fm	320

SET/HAUL INFO		DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	LATITUDE / Bearing	Station 2	LONGITUDE / Bearing	TEMP fahrenheit
SET	BEGIN	10 / 13 / 01	18 : 30		40 21.2		67 30.5	68.6 o
	END	10 / 13 / 01	20 : 45		40 22.1		67 28.6	64.3 o
HAUL	BEGIN	10 / 14 / 01	05 : 30		40 22.7		67 30.1	62.3 o
	END	10 / 14 / 01	09 : 34		40 21.8		67 32.0	62.5 o

IF MM DETERRENTS USED:

	ACTIVE	PASSIVE
NUMBER HAULED		
NUMBER LOST		

DEPTH RANGE, LEADLINE: 25 __ 26 fm

TARGET SPECIES CODE: SWORDFISH

SET METHOD

Unknown	00 ___
Temperature	01 X
Bottom Contours	02 ___
Compass / Loran	03 ___
Tide / Current	04 ___
Visual	05 ___
Eddy	06 ___
Mixed	98 ___
Other	99 ___

LIGHT STICKS USED ?

NO 0 ___ NUMBER

YES 1 X 50

COMMENTS

Incidental take of 2 risso's dolphins, D01254 & D01253.

Total of 7 swordfish, 8 Makos, and 3 yellowfin tunas for the haul.

Holes from basking shark.

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Mako Shark, Fins		K	25	100	D	E

:

OBGPH OBHAU OBSPP 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

PELAGIC DRIFT GILLNET HAUL LOG

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

GEAR CODE	GEAR NUMBER(S)	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
1 1 5		☐☐☐	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	o	ft	fm	

SET/HAUL INFO		DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	LATITUDE / Bearing	Station 2	LONGITUDE / Bearing	TEMP fahrenheit
SET	BEGIN	/ /	:					o .
	END	/ /	:					o .
HAUL	BEGIN	/ /	:					o .
	END	/ /	:					o .

COMMENTS

IF MM DETERRENTS USED:

	ACTIVE	PASSIVE
NUMBER HAULED	_____	_____
NUMBER LOST	_____	_____

LIGHT STICKS USED ?

NO 0 ___ NUMBER

YES 1 ___ _____

DEPTH RANGE, LEADLINE

__ fm

TARGET SPECIES CODE

SET METHOD

Unknown	00 ___
Temperature	01 ___
Bottom Contours	02 ___
Compass / Loran	03 ___
Tide / Current	04 ___
Visual	05 ___
Eddy	06 ___
Mixed	98 ___
Other	99 ___

_____

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

:

LONGLINE GEAR CHARACTERISTICS LOG

This log contains detailed questions about the gear fished; use it to document the use and configuration of all hook and line gears. This includes longline gear as well as other line fishing methods not commonly used, but periodically deployed (e.g. rod and reel, handline, troll line). There are differences in the protocols for recording the characteristics of longline gear compared with other line fishing gears.

Demersal Longline (Bottom Longline, Tub Trawl)
Changes in gear configuration (i.e. number of hooks, number of floats, distance between gangions, mainline material, *etc.*) requires the completion of a new Longline Gear Characteristics Log.

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.

Example: The first two hauls use gears ("strings") with light sticks and target swordfish. Number these gears "1" and record their characteristics on a single Longline Gear Characteristics Log. The remaining five hauls do not use lightsticks and target bigeye tuna. Complete a second gear log numbered gear number "2".

Other Line Fishing Gears

For other line fishing gears, complete only the following fields on the Longline Gear Characteristics Log; A, B, D, 1, 2, 5-9, 16-18, 30-33. 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.
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**, 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. 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.

4. 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 (#3) fished.

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 placing an “X” next to the appropriate code:

0 = Unknown.
1 = Monofilament Nylon.
2 = Cotton.
3 = Steel Wire.
4 = Multi-strand Nylon.
9 = Other, record the mainline material on line 8A.

9. COLOR: Record the color of the mainline 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 mainline colors on line 9A.
08 = Red.
99 = Other, record the mainline color on line 9A.

FLOATS

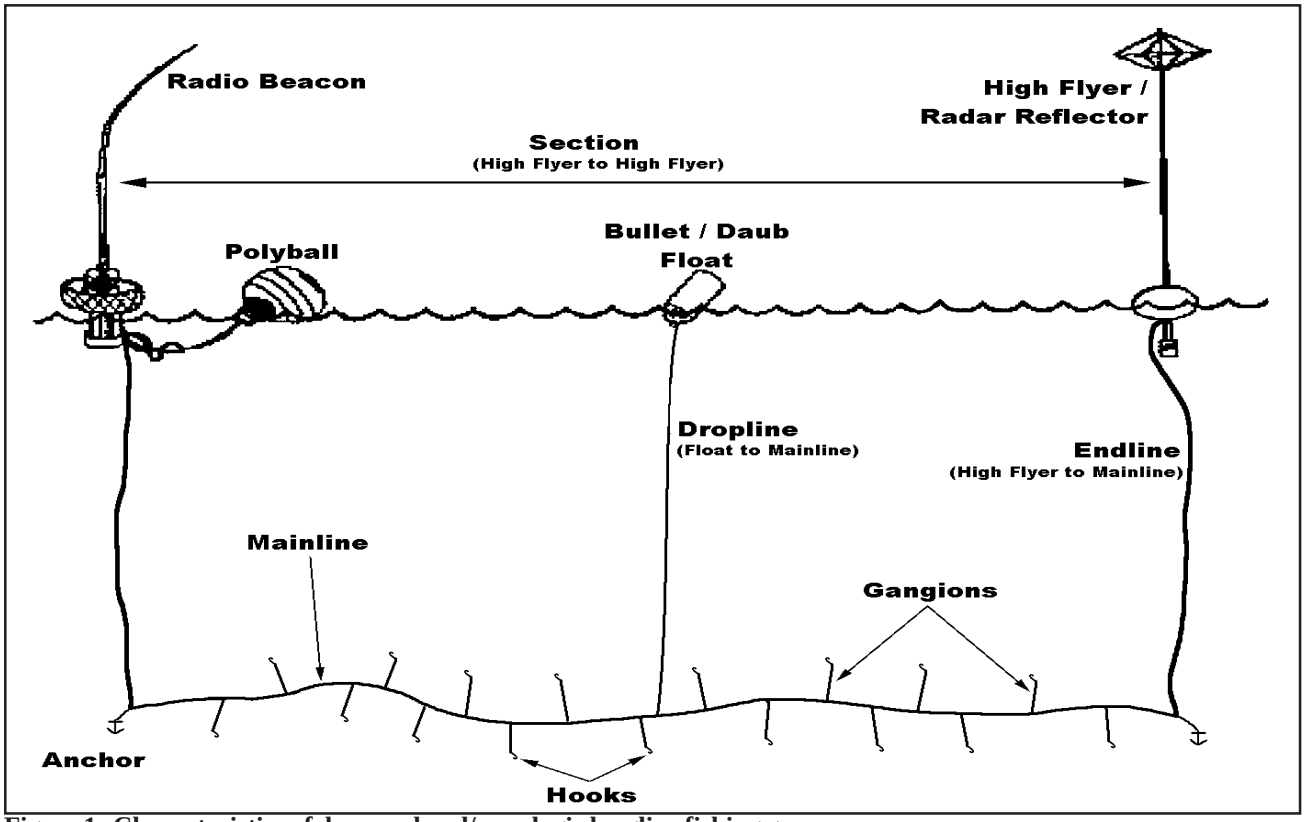


Figure 1. Characteristics of demersal and/or pelagic longline fishing gear.

10. USED?: Record whether floats of each type listed (unknown, polyball, bullet/daub and other), are used on this gear by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

NOTE: If "other" float types are used, record the float type(s) in COMMENTS.

11. NUMBER: Record the number of each float type used.

12. 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).

ANCHOR

13. 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.

14. 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.

15. WEIGHT - ACTUAL OR ESTIMATED: Record whether the weight recorded in #14 is an actual or estimated weight by placing an "X" next to the appropriate code:

1 = Actual.
2 = Estimated.

HOOKS

NOTE: Primary describes the most used hook type, and secondary describes the second most used hook type.

16. 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 cap-

tain. 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 2.

17. 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.

18. 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.

DROPLINES

NOTE: In the demersal longline fishery droplines are not typically used.

19. 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 (-).

20. DISTANCE BETWEEN: Record, to the nearest foot, the distance between droplines.

21. NUMBER OF RADIO BEACONS: Record the number of radio beacons. These may also be called "radio buoys" or "beepers".

22. NUMBER OF RADAR REFLECTORS: Record the number of radar reflectors. These may also be called "**high flyers**".

GANGIONS

23. 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.

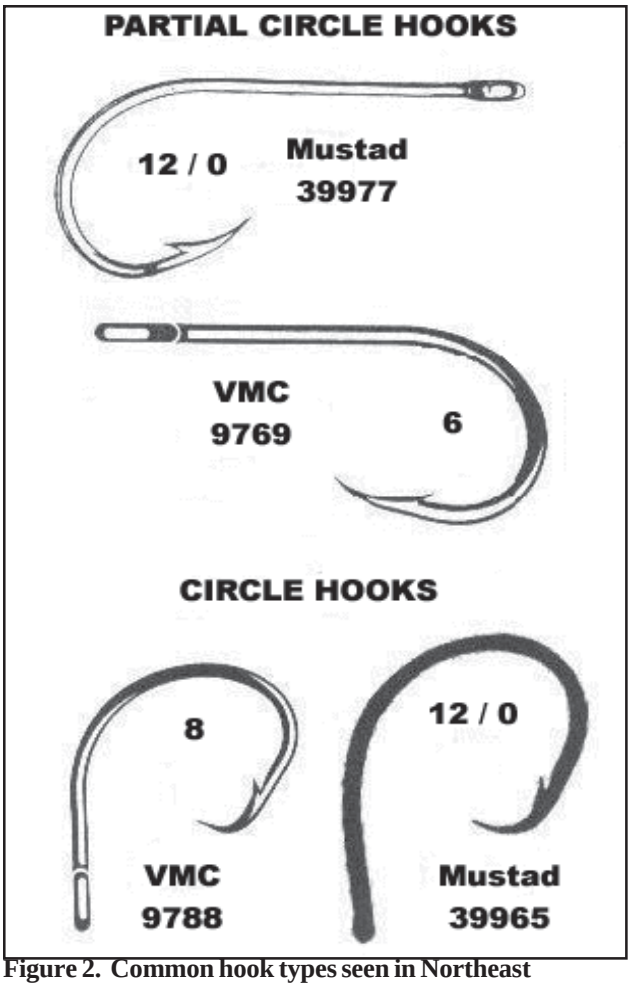


Figure 2. Common hook types seen in Northeast demersal longline fishery.

24. 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.

25. TEST: Record, in whole pounds, the test, or dry breaking strength, of the gangions used in this gear.

26. 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.

27. COUNT: Record the number of gangions for each length used.

28. MATERIAL: Record the material of the

gangions, by placing an "X" next to the appropriate code:

0 = Unknown.
1 = Monofilament Nylon.
2 = Cotton.
4 = Multi-strand Nylon.
9 = Other, record the gangion material on line 28A.

29. COLOR: Record the color of the gangions 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.
08 = Red.
98 = Combination, record all gangion colors on line 29A.
99 = Other, record the gangion color on line 29A.

LEADERS

30. 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.

31. LENGTH: Record, in whole feet, the length of the leaders used in this gear.

32. 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.

33. 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 on line 33A.

SWIVELS

34. SWIVELS USED?: Indicate whether swivels are used on the gangions by placing a "X" next to the appropriate code:

0 = No
1 = Yes

35. 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.

LIGHT STICKS

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

0 = No.
1 = Yes.

37. COLOR: Record the color of the light sticks used on this gear by placing an "X"' next to the appropriate code:

00 = Unknown.
02 = White.
03 = Pink.
05 = Green.
06 = Blue.
08 = Red.
09 = Orange.
10 = Purple.
98 = Combination, record all colors on line 37A.
99 = Other, record the light stick color on line 37A.

38. NUMBER OF LIGHTSICKS: Record the average number of lightsticks used on this gear.

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.

OBLLG 01/01/06

NMFS FISHERIES OBSERVER PROGRAM

LONGLINE GEAR CHARACTERISTICS LOG

OBS/ TRIP ID * A

DATE LAND (mm/yy) * B /

GEAR CODE *	GEAR NUMBER(S)*	NUMBER OF HOOKS*	NUMBER OF SECTIONS	SECTION LENGTH
D	1	2	3	4 . nm

MAINLINE * 5

OF STRANDS _____ 6

DIAMETER _____._____mm 7

TEST _____lbs

MATERIAL 8

Unknown 0 ___
Mono-filament Nylon 1 ___
Cotton 2 ___
Steel Wire 3 ___
Multi-strand Nylon 4 ___
Other 9 ___

_____ 8A

COLOR 9

Unknown 00 ___
Clear 01 ___
White 02 ___
Pink 03 ___
Black 04 ___
Green 05 ___
Blue 06 ___
Multi-color 07 ___
Red 08 ___
Other 99 ___

_____ 9A

GANGIONS

DISTANCE 23
BETWEEN _____ft

DIAMETER 24
_____._____mm

TEST 25
_____lbs

LENGTH 26 _____ft
_____ft

COUNT 27 _____
_____

MATERIAL 28

Unknown 0 ___
Mono-filament Nylon 1 ___
Cotton 2 ___
Muli-strand Nylon 4 ___
Other 9 ___

COLOR 29

Unknown 00 ___
Clear 01 ___
White 02 ___
Pink 03 ___
Black 04 ___
Green 05 ___
Blue 06 ___
Red 08 ___
Combination 98___
Other 99 ___

29 A _____

FLOATS

TYPE	USED? 10	NUMBER 11	AVERAGE HOOKS BETWEEN 12
Unknown	NO 0 ___ YES 1 ___	_____	_____
Polyball	NO 0 ___ YES 1 ___	_____	_____
Bullet/Daub	NO 0 ___ YES 1 ___	_____	_____
Other	NO 0 ___ YES 1 ___	_____	_____

LEADERS * 30

USED? NO 0 ___ YES 1 ___

LENGTH 31 _____ft

TEST 32 _____lbs

MATERIAL 33

Unknown 0 ___
Mono-filament Nylon 1 ___
Steel Wire 3 ___
Other 9 ___

_____ 33 A

SWIVELS 34

USED? NO 0 ___ YES 1 ___

NUMBER SWIVELS/GANGION 35

_____

LIGHT STICKS USED? 36

NO 0 ___YES 1 ___

COLOR 37

Unknown 00 ___
White 02 ___
Pink 03 ___
Green 05 ___
Blue 06 ___
Red 08 ___
Orange 09 ___
Purple 10 ___
Combination 98 ___
Other 99 ___

37 A _____

NUMBER 38 _____

ANCHOR USED? 13

NO 0 ___ YES 1 ___

WEIGHT 14 _____lbs

Actual 15 1 ___
Estimated 2 ___

HOOKS *

BRAND 16	MODEL/ PATTERN 17	SIZE 18
_____	_____	_____
_____	_____	_____

DROPLINE 19

LENGTH _____ft

DISTANCE BETWEEN 20 _____ft

RADIO BEACONS COUNT 21 _____

RADAR REFLECTORS 22 _____

COMMENTS

* = fill in for other line gears

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NMFS FISHERIES OBSERVER PROGRAM

LONGLINE GEAR CHARACTERISTICS LOG

OBS/ TRIP ID * **E03715-**

DATE LAND (mm/yy) * **11 / 05**

GEAR CODE *	GEAR NUMBER(S) *	NUMBER OF HOOKS*	NUMBER OF SECTIONS	SECTION LENGTH
0 1 0	1, 2, 3	900	1	0 . 9 nm

MAINLINE *

OF STRANDS _____

DIAMETER ___5.0____ mm

TEST ___900___ lbs

MATERIAL
Unknown 0 ___
Mono-filament Nylon 1 ___
Cotton 2 ___
Steel Wire 3 ___
Multi-Strand Nylon 4 _X_
Other 9 ___

COLOR
Unknown 00 ___
Clear 01 ___
White 02 ___
Pink 03 ___
Black 04 ___
Green 05 ___
Blue 06 _X_
Multi-color 07 ___
Red 08 ___
Other 99 ___

GANGIONS

DISTANCE BETWEEN ____6_____ft

DIAMETER ____2.0____mm

TEST ____400____lbs

LENGTH COUNT
____1____ft _900_
_____ft _____

MATERIAL
Unknown 0 ___
Mono-filament Nylon 1 ___
Cotton 2 ___
Multi-Strand Nylon 4 _X_
Other 9 ___

COLOR
Unknown 00 ___
Clear 01 ___
White 02 ___
Pink 03 ___
Black 04 ___
Green 05 ___
Blue 06 _X_
Red 08 ___
Combination 98___
Other 99 ___

FLOATS

TYPE	USED?	NUMBER	AVERAGE HOOKS BETWEEN
Unknown	NO 0 _X_ YES 1 ___	_____	_____
Polyball	NO 0 ___ YES 1 _X_	__2__	__900_
Bullet/Daub	NO 0 _X_ YES 1 ___	_____	_____
Other	NO 0 _X_ YES 1 ___	_____	_____

LEADERS *

USED? NO 0 _X_ YES 1 ___

LENGTH _____ft

TEST _____lbs

MATERIAL
Unknown 0 ___
Mono-filament Nylon 1 ___
Steel Wire 3 ___
Other 9 ___

SWIVELS

USED? NO 0 _X_ YES 1 ___

NUMBER SWIVELS/GANGION
_____

LIGHT STICKS USED?

NO 0 _X_ YES 1 ___

COLOR
Unknown 00 ___
White 02 ___
Pink 03 ___
Green 05 ___
Blue 06 ___
Red 08 ___
Orange 09 ___
Purple 10 ___
Combination 98 ___
Other 99 ___

NUMBER
_____

ANCHOR USED?

NO 0 ___ YES 1 _X_

WEIGHT ___25___lbs

Actual 1 ___
Estimated 2 _X_

HOOKS *

BRAND	MODEL/ PATTERN	SIZE
__Mustad__	__39977__	_12/0_
_____	_____	_____

DROPLINE

LENGTH ___-___ft

DISTANCE BETWEEN ___-___ft

	COUNT
RADIO BEACONS	__0__
RADAR REFLECTORS	__2__

COMMENTS

Hook is a partial circle.

* = fill in for other line gears

NMFS FISHERIES OBSERVER PROGRAM
LONGLINE GEAR CHARACTERISTICS LOG

OBS/ TRIP ID *
DATE LAND (mm/yy) * /

GEAR CODE *	GEAR NUMBER(S) *	NUMBER OF HOOKS*	NUMBER OF SECTIONS	SECTION LENGTH
☐☐☐				. nm

MAINLINE *

OF STRANDS _____

DIAMETER _____._____mm

TEST _____lbs

MATERIAL
Unknown 0 ___
Mono-filament Nylon 1 ___
Cotton 2 ___
Steel Wire 3 ___
Multi-strand Nylon 4 ___
Other 9 ___
_____

COLOR
Unknown 00 ___
Clear 01 ___
White 02 ___
Pink 03 ___
Black 04 ___
Green 05 ___
Blue 06 ___
Multi-color 07 ___
Red 08 ___
Other 99 ___
_____

GANGIONS

DISTANCE BETWEEN _____ft

DIAMETER _____._____mm

TEST _____lbs

LENGTH COUNT
_____ft _____
_____ft _____

MATERIAL
Unknown 0 ___
Mono-filament Nylon 1 ___
Cotton 2 ___
Multi-strand Nylon 4 ___
Other 9 ___

COLOR
Unknown 00 ___
Clear 01 ___
White 02 ___
Pink 03 ___
Black 04 ___
Green 05 ___
Blue 06 ___
Red 08 ___
Combination 98___
Other 99 ___
_____

FLOATS

TYPE	USED?		NUMBER	AVERAGE HOOKS BETWEEN
Unknown	NO 0 ___	YES 1 ___	_____	_____
Polyball	NO 0 ___	YES 1 ___	_____	_____
Bullet/Daub	NO 0 ___	YES 1 ___	_____	_____
Other	NO 0 ___	YES 1 ___	_____	_____

LEADERS *

USED? NO 0 ___ YES 1 ___

LENGTH _____ft

TEST _____lbs

MATERIAL
Unknown 0 ___
Mono-filament Nylon 1 ___
Steel Wire 3 ___
Other 9 ___
_____

SWIVELS

USED? NO 0 ___ YES 1 ___

NUMBER SWIVELS/GANGION
_____

LIGHT STICKS USED?

NO 0 ___YES 1 ___

COLOR
Unknown 00 ___
White 02 ___
Pink 03 ___
Green 05 ___
Blue 06 ___
Red 08 ___
Orange 09 ___
Purple 10 ___
Combination 98 ___
Other 99 ___
_____

NUMBER
_____

ANCHOR USED?

NO 0 ___ YES 1 ___

WEIGHT _____lbs

Actual 1 ___
Estimated 2 ___

HOOKS *

BRAND	MODEL/ PATTERN	SIZE
_____	_____	_____
_____	_____	_____

DROPLINE

LENGTH _____ft

DISTANCE BETWEEN _____ft

	COUNT
RADIO BEACONS	_____
RADAR REFLECTORS	_____

COMMENTS

* = fill in for other line gears

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 (#14) and NUMBER OF HOOKS REBAITED (#15).

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-W**, 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 two digit code listed below, and in Appendix J. 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 significant 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 Q. Conversion Tables to convert them to Fahrenheit.

ADDITIONAL HAUL INFORMATION

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 8A.

99 = Other, record the set method(s) on line 8A.

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 O. 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 O. 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 O. 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).

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.

OBLLH OBHAU OBSPP 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LONGLINE HAUL LOG

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

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

SET/HAUL INFO		DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	TEMP fahrenheit
SET	BEGIN	3 / /	4 :		N			5 o .
SET	END	/ /	:					o .
HAUL	BEGIN	/ /	:					o .
HAUL	END	/ /	:					o .

MAINLINE LENGTH*	TARGET SPECIES	CODE
6 . nm	O	P

SET SPEED	SET METHOD	
7 . kn	8	
	Unknown	00 ___
	Temperature	01 ___
	Bottom Contours	02 ___
	Compass / Loran	03 ___
	Tide / Current	04 ___
	Visual	05 ___
	Eddy	06 ___
	Mixed	98 ___
	Other	99 ___

ITEMS USED?

TYPE	NO	YES	NUMBER
	9		10
Rattlers*	0 ___	1 ___	_____
Surface Lights*	0 ___	1 ___	_____
Additional Line Wts	0 ___	1 ___	_____

WEIGHT OF ADDITIONAL LINE WEIGHTS ____11_____lbs

NUMBER OF HOOKS

SET	12 _____
HAULED	13 _____
LOST	14 _____
TENDED*	15 _____
REBAITED*	16 _____

BAIT

	LBS	KIND	TYPE	COND
	17	18	19	20
#1	____	____	____	____
#2	____	____	____	____
#3	____	____	____	____

HOOK DEPTH RANGE

21 _ fm

_____

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

COMMENTS

* Longline only

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NMFS FISHERIES OBSERVER PROGRAM

LONGLINE HAUL LOG

OBS/TRIP ID	E03715-
DATE LANDED mm/yy	11 / 05
PAGE #	1 of 1

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
0 1 0	0 1	0 0 1	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	01	20 kn	0 o	3 ft	36 fm	610

SET/HAUL INFO		DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	TEMP fahrenheit
SET	BEGIN	07/ 15 /05	05:30		42 o 00.2'		67 o 38.7'	54.3 o
SET	END	07/ 15 /05	05:42		41 o 59.4'		67 o 38.2'	54.3 o
HAUL	BEGIN	07/ 15 /05	07:38		41 o 59.6'		67 o 39.0'	54.8 o
HAUL	END	07/ 15 /05	08:16		42 o 00.4'		67 o 38.4'	55.0 o

MAINLINE LENGTH*: 0.9 nm

SET SPEED: 5.2 kn

TARGET SPECIES: Haddock

SET METHOD

Unknown	00 ___
Temperature	01 ___
Bottom Contours	02 _X
Compass / Loran	03 ___
Tide / Current	04 ___
Visual	05 ___
Eddy	06 ___
Mixed	98 ___
Other	99 ___

ITEMS USED?

TYPE	NO	YES	NUMBER
Rattlers*	0 _X_	1 ___	_____
Surface Lights*	0 _X_	1 ___	_____
Additional Line Wts	0 ___	1 _X_	___2___

WEIGHT OF ADDITIONAL LINE WEIGHTS _____10_____lbs

NUMBER OF HOOKS

SET	_900_
HAULED	_895_
LOST	__5__
TENDED*	__0__
REBAITED*	__0__

BAIT

	LBS	KIND	TYPE	COND
#1	_30__	_10_	__4__	__6__
#2	____	____	____	____
#3	____	____	____	____

HOOK DEPTH RANGE: 10 - 10 fm

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Haddock		K	50	100	D	E							
Winter Skate		D	250	001	R	E							
Spiny Dogfish		D	300	001	R	E							
Monkfish		K	10	100	R	E							
Haddock		D	3	043	R	E							
Atlantic Cod		K	12	100	R	E							

COMMENTS

Was not able to obtain actual weights or length frequencies due to time constraints.

Spiny dogfish estimated weight was based on 5 lbs per dogfish (60 dogfish)

Only one haddock fell off the hook before coming onboard.

* Longline only

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NMFS FISHERIES OBSERVER PROGRAM

LONGLINE HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
☐☐☐	☐☐	☐☐☐	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	o	ft	fm	

SET/HAUL INFO		DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	TEMP fahrenheit
SET	BEGIN	/ /	:	9960-		9960-		o .
SET	END	/ /	:	9960-		9960-		o .
HAUL	BEGIN	/ /	:	9960-		9960-		o .
HAUL	END	/ /	:	9960-		9960-		o .

MAINLINE LENGTH * . nm

TARGET SPECIES CODE

SET SPEED . kn

SET METHOD

Unknown	00 ___
Temperature	01 ___
Bottom Contours	02 ___
Compass / Loran	03 ___
Tide / Current	04 ___
Visual	05 ___
Eddy	06 ___
Mixed	98 ___
Other	99 ___

_____

ITEMS USED?

TYPE	NO	YES	NUMBER
Rattlers*	0 ___	1 ___	_____
Surface Lights*	0 ___	1 ___	_____
Additional Line Wts	0 ___	1 ___	_____

WEIGHT OF ADDITIONAL LINE WEIGHTS _____lbs

NUMBER OF HOOKS

SET	_____
HAULED	_____
LOST	_____
TENDED*	_____
REBAITED*	_____

BAIT

	LBS	KIND	TYPE	COND
#1	_____	_____	_____	_____
#2	_____	_____	_____	_____
#3	_____	_____	_____	_____

HOOK DEPTH RANGE _ fm

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

COMMENTS

* = 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) **hauled** 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/hauled in COMMENTS.

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

Become familiar with the following definition(s).

DEFINITIONS

Dredge: A towed steel frame with a blade/knife on the bottom. It may have a steel ring-bag for holding the clams/quahogs.

INSTRUCTIONS

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

1. GEAR NUMBER(S): Record the consecutive number(s) assigned to each uniquely configured gear hauled.

Example: The first uniquely configured gear is gear number "1". This gear number ("1") will be used on the Clam/Quahog Dredge Haul Log for each haul. If at any time, the gear configuration changes a new consecutive gear number ("2") will be assigned. The "Gear Number" field on all haul logs after the gear change must reflect the new gear number that was assigned.

2. CAGE HEIGHT: Record, in whole inches, the overall height of the cage frame. Measure this distance from the bottom of the dredge cage to the top of the dredge cage. See Figure 1. This information may be obtained from the Captain.

3. CAGE WIDTH: Record, in whole inches, the dredge cage width. Measure this distance from one side of the dredge cage to the other side of the dredge cage. See Figure 1. This information may be obtained from the Captain.

4. CAGE LENGTH: Record, in whole inches, the dredge cage length. Measure this distance from one side of the dredge cage to the other side of the drege 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.

CHAIN BAG

7. USED?: Record whether a chain bag is used at the back of the dredge.

0 = No.
1 = Yes.

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

9. 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.

Example: 3/8.

10. 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 P. Vernier Caliper Instructions for further information.

11. 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 P. Vernier Caliper Instructions for further information.

12. 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 P. Vernier Caliper Instructions for further information.

13. SORTER USED?: Record whether a mechanical sorter was used to remove undersized shellfish, debris, etc. from the catch.

14. 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 14A.

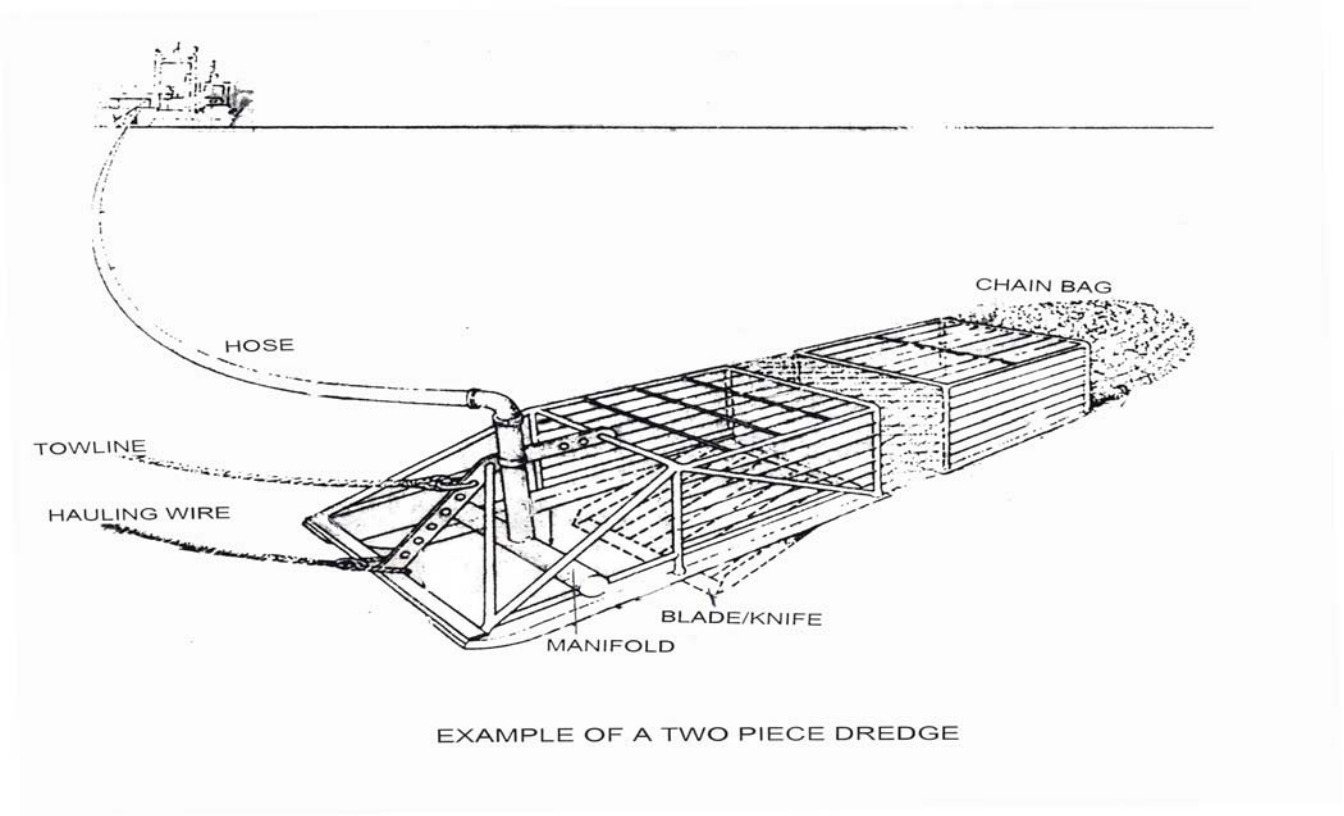
15. POSITION: Record where the towline is attached to the dredge by placing an "x" next to the appropriate code:

0 = Unknown.
1 = Forward Section.
2 = Over top of the knife.

16. NUMBER OF NOZZLES: Record the total number of nozzles used on the dredge.

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.


CHAIN BAG
HOSE
TOWLINE
HAULING WIRE
BLADE/KNIFE
MANIFOLD
EXAMPLE OF A TWO PIECE DREDGE

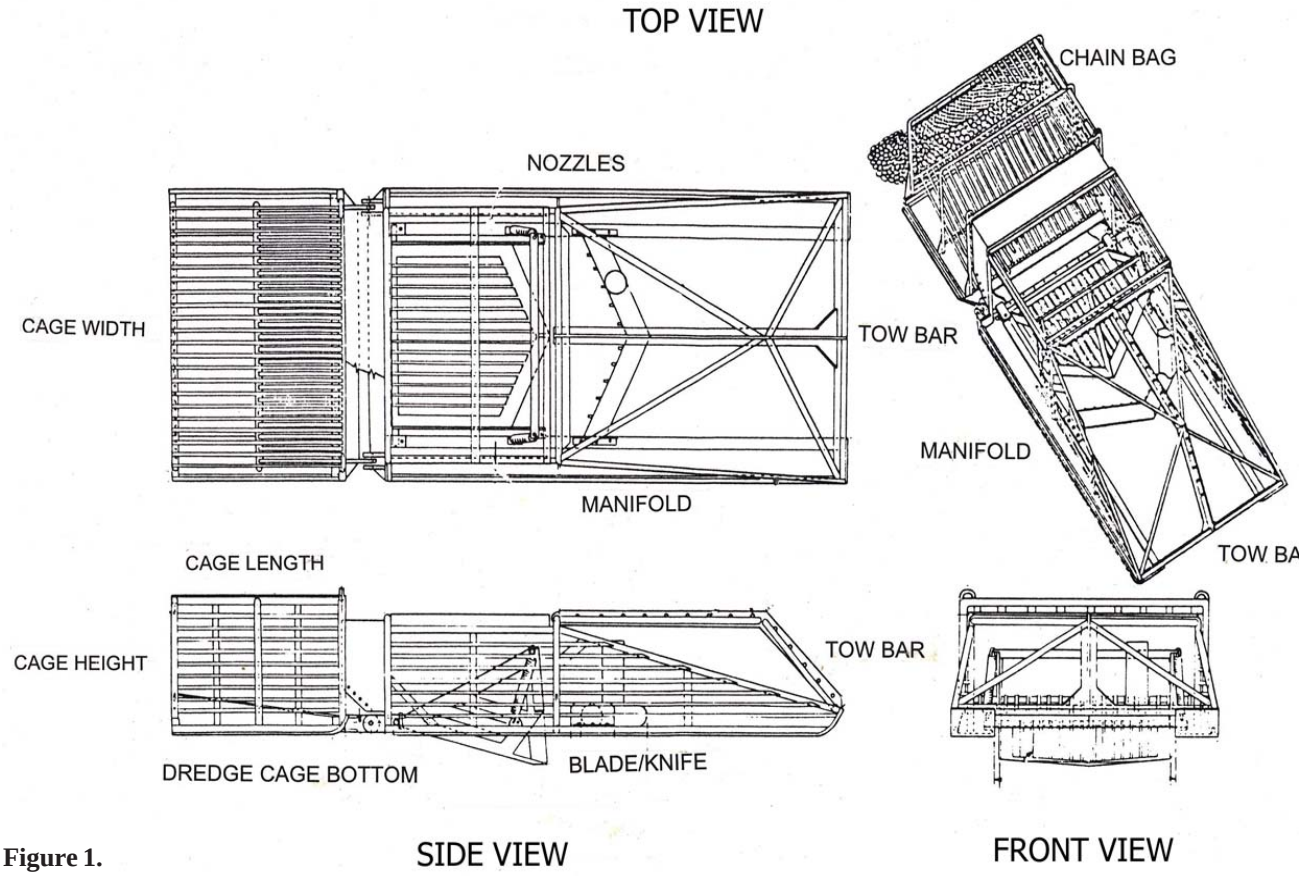

TOP VIEW
CHAIN BAG
NOZZLES
CAGE WIDTH
TOW BAR
MANIFOLD
MANIFOLD
TOW BA
CAGE LENGTH
CAGE HEIGHT
TOW BAR
DREDGE CAGE BOTTOM
BLADE/KNIFE
SIDE VIEW
FRONT VIEW

Figure 1.

OBCDG 06/01/05

NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	A
DATE LANDED mm/yy	B
GEAR CODE	GEAR NUMBER
D	1

DREDGE CAGE

HEIGHT ____2____in WIDTH ____3____in LENGTH ____4____in

CAGE BOTTOM BAR DIAMETER 5 _____._____in

BAR SPACING 6 _____._____in

13

SORTER USED: NO 0___ YES 1 ___

TOWLINE TYPE: UKNOWN 0 ___ SINGLE 1___ BRIDLE 2___ OTHER 9___ 14 _____

TOWLINE POSITION: UKNOWN 0___ FORWARD 1___ OVER TOP OF 2___ THE KNIFE OTHER 9___ 15 _____

CHAIN BAG 7

NO 0 ___ YES 1 ___

USED?

8

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE ___9__/_____

INSIDE RING SIZE mm

(5 random measurements)

10

TOP OF BAG _____ _____ _____ _____ _____

11

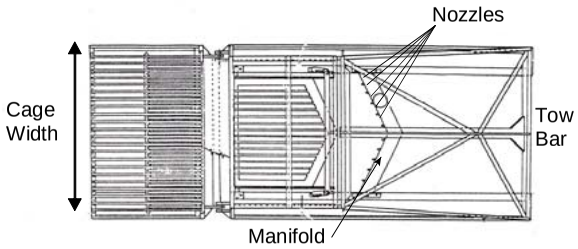
BOTTOM OF BAG _____ _____ _____ _____ _____

OUTSIDE RING SIZE _____12_____mm

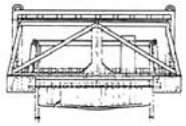
NUMBER OF NOZZLES _____ 16

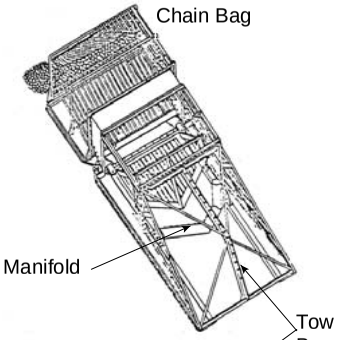
COMMENTS

TOP VIEW

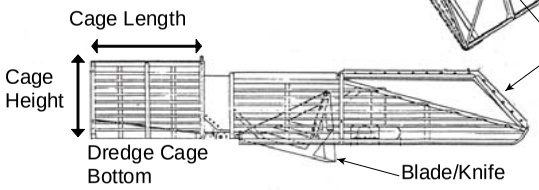


FRONT VIEW





SIDE VIEW



OBCDG 06/01/05

NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	Z00001-
DATE LANDED mm/yy	06/06
GEAR CODE	GEAR NUMBER
3 8 1	1

DREDGE CAGE

HEIGHT ___20____in WIDTH ___90____in LENGTH __120___in

CAGE BOTTOM BAR DIAMETER _____1.0__in

BAR SPACING _____1.2____in

SORTER USED: NO 0___ YES 1 _X_

TOWLINE TYPE:
- UKNOWN 0 ___
- SINGLE 1_X_
- BRIDLE 2___
- OTHER 9___ _____

TOWLINE POSITION:
- UKNOWN 0___
- FORWARD 1_X_
- OVER TOP OF THE KNIFE 2___
- OTHER 9___ _____

CHAIN BAG

USED? NO 0 _X_ YES 1 ___

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE _____/_____

INSIDE RING SIZE mm
(5 random measurements)

TOP OF BAG _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____

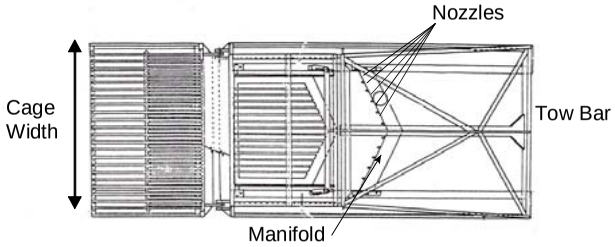
OUTSIDE RING SIZE _____mm

NUMBER OF NOZZLES ___30___

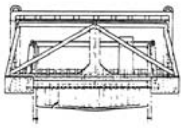
COMMENTS

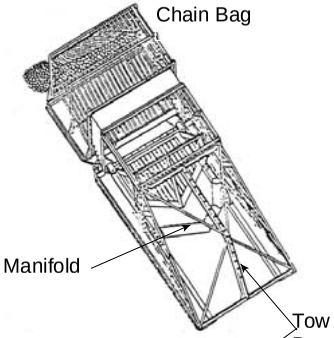
Vessel is stern rigged.

TOP VIEW

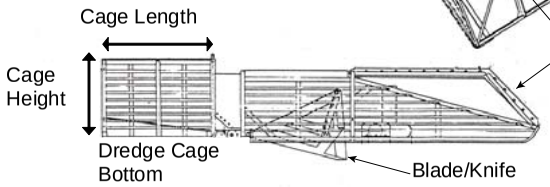


FRONT VIEW





SIDE VIEW



OBCDG 06/01/05

NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG

OBS/TRIP ID	
DATE LANDED mm/yy	
GEAR CODE	GEAR NUMBER
☐☐☐	☐

DREDGE CAGE

HEIGHT _____in WIDTH _____in LENGTH _____in

CAGE BOTTOM BAR DIAMETER _____._____in

BAR SPACING _____._____in

SORTER USED: NO 0___ YES 1 __ _

TOWLINE TYPE:
- UKNOWN 0 ___
- SINGLE 1___
- BRIDLE 2___
- OTHER 9___ _____

TOWLINE POSITION:
- UKNOWN 0___
- FORWARD 1__ _
- OVER TOP OF THE KNIFE 2____
- OTHER 9___ _____

CHAIN BAG

USED? NO 0 ___ YES 1 ___

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE _____/_____

INSIDE RING SIZE mm
(5 random measurements)

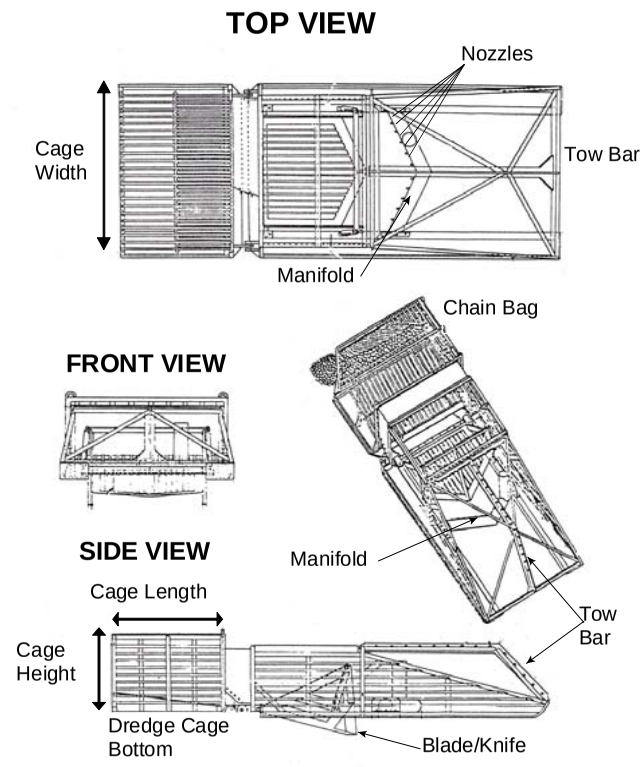
TOP OF BAG _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____

OUTSIDE RING SIZE _____mm

NUMBER OF NOZZLES _____

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 finifish 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 - W**, 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 two digit code listed below and in Appendix J. 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).

11. 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. 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.

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.

11. BOTTOM CHARACTERIZATION: Record the predominant bottom characterization for this haul by placing and "X" next to the appropriate code:

00 = Unknown.
01 = Clear.
02 = Quahog Shell Covered.
03 = Surf Clam Shell Covered.
04 = Scallop Shell Covered.
05 = Starfish Covered.
06 = Sand Dollar Covered.
08 = Combination, record all bottom characterizations on line 11A.
99 = Other, record the bottom characterization on line 11A.

NOTE: Do not include bottom type (substrate).

12. 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.

13. 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.

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NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
D	1	E	NO 0 _F_ YES 1 ___	NO 0 _G_ YES 1 ___	NO 0 _H_ YES 1 ___	I	J kn	K °	L ft	M fm	2

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	WATER TEMP fahrenheit	TOW SPEED	WIRE OUT
BEGIN HAUL	/ 3 /	4 :	9960-	N	9960-		5 ____ . ____ °	6 . kn	7 fm
BEGIN FISHING	9 / /	:					CLAM / QUAHOG CLAPPERS OBS? 8 NO 0 ___ YES 1 ___	TARGET SPECIES O	CODE P
END HAUL	/ /	:	9960-		9960-				
GEAR ONBOARD	10 / /	:							

COMMENTS

	KEPT	DISCARDED
# OF BUSHELS	12 .	13 .

BOTTOM CHARACTERIZATION 11

Unknown	00 ___
Clear	01 ___
Quahog Shell Covered	02 ___
Surf Clam Shell Covered	03 ___
Scallop Shell Covered	04 ___
Starfish Covered	05 ___
Sand Dollar Covered	06 ___
Combination	08 ___
Other	09 ___

11A

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Q	R	S	T	U	V	W							

OBCDH OBHAU OBSPP 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE HAUL LOG

OBS/TRIP ID	B40003-
DATE LANDED mm/yy	01 / 04
PAGE #	1 of 1

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
3 8 1	0 1	0 0 1	NO 0 ___ YES 1 _X_	NO 0 ___ YES 1 _X_	NO 0 _X_ YES 1 ___	01	10 kn	90 °	1 ft	20 fm	810

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	LATITUDE / Bearing	STATION 2	LONGITUDE / Bearing	WATER TEMP fahrenheit	TOW SPEED	WIRE OUT
BEGIN HAUL	01/15/04	10:10	9960-	39 ° 10.5	9960-	74 ° 11.3	60 . 1 °	3.7 kn	110 fm
BEGIN FISHING	01/15/04	10:13					CLAM / QUAHOG CLAPPERS OBS?	TARGET SPECIES CODE: Ocean Quahog	
END HAUL	01/15/04	10:35	9960-	39 ° 11.2	9960-	74 ° 10.3	NO 0 _X_ YES 1 ___		
GEAR ONBOARD	01/15/04	10:42							

COMMENTS

Sorter motor broke. 30 minutes lost for for repair.

Blade was bent during tow.

	KEPT	DISCARDED
# OF BUSHELS	32.0	0.00

BOTTOM CHARACTERIZATION

Unknown	00 ___
Clear	01 _X_
Quahog Shell Covered	02 ___
Surf Clam Shell Covered	03 ___
Scallop Shell Covered	04 ___
Starfish Covered	05 ___
Sand Dollar Covered	06 ___
Combination	08 ___
Other	09 ___

SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E
Ocean Quahog		K	320	100	D	E							
Sea Cucumber, nk		D	2	001	R	A							
Sea Squirt, nk		D	1.1	001	R	A							

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NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE HAUL LOG

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

GEAR CODE	GEAR NUMBER	HAUL #	HAUL OBS ?	CATCH ?	INC TAKE ?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR COND CODE
___	___	___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___	NO 0 ___ YES 1 ___		kn	°	ft	fm	

HAUL/FISHING INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) STATION 1	**LATITUDE** / Bearing	STATION 2	**LONGITUDE /** Bearing	WATER TEMP fahrenheit	TOW SPEED	WIRE OUT
BEGIN HAUL	/ /	:	9960-		9960-		____ . ____ °	. kn	fm
BEGIN FISHING	/ /	:					CLAM / QUAHOG CLAPPERS OBS?	TARGET SPECIES	CODE
END HAUL	/ /	:	9960-		9960-		NO 0 ___ YES 1 ___		
GEAR ONBOARD	/ /	:							

COMMENTS

	KEPT	DISCARDED
# OF BUSHELS	.	.

BOTTOM CHARACTERIZATION

Unknown	00 ___
Clear	01 ___
Quahog Shell Covered	02 ___
Surf Clam Shell Covered	03 ___
Scallop Shell Covered	04 ___
Starfish Covered	05 ___
Sand Dollar Covered	06 ___
Combination	08 ___
Other	09 ___

SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E	SPECIES NAME	SPECIES CODE	CATCH DISP K / D	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT A/E

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.

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** and **N**, 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: 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 market or consumptive purposes.

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NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG

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

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
1	BEGIN	2 / /	3 :		N			
	END	/ /	:					4 .

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
	BEGIN	/ /	:					
	END	/ /	:					.

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NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG

OBS/TRIP ID	E05012-
DATE LANDED mm/yy	03 / 04
PAGE #	3 of 10

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
0 3 0	BEGIN	03/ 06 / 04	23 : 55		41 07.2		69 22.8	
	END	03/ 07 / 04	00 : 25		41 08.3		69 25.6	38 . 50
0 3 1	BEGIN	03/ 07 / 04	00 : 30		41 08.3		69 25.6	
	END	03/ 07 / 04	01 : 05		41 07.4		69 22.3	39 . 00
0 3 2	BEGIN	03/ 07 / 04	01 : 10		41 07.4		69 22.3	
	END	03/ 07 / 04	01 : 30		41 07.9		69 24.9	39 . 75
0 3 3	BEGIN	03/ 07 / 04	01 : 35		41 07.9		69 24.9	
	END	03/ 07 / 04	02 : 00		41 06.9		69 21.5	37 . 50
0 3 4	BEGIN	03/ 07 / 04	02 : 10		41 06.9		69 21.5	
	END	03/ 07 / 04	02 : 40		41 07.6		69 23.4	37 . 25
0 3 5	BEGIN	03/ 07 / 04	02 : 45		41 07.6		69 23.4	
	END	03/ 07 / 04	03 : 10		41 07.2		69 22.8	38 . 00
	BEGIN	/ /	:					
	END	/ /	:					.
	BEGIN	/ /	:					
	END	/ /	:					.
	BEGIN	/ /	:					
	END	/ /	:					.

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NMFS FISHERIES OBSERVER PROGRAM

CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG

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) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	BEGIN	/ /	:	9960-		9960-		
	END	/ /	:	9960-		9960-		.

HAUL #	HAUL INFO	DATE mm/dd/yy	TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	CLAM/QUAHOG # OF BUSHELS KEPT
☐☐☐	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 CONDI-

TION: 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 preceedes** 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: 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; nonresponsive) 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, sloughing, dull, glossy), the presence or absence of blood (record if bleeding), and any missing parts. Include descriptive comments about the animal's behavior on deck and upon release (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. Refer to the Photo Log instructions in the NEFSC Observer Program Manual for further information regarding which photographs to take for each incidental take species.

15. ANIMAL RECORDED ON SAMPLE LOG?: Indicate whether this animal is recorded on the Marine Mammal Biological Sample Log or the Sea Turtle Biological Sample Log by recording the appropriate one digit code:

0 = No. If no measurements and/or samples are taken from a marine mammal or sea turtle, record the reason in COMMENTS.

1 = Yes.

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 (cur vilinear).

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.

Illustrations of Various Animal Conditions (codes 11, 12 and 13)

Figure 1. Illustration of Animal Condition Code 11 (Dead, fresh).
NOTE: Ilustration is of a pregnant female.

Figure 2. Illustration of Animal Condition Code 12 (Dead, moderately decomposed).

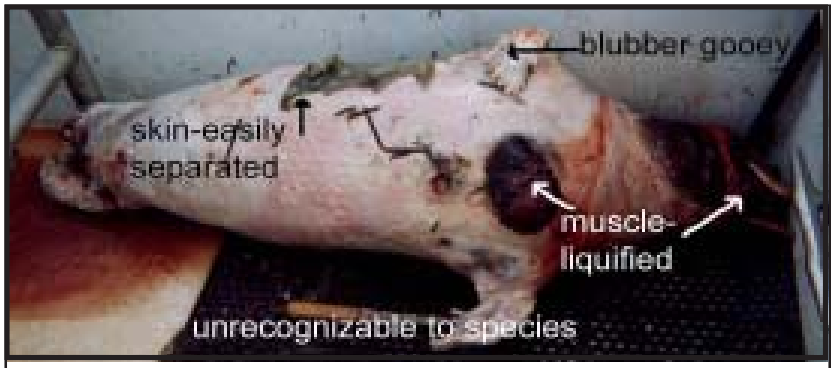

Figure 3. Illustration of Animal Condition Code 13 (Dead, severely decomposed).

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NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG (Front)

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

PSID #	HAUL NUM	GEAR NUM	NET NUM/ DREDGE/NET POSITION (p/s/u/a)	TIME 24 hours	ADD COND CODE	SPECIES NAME	SPECIES CODE	TAG NUMBER(S) (Record the most recent tag first.)	TAG CODE(S)	ENTANG SITU CODE	ANIMAL COND CODE	ANIMAL ONBRD? 0 = No 1 = Yes	PHOTO TAKEN? 0 = No 1 = Yes	SAMPLE LOG? 0 = No 1 = Yes	ESTIM LEN cm (if no actual) (no birds)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
___1				:											
___2				:											
___3				:											
___4				:											
___5				:											
___6				:											
___7				:											
___8				:											
___9				:											
___0				:											

COMMENTS: List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.

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NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG (Back)

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

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

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.

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

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).

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

NOTE: If more than one code applies, choose the code that describe most specific condition (e.g. a turtle is alive and released with gear around the left front flipper - choose code 05 as it is the most specific condition at release).

ADDITIONAL COMMENTS

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NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG (Front)

OBS/TRIP ID	A74010 + (trip ext)		
DATE LAND 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 NAME	SPECIES CODE	TAG NUMBER(S) (Record the most recent tag first.)	TAG CODE(S)	ENTANG SITU CODE	ANIMAL COND CODE	ANIMAL ONBRD? 0 = No 1 = Yes	PHOTO TAKEN? 0 = No 1 = Yes	SAMPLE LOG? 0 = No 1 = Yes	ESTIM LEN cm (if no actual) (no birds)
FOR GILLNET GEARS:															
01	**3**	**3**	**8**	**10:04**	**2**	**Harbor Porpoise**		**DØ7982**	**1**	**04**	**11**	**0**	**1**	**1**	**105**
FOR DREDGE, SCALLOP TRAWL & TWIN TRAWL GEARS:															
02	**4**	**1**	**p**	**12:13**	**1**	**Loggerhead Turtle**		**QQS555 PPD117**	**1 3**	**18**	**09**	**1**	**1**	**1**	**-**
FOR OTHER GEARS:															
03	**15**	**2**	**-**	**12:20**	**1**	**Greater Shearwater**			**2**	**26**	**13**	**1**	**1**	**0**	**-**
___4				**:**											
___5				**:**											
___6				**:**											
___7				**:**											

COMMENTS: List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.

PSID #01 - Fell from net when animal hit roller, but was recovered with gaff. Animal was sampled, tagged and photographed while in water, but was not brought onboard. Tip of fluke retained for DNA. No beak; spade-like teeth; gray in color, dark to light (countershading). Small amount of scavenger damage around the eyes (eyes intact), skin not peeling and was shiny, not bleeding other than gaff wound, no smell. Did not get a good look at the ventral side of the animal. Overall very good condition. Sunk when released.

See back for more comments

OBINC 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG (Back)

OBS/TRIP ID	**A74010 + (trip ext)**		
DATE LAND mm/yy	**01**	/	**01**
PAGE #	**2**	OF	**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

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.

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

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).

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

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 condition at release).

ADDITIONAL COMMENTS

PSID #02 - Turtle not seen in dredge prior to dumping. Found in pile of catch. Lethargic and not reacting to stimuli. Began resuscitation at 12:30 with hind quarters elevated onto part of pile (about 6in high). Turtle was rocked back and forth occassionally. No movement seen for about 4 hours, then turtle began moving flippers and opening and closing mouth. Turtle kept onboard for another 3hours and then released. Total resuscitation time about 7 hours. Dove immediately upon release and not sighted again. Turtle's external condition was fair. Numerous barnacles on carapace, chip on edge of carapace near third lateral scute (chip about 1in long by 1/2in wide), no blood, no cracks, cuts or other abrasions seen. Plastron in excellent condition. Tag already present and in good condition on right flipper, so it was left on. Placed an additional tag on the left flipper.

PSID #03 - Shearwater in codend with catch. Dumped on deck. Bird in very poor condition; Head mostly intact (used for ID, black cap and sharply curved black beak), all internal organs gone, mostly skeletal remains with a few feathers left on dorsal side. Very foul smell, left foot missing, right foot faded in coloration. No samples taken as samples for birds are required for fresh birds only.

OBINC 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG (Front)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	☐ OF ☐

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	SAMPLE LOG? 0 = No 1 = Yes	ESTIM LEN cm (if no actual) (no birds)
						NAME	CODE	NUMBER(S) (Record the most recent tag 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.

OBINC 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG (Back)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	☐ OF ☐

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

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.

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

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).

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

NOTE: If more than one code applies, choose the code that describes the most specific condition (e.g. a turtle is alive and released wtih gear around the left front flipper - choose code 05 as it is most specific at release).

ADDITIONAL COMMENTS

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. TIME: Record the local time using the 24 hour clock (0000-2359) that the event being described occurred.

Example: 20:32.

3. 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.

4. POSITION CODE: Indicate the location and position of the observer on the vessel at the time of this event by recording the most appropriate one 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.

5. 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 (-).

6. 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 Q. 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. or Appendix E.2. Map of Statistical Areas of the Southeast 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-** .

7. WEATHER CODE: Indicate the weather at the time the event occurred by recording the most appropriate two digit code listed in Appendix K. Weather Codes.

8. 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.

9. 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 TIME per day. Care should be taken to correctly record the matching EVENT TIME 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, record the CAMERA NUMBER and FRAME NUMBERS.

SIGHTING INFORMATION

NOTE: If the record or event being recorded is not a sighting, leave the following fields (#10-#15) blank.

10. 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.

11. SPECIES CODE: Leave this field blank.

12. NUMBER OF ANIMALS: Record the number of animals sighted. **Do not record a range.**

13. 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.

14. 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).

15. 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 bowride.
99 = Other, describe the animal behavior in COMMENTS.

NOTE: If the animal(s) exhibit(s) multiple behaviors, record the code for the **ini-**

tial 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.

OBSIG 01/01/08

OBS/TRIP ID	**A**
DATE LAND mm/yy	**B** /
PAGE #	**C** ☐ OF ☐
TODAY'S DATE mm/dd/yy	/ **1** /

NMFS FISHERIES OBSERVER PROGRAM

PROTECTED SPECIES SIGHTING LOG (Front)

EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	WEA-THER CODE	WAVE HGT ft	COMM-ENTS? 0=N,1=Y	SPECIES NAME	CODE	#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
2	**3**	**4**	**5**	9960-	**6**	9960-		**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										

EVENT TYPE CODES:

WATCH ONLY
03 = Begin set watch
04 = End set watch
05 = Begin haul watch
06 = End haul watch

GENERAL
00 = Unknown
99 = Other

SIGHTING ONLY
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

POSITION CODES:

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

SIGHT CUE CODES:

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

ANIMAL CONDITION CODES:

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 body part
07 = Alive, hook/gear in/around several body parts
08 = Alive, seen by captain/crew ONLY
10 = Dead, condition unknown
11 = Dead, fresh
12 = Dead, moderately decomposed
13 = Dead, severely decomposed
14 = Dead, seen by captain/crew ONLY

NOTE: If more than one code applies, choose the code that describes the most specific condition of the animal.

ANIMAL BEHAVIOR CODES:

00 = Unknown
01 = Near gear, physical contact
02 = Near gear, within 50 meters
03 = Near gear, with. 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

OBSIG 01/01/08

NMFS FISHERIES OBSERVER PROGRAM

PROTECTED SPECIES SIGHTING LOG (Back)

OBS/TRIP ID	**A**
DATE LAND mm/yy	**B**
PAGE #	**C** ☐ OF ☐
TODAY'S DATE mm/dd/yy	**1**

EVENT TIME 24 hrs	COMMENTS	EVENT TIME 24 hrs	COMMENTS
2	**9**		

OBSIG 01/01/08

OBS/TRIP ID	**A74010L**
DATE LAND mm/yy	**01 / 01**
PAGE #	1 of 2
TODAY'S DATE mm/dd/yy	**01 / 10 / 01**

NMFS FISHERIES OBSERVER PROGRAM

PROTECTED SPECIES SIGHTING LOG (Front)

EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	WEA-THER CODE	WAVE HGT ft	COMM-ENTS? 0=N,1=Y	SPECIES NAME	CODE	#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
10:10	**08**	**06**	**3**	9960-	**42 24.3**	9960-	**70 41.2**	**03**	**4**	**1**	**Whitesided dolphin**		**22**	**1**	**01**	**05**
10:11	**08**	**06**	**3**	9960-	**42 24.7**	9960-	**70 41.2**	**03**	**4**	**1**	**Humpback whale**		**1**	**1**	**01**	**08**
11:14	**13**	**02**	**-**	9960-	**42 25.1**	9960-	**70 40.3**	**03**	**4**	**1**	**Finback whale**		**3**	**2**	**01**	**08**
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										

EVENT TYPE CODES:

WATCH ONLY
03 = Begin set watch
04 = End set watch
05 = Begin haul watch
06 = End haul watch

GENERAL
00 = Unknown
99 = Other

SIGHTING ONLY
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
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POSITION CODES:
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01 = Bow, facing forward
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SIGHT CUE CODES:
0 = Unknown
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3 = First sighted by capt/crew, then by observer
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NOTE: If more than one code applies, choose the code that describes the most specific condition of the animal.

ANIMAL BEHAVIOR CODES:
00 = Unknown
01 = Near gear, physical contact
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06 = Bow riding
07 = Breaching
08 = Swimming at surface
09 = Milling
10 = Motionless at surface
11 = Vessel avoidance
12 = Vessel attraction
99 = Other

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NMFS FISHERIES OBSERVER PROGRAM

PROTECTED SPECIES SIGHTING LOG (Back)

OBS/TRIP ID	**A74010L**
DATE LAND mm/yy	**01 / 01**
PAGE #	2 of 2
TODAY'S DATE mm/dd/yy	**01 / 10 / 01**

EVENT TIME 24 hrs	COMMENTS	EVENT TIME 24 hrs	COMMENTS
1010	**Whitesided dolphins ided by white patch on hind flank, black eye patch and short snout. Two calves were in group. Porpoising along behind another fishing vessel that was steaming to the northeast.**		
1011	**Photographed the underside of flukes (see photo log). Flukes had white pattern, scalloped edge. Saw long, white pectoral flippers through the water. As we were hauling in gear, the whale approached the vessel within 250 meters and lifted its flukes when it dove.**		
1114	**Three finback whales were sighted in the distance. Tall blows. Swimming rapidly, headed along one direction.**		

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OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	☐ OF ☐
TODAY'S DATE mm/dd/yy	/ /

NMFS FISHERIES OBSERVER PROGRAM

PROTECTED SPECIES SIGHTING LOG (Front)

EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	**LATITUDE / LONGITUDE (DD MM.M)** - LORAN (XXXXX) Station 1	**Latitude** / Bearing	Station 2	**Longitude** / Bearing	WEA-THER CODE	WAVE HGT ft	COMM-ENTS? 0=N,1=Y	SPECIES NAME	CODE	#ANIM	SIGHT CUE CODE	ANIM COND CODE	ANIM BEHVR CODE
				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										
:				9960-		9960-										

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11 = Vessel avoidance
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NMFS FISHERIES OBSERVER PROGRAM

PROTECTED SPECIES SIGHTING LOG (Back)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	OF
TODAY'S DATE mm/dd/yy	/ /

EVENT TIME 24 hrs	COMMENTS	EVENT TIME 24 hrs	COMMENTS

PHOTO LOG

The purpose of this log is to document all photographs taken during a trip, including photographs of incidental takes (marine mammals, sea turtles and/or sea birds taken in the vessel's gear). In addition to incidental takes, photographs should be taken of sharks, sturgeons, rays, and any rare or hard-to-identify fish. Photographs are an important part of the identification process.

The exposed disposable camera must be labeled clearly with trip identifiers, dates landed, and camera number using a permanent marker. Complete a new log for each camera and if using the camera on multiple trips, use one master photo log to record all photographs. If the photographs are of an incidental take, the camera and completed photo log **MUST** be sent in with the associated trip. Photographs of other species may be sent in after multiple trips. Be sure to include the completed photo log with the camera.

For confidentiality purposes, photographs should not be taken of vessel names, vessel numbers, or crew members.

There are a few basic rules that should be followed when using the disposable cameras. Due to the simplicity of the lens, photos should be taken from a 4 ft. distance to obtain a clear photo. Photos should be taken at 90 degree angles and a spacer must be included between individual animals. A spacer can be a photo of the sea, the sky or simply holding a finger in front of the lens.

When photographing incidental takes, photograph any unusual marks and scars, new and/or healed wounds, location of gear entanglement (preferably with gear still attached), and characteristics of the animal which can be used for species identification (reference next column). Place a piece of paper with the observer/trip identifier, the animal's tag number, and the date on it next to the animal's body, and include it in every photo. **Do not cover important features of the animal's body with the paper.** If the paper is wet down, it will be less apt to blow away. If time/conditions preclude this, try to include the carcass tag (with the tag number showing) in the photograph.

Even if you are able to identify a species, photograph the animal, especially if the specimen cannot be frozen and brought back whole. Photographs of incidental takes are always expected. The photos will be reviewed by experts for positive identification. Include an object in the photograph, *i.e.* a measuring tape, clipboard, pen, or the carcass tag, to indicate the relative size of the animal. In order to make the most of the photographs taken, use the following guidelines. This is especially important for hard-to-identify species. All animals should be photographed individually.

MARINE MAMMALS: Photograph the entire animal (with gear if present), close-up of head, any gear entanglement (including a close up of the gear), and new and/or healed wounds. Additionally:

Whales:	Close-up of head (side & top), flipper and dorsal fin position & shape, fluke shape. **Right Whales**: Callosities **Humpback Whales**: Ventral fluke, if possible. **Belly-up floaters**: Presence or absence of throat or belly grooves.
Dolphins/ Porpoises:	Close-up of head (side), coloration pattern on side, distinctive blazes or stripes, shape of dorsal fin.
Seals:	Whole body from above, head on, the side; whole underside; head profile, rear flippers; coat coloration pattern; teeth.

SEA TURTLES: Photograph the entire animal along with photos of the carapace and the plastron, any new or healed wounds, including a close-up of each wound with scale reference and any gear, if present. Additionally, photograph the head shape (top), and obtain a close-up of the head (top and side)..

SEA BIRDS: Photograph the beak, feather colora-

tion (both dorsal and ventral sides) and feet.

SHARKS: Photograph the head shape, mouth and under side of snout and gills, and placement of all fins (preferably before being cut off).

STURGEONS: Photograph the mouth and underside of snout (showing width of mouth in relation to width of head) – most important, head shape (from side & top), anal region (for presence/absence of scutes), and all rows of lateral scutes between anal fin and caudal fin.

OTHER FISH/RAYS/CRUSTACEANS: Refer to Peterson's field guides for identifying characteristics of that species type. The guides' drawings indicate important features with small arrows.

Keep cameras away from excessive heat, moisture, salt, and vapors. Don't keep partially used disposable cameras for extended periods. Exposed color film is more susceptible to harmful influences than unexposed film, and should be forwarded for processing as soon as possible.

INSTRUCTIONS

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

1. GEAR CODE(S): Record the primary gear code used by the vessel during the trip(s) as recorded on the Vessel and Trip Information Log.

Example: 050, 100.

2. CAMERA NUMBER: Record the number you assign to the disposable camera. Start with "1" for the first camera used on this trip, and continue numbering sequentially throughout the trip for the following cameras used on this trip. Unless more than one camera is used on a single trip, this number should always be "1".

PHOTO INFORMATION

3. FRAME NUMBER: Preprinted frame numbers are provided on the log. Record the photograph subject on the line with the corresponding frame number. The frame number is displayed on the camera.

NOTE: Disposable cameras may display the number of photographs remaining in the camera after you take a photo. Therefore, record your first photo at FRAME NUMBER 26, for 27 exposure cameras and continue listing down to 0.

4. HAUL NUMBER: Record the haul number assigned to the haul in which the photo is taken, or which corresponds to the animal being photographed, if applicable. This number must agree with the number recorded for this haul on the corresponding Haul Log.

5. TAG NUMBER(S): Record **the complete alphanumeric number** of the tag(s) that the observer attaches to the animal(s) being photographed and/or that are already on the animal(s) when taken. The tag number(s) recorded on this log must agree with the tag number(s) recorded for this animal on the Individual Animal Log, or the Marine Mammal, Sea Turtle ,and Sea Bird Incidental Take Log.

Example: D05678 or A0163.

6. SUBJECT: Briefly describe the species or subject, and/or the important feature(s) in the photograph, on the line corresponding to the preprinted frame number. It is important to include the species name.

Example: Harbor Porpoise head shot showing scars.

7. OBS/TRIP ID: Record your three character Observer Identifier combined with the three character Trip Number and one character Trip Extension assigned to you for this trip.

8. DATE: Record the month, day, and year that this photo is taken.

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NMFS FISHERIES OBSERVER PROGRAM
PHOTO LOG

PAGE #	C ☐ of ☐

OBS/TRIP ID(S) **A**	DATE(S) LANDED **B**	GEAR CODE(S) **1**	CAMERA # **2**

FRAME # **3**	HAUL # **4**	TAG NUMBER(S) **5**	SUBJECT / POINT OF INTEREST / SPECIES **6**	OBS/TRIP ID **7**	DATE mm/dd/yy **8**
26					/ /
25					/ /
24					/ /
23					/ /
22					/ /
21					/ /
20					/ /
19					/ /
18					/ /
17					/ /
16					/ /
15					/ /
14					/ /
13					/ /
12					/ /
11					/ /
10					/ /
9					/ /
8					/ /
7					/ /
6					/ /
5					/ /
4					/ /
3					/ /
2					/ /
1					/ /
0					/ /

Note: For disposable cameras, record the first picture taken on either FRAME #23 (24 exposure cameras) or FRAME #26 (27 exposure cameras).

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NMFS FISHERIES OBSERVER PROGRAM
PHOTO LOG

PAGE #	1 of 1

OBS/TRIP ID(S)	DATE(S) LANDED	GEAR CODE(S)	CAMERA #
E66001- E66002- E66004L	**02/05/03 02/07/03 02/19/03**	**050, 050, 100**	**1**

FRAME #	HAUL #	TAG NUMBER(S)	SUBJECT / POINT OF INTEREST / SPECIES	OBS/TRIP ID	DATE mm/dd/yy
26	**2**		**Setting Gear**	**E66001-**	**02 / 05 / 03**
25	**2**		**Hauling Gear**	**E66001-**	**02 / 05 / 03**
24	**4**		**Large Cod**	**E66001-**	**02 / 05 / 03**
23	**4**		**Whale Bone**	**E66001-**	**02 / 05 / 03**
22			**Spacer**		**/ /**
21	**2**		**Illex Squid Catch**	**E66002-**	**02 / 07 / 03**
20	**3**	**M235458**	**Blue Shark, head**	**E66002-**	**02 / 07 / 03**
19	**3**	**M235458**	**Blue Shark, side shot with tag**	**E66002-**	**02 / 07 / 03**
18			**Spacer**		**/ /**
17	**3**	**D03255**	**Harbor Porpoise, fluke wounds**	**E66004L**	**02 / 19 / 03**
16	**3**	**D03255**	**Harbor Porpoise, head**	**E66004L**	**02 / 19 / 03**
15	**3**	**D03255**	**Harbor Porpoise, underside**	**E66004L**	**02 / 19 / 03**
14	**3**	**D03255**	**Harbor Porpoise, dorsal fin**	**E66004L**	**02 / 19 / 03**
13	**3**	**D03255**	**Harbor Porpoise, whole body**	**E66004L**	**02 / 19 / 03**
12			**Spacer**		**/ /**
11	**4**	**D03254**	**Harbor Porpoise, side shot**	**E66004L**	**02 / 19 / 03**
10	**4**	**D03254**	**Harbor Porpoise, sex shot**	**E66004L**	**02 / 19 / 03**
9	**4**	**D03254**	**Harbor Porpoise, head**	**E66004L**	**02 / 19 / 03**
8	**4**	**D03254**	**Harbor Porpoise, net marks**	**E66004L**	**02 / 19 / 03**
7			**Gillnet Gear**	**E66004L**	**02 / 19 / 03**
6	**5**		**Processed Spiny Dogfish**	**E66004L**	**02 / 19 / 03**
5			**Spacer**		**/ /**
4			**Sighting - Pilot Whales**	**E66004L**	**02 / 19 / 03**
3			**Sighting - Pilot Whales**	**E66004L**	**02 / 19 / 03**
2			**Sighting - Pilot Whales**	**E66004L**	**02 / 19 / 03**
1			**Spacer**		**/ /**
0					

Note: For disposable cameras, record the first picture taken on either FRAME #23 (24 exposure cameras) or FRAME #26 (27 exposure cameras).

01/01/06

NMFS FISHERIES OBSERVER PROGRAM
PHOTO LOG

PAGE #	of

OBS/TRIP ID(S)	DATE(S) LANDED	GEAR CODE(S)	CAMERA #

FRAME #	HAUL #	TAG NUMBER(S)	SUBJECT / POINT OF INTEREST / SPECIES	OBS/TRIP ID	DATE mm/dd/yy
26					/ /
25					/ /
24					/ /
23					/ /
22					/ /
21					/ /
20					/ /
19					/ /
18					/ /
17					/ /
16					/ /
15					/ /
14					/ /
13					/ /
12					/ /
11					/ /
10					/ /
9					/ /
8					/ /
7					/ /
6					/ /
5					/ /
4					/ /
3					/ /
2					/ /
1					/ /
0					/ /

Note: For disposable cameras, record the first picture taken on either FRAME #23 (24 exposure cameras) or FRAME #26 (27 exposure cameras).

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. ACTUAL OR ESTIMATED: Indicate whether the weight recorded in WEIGHT (#10) is an actual or estimated weight by recording the appropriate letter code:

A = Actual.
E = Estimated.

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 proceeded 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.

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 (#15), 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 (#17) for these animals.

Do not record any length information for only heads of animals.

All length measurements are recorded in whole centimeters.

15. STANDARD LENGTH #1: Record the measured length of the animal according to these standards:

Swordfish and Other Billfish (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.

16. STANDARD LENGTH #2: Record the measured length of the animal according to the standards listed below:

Swordfish: **Cleithrum to Keel length (CK) -** cleithral arch to the anterior rise of the caudal keel **(curvilinear)**, i.e. where the external dark body pigment meets

the white inner cleithrum membrane, to the origin of the caudal keel (carcass length).

Billfish: **Pectoral to Fork length (PFL)** - anterior insertion of the pectoral fin to the caudal fork of the tail **(curvilinear)**.

Tunas and Bonito: **Pectoral to Fork length (PFL)** - anterior insertion of the pectoral fin to the caudal fork of the tail **(straight)**.

Sharks: **Total length (TL)** - tip of snout to the tip of the upper caudal lobe **(straight)**.

Rays: **Disc Width (DW)** - tip of pectoral fin to tip of pectoral fin, across the widest point of the animal **(straight)**.

Other Fish (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.

17. ESTIMATED LENGTH: Record the estimated **straight** length of the animal according to the standards listed under STANDARD LENGTH #1 (#15) if the animal is not brought onboard or whole.

NOTE: If unable to obtain required length, dash field and comment reason in the corresponding comments section.

18. SEX: Indicate the sex of each animal, whether it is brought onboard or not (if possible) by recording the appropriate one digit code:

0 = Unknown.
1 = Male.
2 = Female.

NOTE: Leave this field blank when only the head of an animal is caught.

19. BIOLOGICAL SAMPLE TAKEN?: Indicate whether or not a biological sample was collected by recording the appropriate one digit code:

0 = No.
1 = Yes.

NOTE: Record the sample type in the COMMENT section of this log.

20. PHOTO(S) TAKEN?: Indicate whether any photograph(s) is (are) taken of the animal by recording the appropriate one digit code:

0 = No. If no photographs are taken, record reason in COMMENTS.
1 = Yes.

NOTE: Photograph all 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, film 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. Refer to the Photo Log instructions in the NEFSC Observer Program Manual for further information regarding which specific photographs to take for each species.

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.

OBIAL 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

INDIVIDUAL ANIMAL LOG

OBS/TRIP ID	A
DATE LAND mm/yy	B /
PAGE#	C OF
HAUL #	1

GEAR #	SEQ #	SPECIES NAME	SPECIES CODE	INITIAL STATUS CODE	END STATUS CODE	FISH DISP CODE In Appen	PROC CODE	WEIGHT POUNDS	WEIGHT MKT D/R	WEIGHT TYPE A/E	TAG NUMBER(S)	TAG CODE(S)	LENGTHS cm #1	LENGTHS cm #2	LENGTHS cm Est(#1)	SEX 0 = U 1 = M 2 = F	BIO-SAMP 0 = N 1 = Y	PHOTO TAKEN 0 = N 1 = Y
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	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)
06 = Dressed (Headed and Gutted)
07 = Dressed (Headed, Gutted, Finned)
08 = Dressed (Headed, Gutted, Tailed)
09 = Dressed (Headed, Gutted, Finned, Tailed)
99 = Other

WEIGHT MARKET CODES:
D = Dressed (1)
R = Round (2)

WEIGHT TYPE CODES:
A = Actual (1)
E = Estimated (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)

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

OBIAL 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

INDIVIDUAL ANIMAL LOG

OBS/TRIP ID	**A74015C**
DATE LAND mm/yy	**01 / 01**
PAGE#	**2** OF **5**
HAUL #	**0 0 1**

GEAR #	SEQ #	SPECIES NAME	SPECIES CODE	INITIAL STATUS CODE	END STATUS CODE	FISH DISP CODE In Appen	PROC CODE	WEIGHT POUNDS	WEIGHT MKT D/R	WEIGHT TYPE A/E	TAG NUMBER(S)	TAG CODE(S)	LENGTHS cm #1	LENGTHS cm #2	LENGTHS cm Est(#1)	SEX 0 = U 1 = M 2 = F	BIO-SAMP 0 = N 1 = Y	PHOTO TAKEN 0 = N 1 = Y
1	**01**	**Swordfish**		**3**	**3**	**100**	**09**	**165**	**D**	**A**	**A2999**	**5**	**193**	**106**	**-------**	**1**	**0**	**1**
1	**02**	**Blue Shark**		**2**	**2**	**100**	**06**	**170**	**D**	**A**	**A2318 M45392**	**5 4**	**201**	**240**	**-------**	**2**	**1**	**1**
1	**03**	**Atlantic Sturgeon**		**1**	**1**	**001**	**01**	**180**	**R**	**E**	**BOS873**	**3**	**-------**	**-------**	**244**	**0**	**0**	**1**
1	**04**	**Torpedo Ray**		**1**	**2**	**001**	**01**	**28**	**R**	**A**		**2**	**82**	**46**	**-------**	**1**	**0**	**1**
1	**05**	**Porbeagle Shark**		**2**	**2**	**100**	**08**	**40**	**R**	**E**		**2**	**114**	**-------**	**-------**	**2**	**0**	**0**
	___6																	
	___7																	
	___8																	
	___9																	
	___0																	

COMMENTS: List identifying characteristics such as fin placement relative to other body parts, coloration, head and tail shape, presence/absence of lateral and/or anal scutes (sturgeon), presence of spines, etc. Also include tag recapture information such as tagging program, phone number, etc.

01 - Slightly damaged by sharks. ID'd by broad flat bill; dorsal fin extends only short length along body; single caudal keel; brownish/black dorsal color.

02 - Removed yellow plastic tag from base of dorsal fin. Took vertebrae sample. ID'd by long snout; long narrow pec fins; dorsal fin set way back, closer to pelvic fins than pec fins. Deep blue dorsal color.

03 - Tagged along dorsal midline; blue tag from Fish and Wildlife, PO Box 23, Sudbury MA 01651; Released in good condition. Unsure of ID, photo taken.

05 - Only one measurement, not enough time to fully sample. ID'd by white patch on trailing edge of 1st dorsal; caudal fins equal size; two caudal keels; thick body; dorsal color dark gray.

STATUS CODES:
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)
06 = Dressed (Headed and Gutted)
07 = Dressed (Headed, Gutted, Finned)
08 = Dressed (Headed, Gutted, Tailed)
09 = Dressed (Headed, Gutted, Finned, Tailed)
99 = Other

WEIGHT MARKET CODES:
D = Dressed (1)
R = Round (2)

WEIGHT TYPE CODES:
A = Actual (1)
E = Estimated (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)

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

OBIAL 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

INDIVIDUAL ANIMAL LOG

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE#	OF
HAUL #	

GEAR #	SEQ #	SPECIES NAME	SPECIES CODE	INITIAL STATUS CODE	END STATUS CODE	FISH DISP CODE In Appen	PROC CODE	WEIGHT POUNDS	WEIGHT MKT D/R	WEIGHT TYPE A/E	TAG NUMBER(S)	TAG CODE(S)	LENGTHS cm #1	LENGTHS cm #2	LENGTHS cm Est(#1)	SEX 0 = U 1 = M 2 = F	BIO-SAMP 0 = N 1 = Y	PHOTO TAKEN 0 = N 1 = Y
	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
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04 = Dressed (Gutted Only)
05 = Dressed (Finned Only)
06 = Dressed (Headed and Gutted)
07 = Dressed (Headed, Gutted, Finned)
08 = Dressed (Headed, Gutted, Tailed)
09 = Dressed (Headed, Gutted, Finned, Tailed)
99 = Other

WEIGHT MARKET CODES:
D = Dressed (1)
R = Round (2)

WEIGHT TYPE CODES:
A = Actual (1)
E = Estimated (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)

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.

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.

For 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 seperate 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. 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 millimeter. Do not stroke tally in this field.

Example:

SPECIES NAME	**REDFISH**				**REDFISH**			
SPECIES CODE								
FISH DISPOSITION CODE	001				001			
SEX CODE	2				1			
SAMPLE WEIGHT (R/A)	100				85			
SAMPLE TYPE CODE	2				2			
# SAMPLES	10				10			
MEASUREMENTS: FINFISH, SQUID - cm SHELLFISH - mm	20		0		20	1	0	
	1		1		1		1	
	2		2		2	3	2	
SEX CODES: 0 = UNKNOWN	3	1	3		3		3	
	4	2	4		4		4	

SEA SCALLOP SAMPLING

11. VOLUMETRIC MEASURE OF SCALLOP MEATS: After the **first haul of each observed**

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.

OBLNH OBLND 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LENGTH FREQUENCY LOG

OBS/TRIP ID	A
DATE LAND mm/yy	B /
PAGE #	C ☐ OF ☐
HAUL #	E ☐☐
	DREDGE / NET POSITION port (1)___ 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)			
SAMPLE TYPE CODE	7																				VOLUMETRIC MEASURE OF MEATS			
# SAMPLES	8																				_____11_____ nearest 50 ml			
MEASUREMENTS:	9	10	0		0		0		0		0		0		0		0		0		10 - 14	12	110-114	
Finfish, Squid - cm	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		20 - 24		120-124	
SEX CODES:	3		3		3		3		3		3		3		3		3		3		25 - 29		125-129	
0 = Unknown	4		4		4		4		4		4		4		4		4		4		30 - 34		130-134	
1 = Male	5		5		5		5		5		5		5		5		5		5		35 - 39		135-139	
2 = Female	6		6		6		6		6		6		6		6		6		6		40 - 44		140-144	
SAMPLE TYPE CODES:	7		7		7		7		7		7		7		7		7		7		45 - 49		145-149	
0 = None	8		8		8		8		8		8		8		8		8		8		50 - 54		150-154	
1 = Scales	9		9		9		9		9		9		9		9		9		9		55 - 59		155-159	
2 = Otoliths	0		0		0		0		0		0		0		0		0		0		60 - 64		160-164	
3 = Shells	1		1		1		1		1		1		1		1		1		1		65 - 69		165-169	
4 = Whole	2		2		2		2		2		2		2		2		2		2		70 - 74		170-174	
5 = Vertebra	3		3		3		3		3		3		3		3		3		3		75 - 79		175-179	
6 = Dorsal Spines	4		4		4		4		4		4		4		4		4		4		80 - 84		180-184	
7 = Scales & Otoliths	5		5		5		5		5		5		5		5		5		5		85 - 89		185-189	
8 = Head	6		6		6		6		6		6		6		6		6		6		90 - 94		190-194	
9 = Other	7		7		7		7		7		7		7		7		7		7		95 - 99		195-199	
	8		8		8		8		8		8		8		8		8		8		100-104		200-204	
	9		9		9		9		9		9		9		9		9		9		105-109		205-209	

COMMENTS

OBLNH OBLND 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LENGTH FREQUENCY LOG

OBS/TRIP ID	**A74010-**
DATE LAND mm/yy	**01/01**
PAGE #	**3** OF **3**
HAUL # **0 0 5**	DREDGE / NET POSITION port (1)___ starboard (2)___ both (0)_✓ aft (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)			
SAMPLE TYPE CODE	2				2				0				→				0				VOLUMETRIC MEASURE OF MEATS			
# SAMPLES	6				5				-				→				-				_____ nearest 50 ml			
MEASUREMENTS:	60		80		60	1	0		60		80	2	100	1	0		70		0		10 - 14		110-114	
Finfish, Squid - cm	1		1		1		1		1		1	1	1	1	1		1	2	1		15 - 19		115-119	
Shellfish - mm	2		2		2		2		2		2	4	2		2		2	3	2		20 - 24		120-124	
SEX CODES:	3		3	1	3	1	3		3		3	9	3		3		3	1	3		25 - 29		125-129	
0 = Unknown	4		4		4	2	4		4		4	9	4		4		4		4		30 - 34		130-134	
1 = Male	5		5		5	1	5		5		5	4	5		5		5		5		35 - 39		135-139	
2 = Female	6	3	6		6		6		6		6	7	6		6		6		6		40 - 44		140-144	
SAMPLE TYPE CODES:	7		7		7		7		7		7	8	7		7		7		7		45 - 49		145-149	
0 = None	8	2	8		8		8		8	1	8	6	8		8		8		8		50 - 54		150-154	
1 = Scales	9		9		9		9		9	1	9	6	9		9		9		9		55 - 59		155-159	
2 = Otoliths	70	1	0		0		0		70	2	90	5	0		0		0		0		60 - 64		160-164	
3 = Shells	1	1	1		1		1		1	1	1	4	1		1		1		1		65 - 69		165-169	
4 = Whole	2	1	2		2		2		2		2		2		2		2		2		70 - 74		170-174	
5 = Vertebra	3		3		3		3		3		3		3		3		3		3		75 - 79		175-179	
6 = Dorsal Spines	4		4		4		4		4		4	1	4		4		4		4		80 - 84		180-184	
7 = Scales & Otoliths	5		5		5		5		5		5	1	5		5		5		5		85 - 89		185-189	
8 = Head	6		6		6		6		6		6		6		6		6		6		90 - 94		190-194	
9 = Other	7		7		7		7		7		7	3	7		7		7		7		95 - 99		195-199	
	8		8		8		8		8	3	8		8		8		8		8		100-104		200-204	
	9		9		9		9		9	2	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.

OBLNH OBLND 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

LENGTH FREQUENCY LOG

OBS/TRIP ID	
DATE LAND 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)			
SAMPLE TYPE CODE																			VOLUMETRIC MEASURE OF MEATS			
# SAMPLES																			_____ nearest 50 ml			
MEASUREMENTS:	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		15 - 19		115-119	
Shellfish - mm	2		2		2		2		2		2		2		2		2		20 - 24		120-124	
SEX CODES:	3		3		3		3		3		3		3		3		3		25 - 29		125-129	
0 = Unknown	4		4		4		4		4		4		4		4		4		30 - 34		130-134	
1 = Male	5		5		5		5		5		5		5		5		5		35 - 39		135-139	
2 = Female	6		6		6		6		6		6		6		6		6		40 - 44		140-144	
SAMPLE TYPE CODES:	7		7		7		7		7		7		7		7		7		45 - 49		145-149	
0 = None	8		8		8		8		8		8		8		8		8		50 - 54		150-154	
1 = Scales	9		9		9		9		9		9		9		9		9		55 - 59		155-159	
2 = Otoliths	0		0		0		0		0		0		0		0		0		60 - 64		160-164	
3 = Shells	1		1		1		1		1		1		1		1		1		65 - 69		165-169	
4 = Whole	2		2		2		2		2		2		2		2		2		70 - 74		170-174	
5 = Vertebra	3		3		3		3		3		3		3		3		3		75 - 79		175-179	
6 = Dorsal Spines	4		4		4		4		4		4		4		4		4		80 - 84		180-184	
7 = Scales & Otoliths	5		5		5		5		5		5		5		5		5		85 - 89		185-189	
8 = Head	6		6		6		6		6		6		6		6		6		90 - 94		190-194	
9 = Other	7		7		7		7		7		7		7		7		7		95 - 99		195-199	
	8		8		8		8		8		8		8		8		8		100-104		200-204	
	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. 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.

2. 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.

3. 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.

4. SPECIES CODE: Leave this field blank.

5. POUNDS: Record, to the nearest tenth of a pound, the **round actual** weight of each animal listed in SPECIES NAMES (#4).

6. 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.

7. TOTAL WEIGHT OF PUMPED CATCH (d):

Record, in whole pounds, the Captain's estimate of the total catch pumped onboard.

CATCH SUMMARY BY SPECIES

8. 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.

9. SPECIES WEIGHT (POUNDS) (a) : Record, to the nearest tenth of a pound, the combined basket weight of each species listed in SPECIES NAMES (#3).

10. TOTAL BASKET WEIGHT (COMBINED) (b): Record, to the nearest tenth of a pound, the total weight of all basket samples added together (a) (#9).

11. 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) (#9) by the total basket weight (b)(#10) for each individual species. The summed proportions should equal 1.

Example: 0.0004

12. EXTRAPOLATED WEIGHT: Record in whole pounds the total estimated weight of each species by multiplying the proportion of total weight (c) (#11) by the total weight of pumped catch (d) (#7).

NOTE: This weight should be recorded on the Haul Log as a kept estimated weight.

COMMENTS

Record information regarding this sample or your sampling methods below. If room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name or basket number.

NOTE: If a complete sample cannot be obtained, record the reason(s) in this section.

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NMFS FISHERIES OBSERVER PROGRAM

CATCH COMPOSITION LOG (Front)

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
PAGE #	C of
HAUL #	E

BASKET # ___1_____ TIME ____2_____:_____

SPECIES	CODE	POUNDS (R/A)
3	4	5 . _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		6 . _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

COMMENTS

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NMFS FISHERIES OBSERVER PROGRAM

CATCH COMPOSITION LOG (Back)

OBS/TRIP ID	**A**
DATE LANDED mm/yy	**B** /
PAGE #	**C** of
HAUL #	**E**

BASKET # ____**1**____ TIME ___**2**_____:_____

SPECIES	CODE	POUNDS (R/A)
3	**4**	**5**
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		**6** . _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

(d) TOTAL WEIGHT OF PUMPED CATCH (Captain's Estimate) _____**7**_____ lbs

COMMENTS

CATCH SUMMARY BY SPECIES

SPECIES	POUNDS (R/A)	PROPORTION OF TOTAL BASKET WEIGHT (a/b)	EXTRAPOLATED WEIGHT (lbs) (c x d)
8	**9** (a) . _____	**11** (c) 0 . ___ ___ ___ ___	**12**
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
TOTAL	**10** (b) . _____	1	

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NMFS FISHERIES OBSERVER PROGRAM

CATCH COMPOSITION LOG (Front)

OBS/TRIP ID	**E99011-**
DATE LANDED mm/yy	**11 / 05**
PAGE #	**2** of **3**
HAUL #	**0 0 3**

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		**46 . 0**
		.
		.
		.
		.
SUBTOTAL		**46 . 0**

COMMENTS

OBCMP 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

CATCH COMPOSITION LOG (Back)

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____

(d) TOTAL WEIGHT OF PUMPED CATCH (Captain's Estimate) ____200,000_____ lbs

COMMENTS

CATCH SUMMARY BY SPECIES

SPECIES	POUNDS (R/A)	PROPORTION OF TOTAL BASKET WEIGHT (a/b)	EXTRAPOLATED WEIGHT (lbs) (c x d)
Atlantic Herring	(a) 631 . _0____	(c) 0 . 9 4 9 6	189,920
Atlantic Mackerel	(a) 23 . _0____	(c) 0 . 0 3 4 6	6,920
Blueback Herring	(a) 8 . _0____	(c) 0 . 0 1 2 0	2,400
Silver Hake	(a) 2 . _5____	(c) 0 . 0 0 3 8	760
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
TOTAL	(b) 664 . _5____	1	

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NMFS FISHERIES OBSERVER PROGRAM

CATCH COMPOSITION LOG (Front)

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

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

COMMENTS

OBCMP 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

CATCH COMPOSITION LOG (Back)

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

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

BASKET # _____ TIME _____:_____

SPECIES	CODE	POUNDS (R/A)
		. _____
		. _____
		. _____
		. _____
		. _____
SUBTOTAL		. _____

(d) TOTAL WEIGHT OF PUMPED CATCH (Captain's Estimate) _____ lbs

COMMENTS

CATCH SUMMARY BY SPECIES

SPECIES	POUNDS (R/A)	PROPORTION OF TOTAL BASKET WEIGHT (a/b)	EXTRAPOLATED WEIGHT (lbs) (c x d)
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
	(a) . _____	(c) 0 . ___ ___ ___ ___	
TOTAL	(b) . _____	1	

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 should 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.

Subsampling coupled with the volume to volume method are tools to help the observer estimate large catches onboard trawl or scallop vessels that dump the catch on deck. Use frequency of subsampling and the volume to volume method will depend on trip type and circumstances. If the catch is pumped the observer should use the Catch Composition Log to estimate total catch weights. The Catch Composition Log is used to estimate total catch weights from catch that occur in very large quantities thus must be pumped.

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, before fishing operations begin the observer should take aft deck, fish bin and container measurements. Standard measurements for some containers are given (1.47 ft^3 for orange baskets and 2.65 ft^3 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 volume to volume method is recorded as a catch estimation method 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 sub-sampled in this haul, continue listing species on an additional catch estimation worksheet, making sure to complete all of the Header Information (A-B and 1).

DEFINITIONS

Area (ft^2): The amount of space in a flat surface measured in square units. Recorded in square feet.

Basket or Tote Count (A x B + C): Estimates of kept catch can be calculated by basket or tote counts when the kept is separated by species into containers. [Note: Do not forget to tare or subract 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 larget catch volumes, the total catch weights can be obtained by the captain. This method should **rarely** be used. Comments must be made as to why this method was chosen.

Catch Depth (D): 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 takeactual 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.

Diameter: A straight line that passes from side to side through the center of a circular object. 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 ft^3.

Length: Distance from one end to another.

Long Radius (r_2): Long radius is measured when a circular shape is irregular (i.e., ellipse) to obtain an average radius. The long radius is defined as the distance from the center of a circle to the furthest point on the perimeter. Record in Feet.

Long Width (W_2): Long width is measured when an angular shape is irregular (i.e., trapezoid) to obtain an average width. Record in feet.

Orange Basket: Equivalent to orange bushel basket commonly seen on scallop and trawl trips. NEFOP standard flush volume of 1.47ft^3.

Partial haul sampling: A large portion of the haul is sampled or actual weights are taken for a large portion of the haul. The rest of the haul is represented by estimated weights. See Figure 1.

Pi (π): The ratio of the circumference of a circle to its diameter. The value of π is 3.14.

Radius (r): The distance between the center of a circle and any point on the circle's circumference. Record in feet.

Sample: A small part of something intended to represent the whole. The fishing vessel obtains the catch or sample. A subsample is used by the observer to extrapolate total catch weights from the sample or catch.

Sample Weight Multiplier: Illustrates a comparative numeric proportion that is used to extrapolate total catch weights. Recorded to the hundredths.

Short Radius (r_1): Short radius is measured when a circular shape is irregular (i.e., oval) to obtain an average radius. The short radius is defined as the distance from the center of a circle to the closest point on the perimeter. Record in feet.

Short Width (W_1): Short width is measured when an angular shape is irregular (i.e., trapezoid) to obtain an average width. Record in feet.

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 $\geq$ 20% of the total catch size.

Subsampling Containers: Any container used to hold a subsample.

Tally: Stroke tally is a method where fish of similar size (*i.e.,* dogfish) are accounted for by taking an average weight and multiplying by the collected tally.

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., 10.5 orange baskets x 1.47ft^3 flush). Recorded to the hundredths.

Volume (ft^3): The amount of three dimensional space occupied by an object.
Area (ft^2) x Depth (ft) = Volume (ft^3)

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 (i.e., partial haul sampling) or other catch estimation methods (i.e., basket or tote counts) to illustrate total catch weights and catch composition on a haul log.

Weighted (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.

Whole haul sampling: The sample size is the entire haul or the haul log consists of all actual weights.

Width (W): The greatest dimension at right angles to length or depth (height). Record in feet.

INSTRUCTIONS

For instructions on completing fields **A**, **B, and E** refer to the Common Haul Log Data section of the NEFOP Manual.

1. FISHING 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. CATCH ESTIMATION METHOD: 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:

1 = Weighed (Actual).
2 = Volume to Volume.
3 = Basket or Tote Count.
4 = Captain.
5 = Tally.
6 = Visually Estimated.
7 = Cumulative Sum Method.
8 = Combination, record all catch estimation methods on line 3A.
9 = 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 in formation is obtained from the Captain, then Captain (4), 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.

4. CATCH SHAPE, MEASUREMENTS & VOLUME: Record the catch shape and measurements for this haul by placing an "X" next to the appropriate code. Record each measurement in feet and calculate all measurements or the total catch volume as cubic feet. Round to the nearest hundredths place. Use the appropriate equation to calculate the volume.

1 = Rect./square.
2 = Trapezoidal.
3 = Triangular.
4 = Circular.
5 = Oval.
8 = Combination, record all catch shapes on line 4A.
9 = Other, record the other catch shape(s) and measurements on line 4A.

NOTE: An observer might encounter a combination of shapes. Irregular shapescan 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.

NOTE: "D" means catch depth not bin height. Likewise if sea life and/or debris are removed first before subsampling take the catch depth measurement afterwards.

5. CATCH MEASUREMENTS THE SAME?: Record whether the catch measurement, excluding catch depth, is the same as the previous haul by placing an "X" next to the appropriate code:

0 = No.
1 = Yes.

6. # SUBSAMPLING CONTAINERS USED: Record the number of subsampling containers used to the hundredths place if necessary (*i.e.*, 10.25). Record when volume to volume is used as a catch estimation method.

NOTE: Remember to subtract or tare the container weight used to organize the subsample.

NOTE: If a fish bin is used to sort a subsample this is considered one subsampling container.

NOTE: If subsampling containers are not available or a fish bin, *i.e.*, the subsample is organized on deck and circular measurements are taken, record a dash (-) in the field.

7. VOLUME SUBSAMPLE CONTAINER: Record, to the nearest hundredths place in cubic feet (ft^3), the volume of the subsampling container used to organize the subsample by placing an "X" next to the appropriate code.

1 = 1.47 ft^3 (Orange Basket)
2 = 2.65 ft^3 (fish tote)
9 = Other (ft^3), record the volume of any other subsampling container on line 7A in Cubic feet.

NOTE: The volume of the subsampling container is equal to the volume of thesubsample flush to the wall of the container. However, if a fish bin is used to organize a subsample *i.e.*, containers are not available, record the volume of the subsample in the fish bin on line 7A and place an "X" next to other. If no containers are available, record a dash (-) in the field.

8. TOTAL SUBSAMPLE VOLUME: Calculate, to the nearest hundredths place in cubic feet (ft^3), thesubsample volume used for this haul.

9. SAMPLE WEIGHT MULTIPLIER: Calculate, to the nearest hundredths place, the sample weight multiplier used to estimate total catch weights. The sample weight multiplier is calculated by dividing the total catch volume by the total subsample volume.

10. PERCENT SUBSAMPLED: Calculate, to the nearest hundredths place, the percent of catch subsampled for this haul. The percent subsampled is calculated by dividing the total subsample volume by the total catch volume and multiplying by 100.

11. SPECIES: Record all species and/or debris of a particular fish disposition and catch disposition code within the subsample. The estimated weight of sea life and/or debris on the catch estimation worksheet should mirror what is recorded on the haul log.

12. SUBSAMPLE WEIGHTS (LBS): Record the actual weight of a species or debris sorted from the subsample by fish disposition code and catch disposition.

NOTE: Actual weights may be recorded to the nereast tenths of a pound. Estimated weights greater than 1 pound should be recorded to the nearest whole pound.

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).

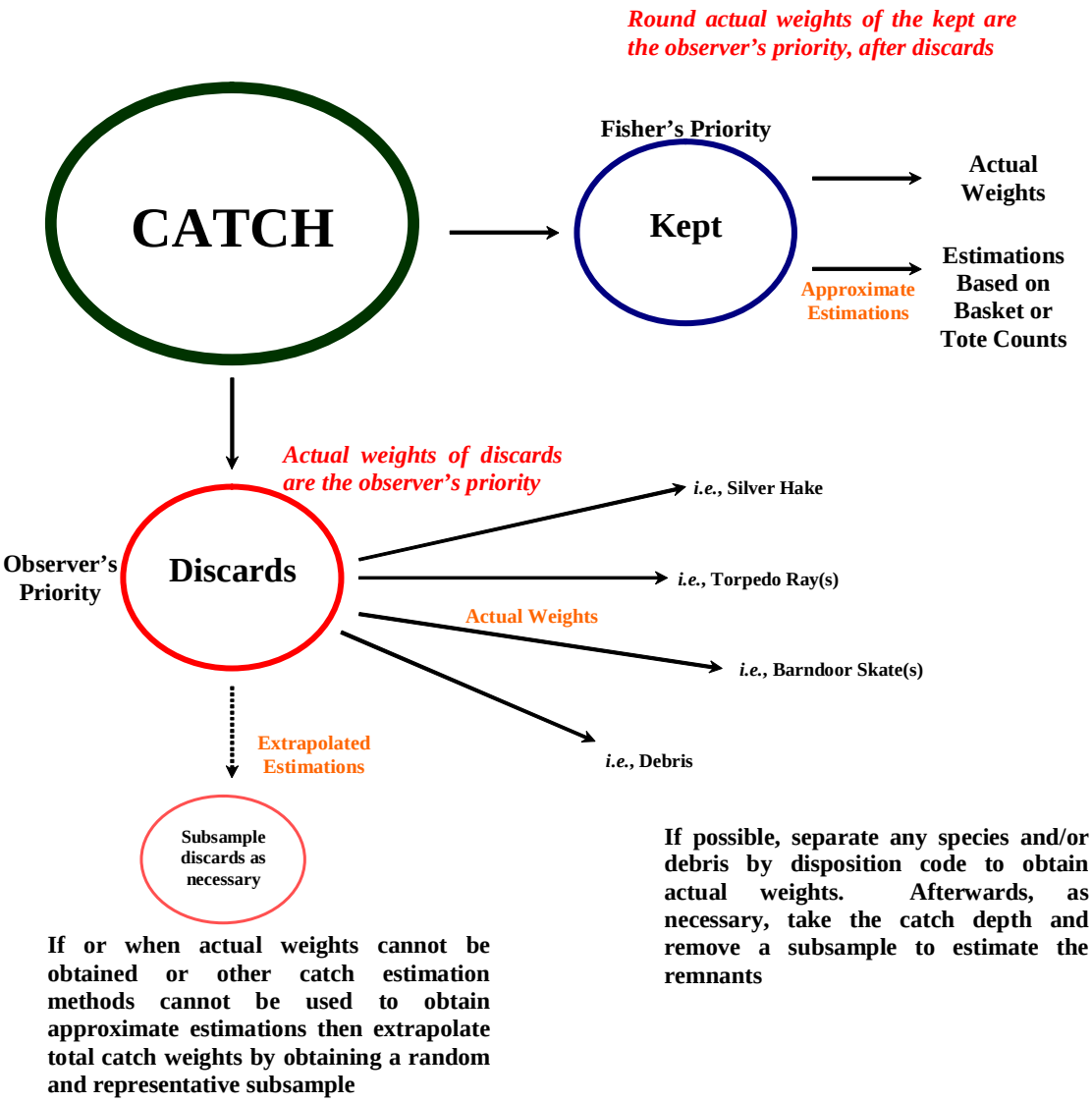

Figure 1: Shows a scematic illustrating catch estimation and management.

Formula	**Other Shape**
$\pi r^2 \times D$	Bucket, cylinder
$r_1 \times r_2 \times \pi \times D$	Ellipse (Oval)
$[(W_1 + W_2) \div 2] \times L \times D$	Oblong-Shaped Oval
$L \times W \times D$	Milk Crate

Table 1.

Table 1: Illustrates other shape formulas

01/01/08

NMFS FISHERIES OBSERVER PROGRAM

CATCH ESTIMATION WORKSHEET

OBS/TRIP ID	A
DATE LANDED mm/yy	B /
HAUL #	E

FISHING METHOD	1
Picked	1 ___
Shoveled	2 ___
Deckloaded	3 ___
Conveyor System	4 ___
Combination (comment)	8 ___
Other (comment)	9 ___
_____1A_____	

HAUL NUMBERS WHERE DECKLOADING OCCURRED

_____2_____

CATCH ESTIMATION METHOD	3
Weighed (Actual)	1 ___
Volume to Volume	2 ___
Basket or Tote Count	3 ___
Captain	4 ___
Tally	5 ___
Visually Estimated	6 ___
Cumulative Sum Method	7 ___
Combination (comment)	8 ___
Other (comment)	9 ___

_____3A_____

** CATCH SHAPE, MEASUREMENTS & VOLUME

Comment and draw catch shape.

4

Rect./square (L x W x D)	1 ___	L _____	W_1 _____		D _____	=	V _____	ft^3
Trapezoidal ([(W_1 + W_2)]/2xLxD)	2 ___	L _____	W_1 _____	W_2 _____	D _____	=	V _____	ft^3
Triangular (L x W / 2 x D)	3 ___	L _____	W _____		D _____	=	V _____	ft^3
Circular (π r^2 x D)	4 ___	r _____			D _____	=	V _____	ft^3
Oval (r_1 x r_2 x π x D)	5 ___	r_1 _____	r_2 _____		D _____	=	V _____	ft^3
Other/Combination (comment)	9 ___	_____4A_____						

Are measurements the same as previous haul? NO 0 ___ YES 1 ___ 5

** # SUBSAMPLING CONTAINERS USED	** VOL SUBSAMPLE CONTAINER	** TOTAL SUBSAMPLE VOLUME = # subsample containers used x volume of a sub-sample container	** SAMPLE WEIGHT MULTIPLIER total catch vol / total subsamp vol	** PERCENT SUBSAMPLED (total sub-samp vol / total catch) vol) x 100
	Orange Basket 1___ 1.47 ft^3			
	Fish Tote 7 2___ 2.65 ft^3			
	Other 9___ ft^3			
6	7A	8 ft^3	9	10 %

Volume of Subsample	Circular Shapes
1 Basket = 1.47 ft^3	r = radius
2 Baskets = 2.94 ft^3	r = diameter / 2
3 Baskets = 4.41 ft^3	r_1 = short radius
4 Baskets = 5.88 ft^3	r_2 = long radius
5 Baskets = 7.35 ft^3	π = 3.14

Angular Shapes	Trapezoidal Shapes
A = area	W_1 = short width
V = volume	W_2 = long width
W = width	
D = catch depth	

** SPECIES	** SUBSAMP WGT (lbs)	** SPECIES	** SUBSAMP WGT (lbs)
11	12		

COMMENTS

** Required only when using the volume to volume method.

01/01/08

NMFS FISHERIES OBSERVER PROGRAM

CATCH ESTIMATION WORKSHEET

OBS/TRIP ID	A13012 -
DATE LANDED mm/yy	10 / 06
HAUL #	8

FISHING METHOD		CATCH ESTIMATION METHOD		** CATCH SHAPE, MEASUREMENTS & VOLUME
Picked	1 X	Weighed (Actual)	1	Comment and draw catch shape.
Shoveled	2	Volume to Volume	2	
Deckloaded	3	Basket or Tote Count	3	
Conveyor System	4	Captain	4	
Combination (comment)	8	Tally	5	
Other (comment)	9	Visually Estimated	6	
		Cumulative Sum Method	7	
HAUL NUMBERS WHERE DECKLOADING OCCURRED		Combination (comment)	8 X	
		Other (comment)	9	
		1, 2, 3 & 5		

Rect./square (L x W x D)	1 X	L	7	W_1	4.50		D	1.20	= V	37.80 ft^3
Trapezoidal ([(W_1 + W_2)]/2xLxD)	2	L		W_1		W_2	D		= V	ft^3
Triangular (L x W / 2 x D)	3	L		W			D		= V	ft^3
Circular (π r^2 x D)	4	r					D		= V	ft^3
Oval (r_1 x r_2 x π x D)	5	r_1		r_2			D		= V	ft^3
Other/Combination (comment)	9									

Are measurements the same as previous haul? NO 0 X YES 1

** # SUBSAMPLING CONTAINERS USED	** VOL SUBSAMPLE CONTAINER	** TOTAL SUBSAMPLE VOLUME = # subsample containers used x volume of a subsample container	** SAMPLE WEIGHT MULTIPLIER total catch vol / total subsamp vol	** PERCENT SUBSAMPLED (total subsamp vol / total catch) vol) x 100
12	Orange Basket 1 X 1.47 ft^3 Fish Tote 2 2.65 ft^3 Other 9 ft^3	17.64 ft^3	2.14	46.67 %

Volume of Subsample	Circular Shapes
1 Basket = 1.47 ft^3	r = radius
2 Baskets = 2.94 ft^3	r = diameter / 2
3 Baskets = 4.41 ft^3	r_1 = short radius
4 Baskets = 5.88 ft^3	r_2 = long radius
5 Baskets = 7.35 ft^3	π = 3.14

Angular Shapes	Trapezoidal Shapes
A = area	W_1 = short width
V = volume	W_2 = long width
W = width	
D = catch depth	

** SPECIES	** SUBSAMP WGT (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		

COMMENTS

Took actual weights of Yellowtail Fldr, Haddock discards, Atl Cod discards, Barndoor Skates, Silver Hake, Lumpfish, and Longhorn Sculpin.

Took actual weights of almost all kept species, except Haddock - used basket count method. See haul log.
71 lbs Haddock (average weight per basket 70 lbs, 71 lbs, 72 lbs / 3)
71 lbs x 9 baskets = 639 lbs + 30 lbs (actually weighed) = 669 lbs. (previously tared basket weight).

Most actual weights based on priorities (Yellowtail fldr, Haddock, & Atl Cod).

Subsampled lower priority fish and discarded crustaceans due to time constraints.

Some Spiny Dogfish stuck in trawl net, tossed by crew, estimated using tally method.
Took 20% of tally and obtained an average weight.
12 individual Dogfish taken randomly out of 60 (20%)
6, 6, 7, 6.5, 7, 7, 8.5, 8, 8, 7, 5, 8 lbs = 7 lbs average weight
60 x 7 lbs each = 420 lbs

** Required only when using the volume to volume method.

01/01/08

NMFS FISHERIES OBSERVER PROGRAM

CATCH ESTIMATION WORKSHEET

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

FISHING METHOD		CATCH ESTIMATION METHOD	
Picked	1 ___	Weighed (Actual)	1 ___
Shoveled	2 ___	Volume to Volume	2 ___
Deckloaded	3 ___	Basket or Tote Count	3 ___
Conveyor System	4 ___	Captain	4 ___
Combination (comment)	8 ___	Tally	5 ___
Other (comment)	9 ___	Visually Estimated	6 ___
_____		Cumulative Sum Method	7 ___
HAUL NUMBERS WHERE DECKLOADING OCCURRED		Combination (comment)	8 ___
		Other (comment)	9 ___
_____		_____	

** CATCH SHAPE, MEASUREMENTS & VOLUME

Comment and draw catch shape.

Rect./square (L x W x D)	1 ___	L _____	W_1 _____			D _____	=	V _____	ft^3
Trapezoidal ([(W_1 + W_2)]/2xLxD)	2 ___	L _____	W_1 _____	W_2 _____		D _____	=	V _____	ft^3
Triangular (L x W / 2 x D)	3 ___	L _____	W _____			D _____	=	V _____	ft^3
Circular (π r^2 x D)	4 ___	r _____				D _____	=	V _____	ft^3
Oval (r_1 x r_2 x π x D)	5 ___	r_1 _____	r_2 _____			D _____	=	V _____	ft^3
Other/Combination (comment)	9 ___	_____							

Are measurements the same as previous haul? NO 0 ___ YES 1 ___

** # SUBSAMPLING CONTAINERS USED	** VOL SUBSAMPLE CONTAINER	** TOTAL SUBSAMPLE VOLUME = # subsample containers used x volume of a subsample container	** SAMPLE WEIGHT MULTIPLIER total catch vol / total subsamp vol	** PERCENT SUBSAMPLED (total subsamp vol / total catch) vol) x 100
_____	Orange Basket 1___ 1.47 ft^3 Fish Tote 2___ 2.65 ft^3 Other 9___ ft^3 _____	_____ ft^3	_____	_____ %

Volume of Subsample	Circular Shapes
1 Basket = 1.47 ft^3	r = radius
2 Baskets = 2.94 ft^3	r = diameter / 2
3 Baskets = 4.41 ft^3	r_1 = short radius
4 Baskets = 5.88 ft^3	r_2 = long radius
5 Baskets = 7.35 ft^3	π = 3.14

Angular Shapes	Trapezoidal Shapes
A = area	W_1 = short width
V = volume	W_2 = long width
W = width	
D = catch depth	

** SPECIES	** SUBSAMP WGT (lbs)	** SPECIES	** SUBSAMP WGT (lbs)

COMMENTS

** Required only when using the volume to volume method.

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**, **Q** and **R**, 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 nerotic spots on the carapace. A characteristic necrosis forms around the eye sockets, creating "spectacles".

4. CARAPACE LENGTH/WIDTH: Record, in whole millimeters, the carapce 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 P. Vernier Caliper Instructions for further information.

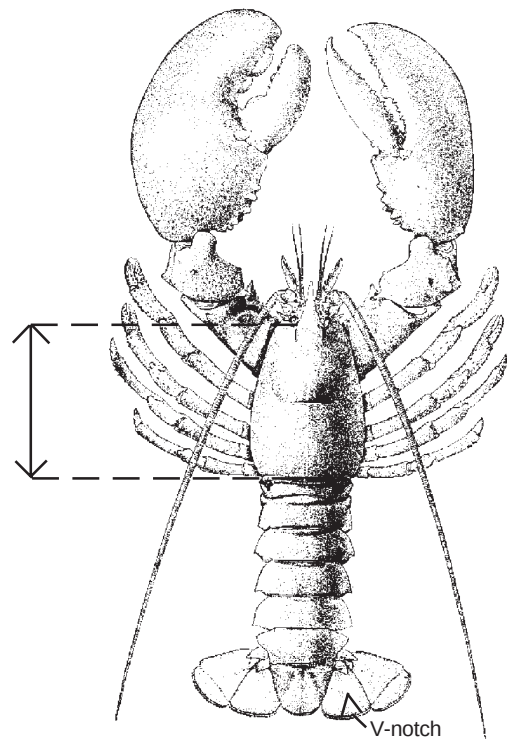

Figure 1. Dorsal view of lobster, illustrating carapace length measurement and v-notch.

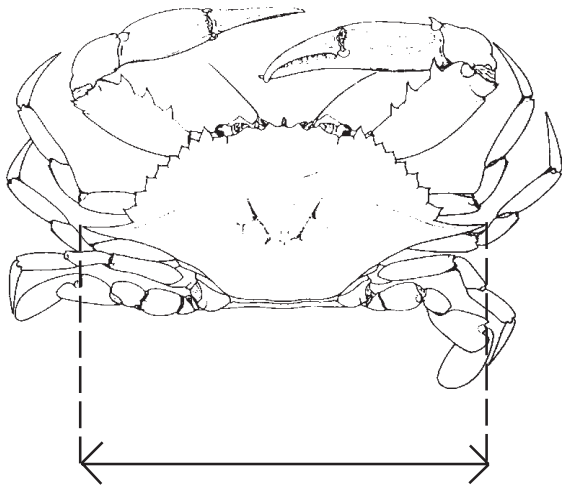

Figure 2. Dorsal view of blue crab, illustrating crab carapace width measurement.

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.

OBCRU 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

CRUSTACEAN SAMPLE LOG (Front)

OBS/TRIP ID	**A**
DATE LAND mm/yy	**B** /
PAGE #	**C** ☐ OF ☐
HAUL #	**E** ☐☐☐

SPECIES		ANIMALS CAUGHT		SHELL DISEASE
NAME	CODE	NUMBER	A / E	PERCENTAGE
Q	**R**	**1**	**2**	**3**

	CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	# CLAW		CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	# CLAW
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

OBCRU 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

CRUSTACEAN SAMPLE LOG (Back)

OBS/TRIP ID	**A**
DATE LAND mm/yy	**B** /
PAGE #	**C** OF
HAUL #	**E**

					LOBSTER ONLY								LOBSTER ONLY		
	CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	V-NOT	MOLT	#CLAW		CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	V-NOT	MOLT	#CLAW
51	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**76**							
52								**77**							
53								**78**							
54								**79**							
55								**80**							
56								**81**							
57								**82**							
58								**83**							
59								**84**							
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61								**86**							
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69								**94**							
70								**95**							
71								**96**							
72								**97**							
73								**98**							
74								**99**							
75								**100**							

SEX CODES:

0 = Unknown

1 = Male

2 = Female

EGG CODES:

0 = Unknown

1 = No

2 = Yes

V-NOTCH CODES:

0 = Unknown

1 = No

2 = Yes, Old

3 = Yes, New

MOLT CODES:

0 = Unknown

1 = Soft

2 = Paper

3 = Hard

4 = Splitter

COMMENTS

OBCRU 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

CRUSTACEAN SAMPLE LOG (Front)

OBS/TRIP ID	**B72036-**
DATE LAND mm/yy	**01 / 01**
PAGE #	**3** of **3**
HAUL #	**0 4 4**

SPECIES		ANIMALS CAUGHT		SHELL DISEASE
NAME	CODE	NUMBER	A / E	PERCENTAGE
American Lobster		**33**	**A**	**10**

	CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	# CLAW		CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	# CLAW
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.

OBCRU 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

CRUSTACEAN SAMPLE LOG (Back)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	OF
HAUL #	

	CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	LOBSTER ONLY #CLAW		CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	LOBSTER ONLY #CLAW
51								76							
52								77							
53								78							
54								79							
55								80							
56								81							
57								82							
58								83							
59								84							
60								85							
61								86							
62								87							
63								88							
64								89							
65								90							
66								91							
67								92							
68								93							
69								94							
70								95							
71								96							
72								97							
73								98							
74								99							
75								100							

SEX CODES:

0 = Unknown

1 = Male

2 = Female

EGG CODES:

0 = Unknown

1 = No

2 = Yes

V-NOTCH CODES:

0 = Unknown

1 = No

2 = Yes, Old

3 = Yes, New

MOLT CODES:

0 = Unknown

1 = Soft

2 = Paper

3 = Hard

4 = Splitter

COMMENTS

OBCRU 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

CRUSTACEAN SAMPLE LOG (Front)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	☐ OF ☐
HAUL #	☐☐☐

SPECIES		ANIMALS CAUGHT		SHELL DISEASE
NAME	CODE	NUMBER	A / E	PERCENTAGE

	CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	LOBSTER ONLY #CLAW		CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	LOBSTER ONLY #CLAW
1								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

OBCRU 01/01/01

NMFS FISHERIES OBSERVER PROGRAM

CRUSTACEAN SAMPLE LOG (Back)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	OF
HAUL #	

	CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	LOBSTER ONLY #CLAW		CARAPACE (mm) LENGTH - LOBSTER WIDTH - CRAB	CDISP (K/D)	SEX	EGG	LOBSTER ONLY V-NOT	LOBSTER ONLY MOLT	LOBSTER ONLY #CLAW
51								76							
52								77							
53								78							
54								79							
55								80							
56								81							
57								82							
58								83							
59								84							
60								85							
61								86							
62								87							
63								88							
64								89							
65								90							
66								91							
67								92							
68								93							
69								94							
70								95							
71								96							
72								97							
73								98							
74								99							
75								100							

SEX CODES:

0 = Unknown

1 = Male

2 = Female

EGG CODES:

0 = Unknown

1 = No

2 = Yes

V-NOTCH CODES:

0 = Unknown

1 = No

2 = Yes, Old

3 = Yes, New

MOLT CODES:

0 = Unknown

1 = Soft

2 = Paper

3 = Hard

4 = Splitter

COMMENTS

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 is 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:

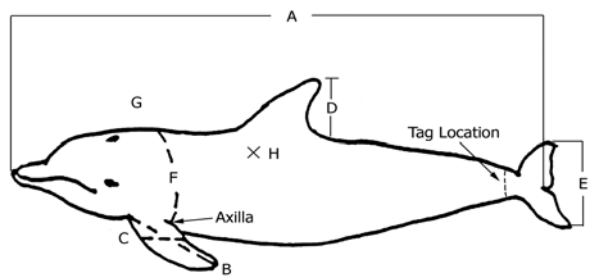
CETACEAN: Record the **straight line** height of the dorsal fin of the cetacean from the posterior tip of the fin to the insertion at the body. See Figure 1, letter D.

PINNIPED: No measurement taken; record a dash (-) in this field.

11. FLUKE WIDTH:

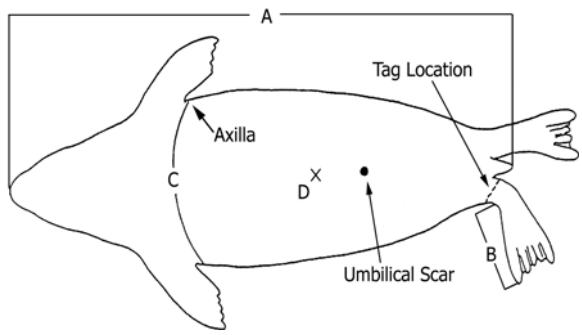
CETACEAN: Record the width of the flukes of the cetacean, from one tip to the other. See Figure 1, letter E.

PINNIPED: No measurements taken; record a dash (-) in this field.



A. Total Length - snout tip to fluke notch
B. Flipper Length
C. Flipper Width, maximum
D. Height of Dorsal Fin
E. Fluke Width, from tips of flukes
F. Girth at Axilla (circumference)
G Blubber Thickness
H. Body Temperature

Figure 1. Cetacean body measurements (straight line).



A. Total Length - snout to tip of tail
B. Rear Flipper Length
C. Girth at Axilla (circumference)
D. Blubber Thickness (ventral) and Body Temperature (dorsal)

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. Refer to Table 4. Marine Mammal Biological Sampling Priorities in the

NEFSC Observer Program Biological Sampling Manual to find the specific sampling requests for each **cetacean** and **pinniped** 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

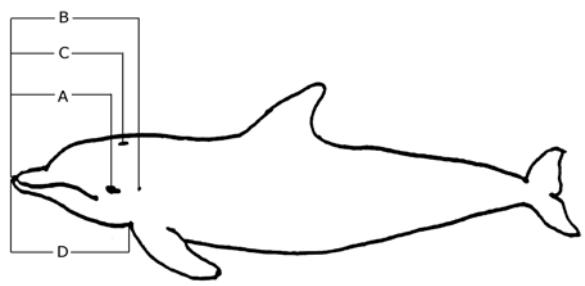
20. OTHER: Record the number of additional samples collected.

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.



A. Snout to Center of Eye
B. Snout to Ear
C. Snout to Center of Blowhole
D. Snout to Flipper Anterior

Figure 3. Additional measurements (straight line) for Bottlenose dolphins.

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.

OBBMM 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL BIOLOGICAL SAMPLE LOG (Front)

OBS/TRIP ID	A
DATE LAND mm/yy	B /
PAGE #	C ☐ OF ☐

PSID #	SPECIES NAME	SEX	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY			NUMBER OF SAMPLES TAKEN								
		0 = U 1 = M 2 = F	Body Temp ºF	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	Finclip/ 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**
			.	.															
			.	.															
			.	.															
			.	.															

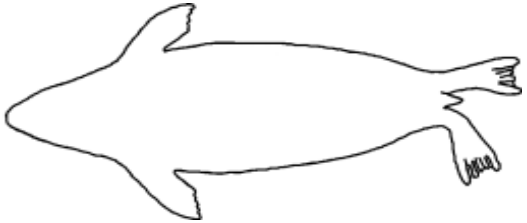
General Comments:

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

OBBMM 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

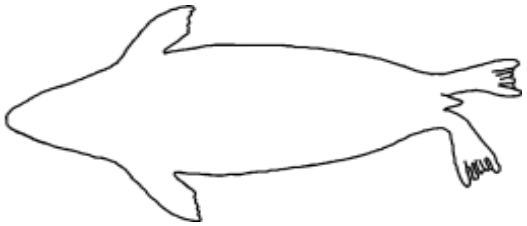
MARINE MAMMAL BIOLOGICAL SAMPLE LOG (Back)

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

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # _____

Circle one : Left / Right

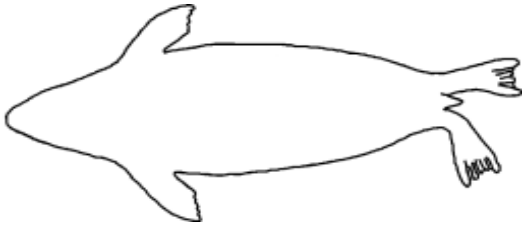


Circle one : Dorsal / Ventral

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

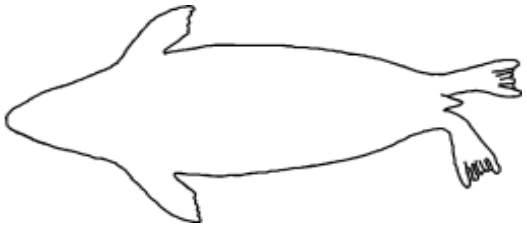


Circle one : Dorsal / Ventral

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

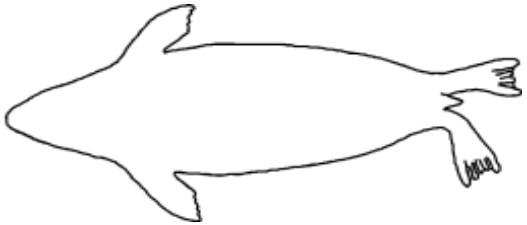


Circle one : Dorsal / Ventral

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

OBBMM 01/01/07

OBS/TRIP ID	A81025C
DATE LAND mm/yy	01 / 01
PAGE #	1 OF 2

NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL BIOLOGICAL SAMPLE LOG (Front)

PSID #	SPECIES NAME	SEX	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY			NUMBER OF SAMPLES TAKEN								
		0 = U 1 = M 2 = F	Body Temp ºF	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	Finclip/ 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:

All samples were double bagged and kept cold in a cooler with ice. Whole harbor porpoise will be transported to Woods Hole today after landing.

PSID 05 - Other samples = fetus, heart and liver

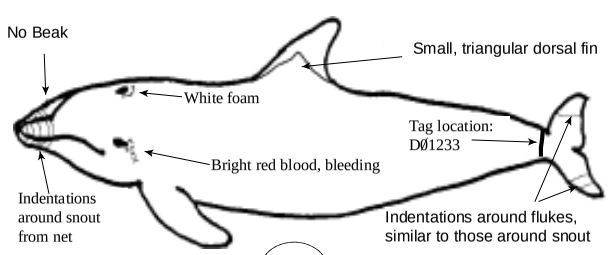
BOTTLENOSE DOLPHIN:
PSID # 05
A. snout - eye (cm) 30
B. snout - ear (cm) 34
C. snout - blow (cm) 32
D. snout - flip (cm) 48

BOTTLENOSE DOLPHIN:
PSID # _____
A. snout - eye (cm) _____
B. snout - ear (cm) _____
C. snout - blow (cm) _____
D. snout - flip (cm) _____

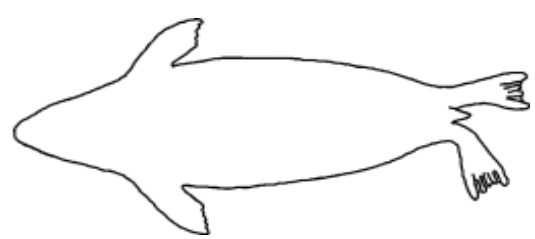
Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:
PSID # 01

Indents around tip of snout & flukes(not thru skin). White foam coming out blowhole. Very fresh, blubber, muscle and soft tissues firm. No signs of scavenger damage, no decomposition. Some blood coming from left eye.

ID'd by lack of snout, overall gray coloration with no distinct patterns and the small triangular dorsal fin.



Circle one : Left / Right



Circle one : Dorsal / Ventral

OBBMM 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL BIOLOGICAL SAMPLE LOG (Back)

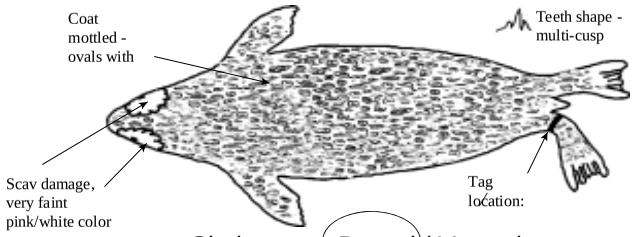
OBS/TRIP ID	**A81025C**
DATE LAND mm/yy	**01 / 01**
PAGE #	**2** OF **2**

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**

ID'd by the multi-cusp teeth, mottled coat & the eyes were the same distance between ears and nose. Eyes cloudy. Slight scavenger damage around eyes and mouth, skin almost white. No blood seen. Moderate smell.

Circle one : Left / Right

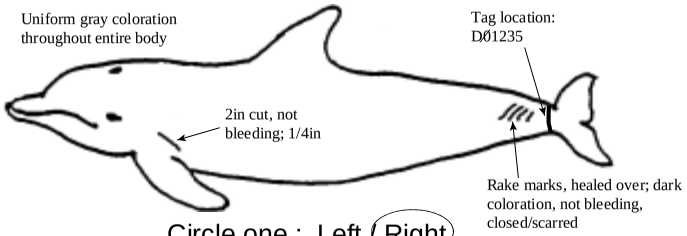


Circle one : Dorsal / Ventral

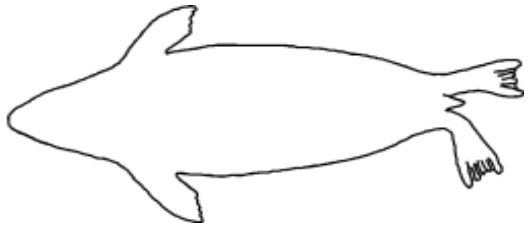
Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # **05**

ID'd by gray coloration, large size, wide girth, stubby beak and conical teeth. Rake marks on right side of caudal peduncle. 2in long cut just over the right pectoral flip, otherwise great condition.



Circle one : Left / Right

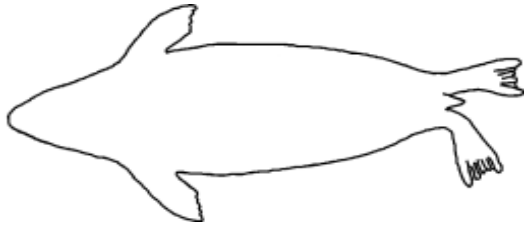


Circle one : Dorsal / Ventral

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

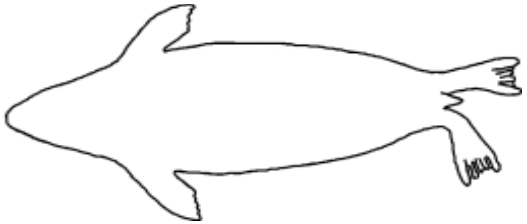


Circle one : Dorsal / Ventral

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 / Rightt



Circle one : Dorsal / Ventral

:

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NMFS FISHERIES OBSERVER PROGRAM

MARINE MAMMAL BIOLOGICAL SAMPLE LOG (Front)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	OF

PSID #	SPECIES NAME	SEX	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY			NUMBER OF SAMPLES TAKEN								
		0 = U 1 = M 2 = F	Body Temp ºF	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	Finclip/ Flipper/ Skin	Jaw	Stom	Blub	Musc	Repro Tract	Head/ Skull	Other list in comments
			.	.															
			.	.															
			.	.															
			.	.															
			.	.															

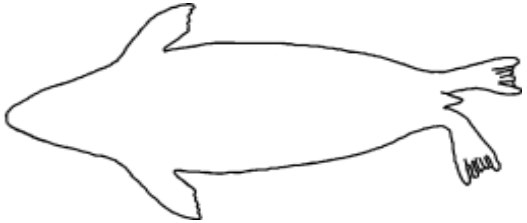
General Comments:

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

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NMFS FISHERIES OBSERVER PROGRAM

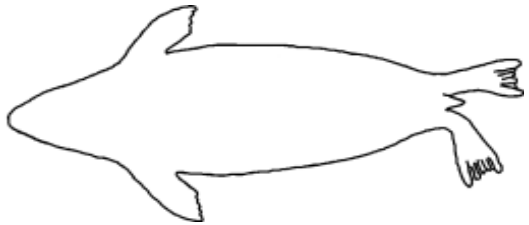
MARINE MAMMAL BIOLOGICAL SAMPLE LOG (Back)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	OF

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # _____

Circle one : Left / Right

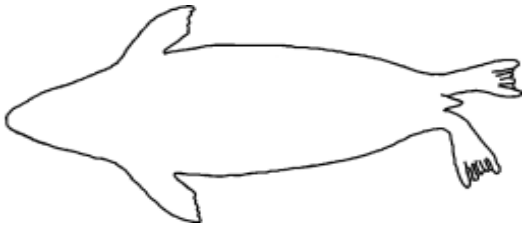


Circle one : Dorsal / Ventral

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

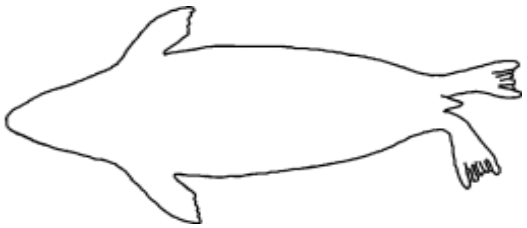


Circle one : Dorsal / Ventral

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

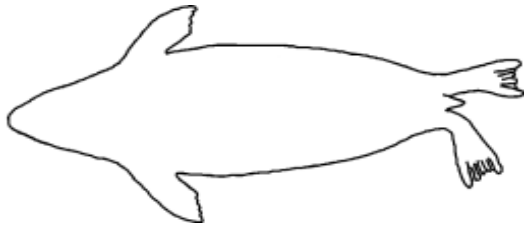


Circle one : Dorsal / Ventral

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 is 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.

15. BIOPSY/SKIN

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.

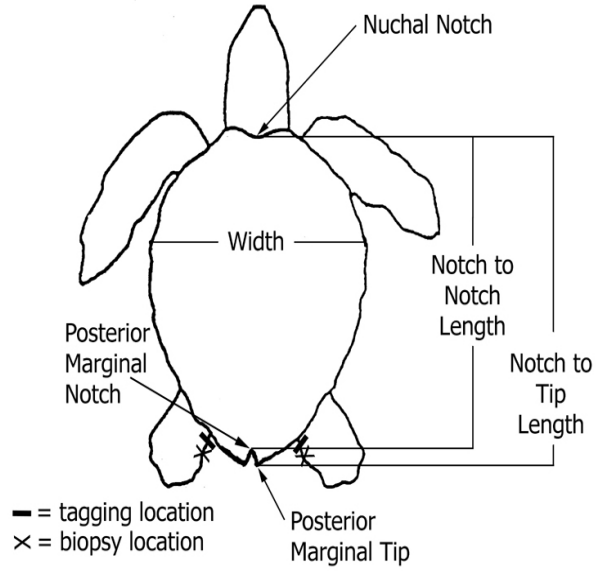


Figure 1. Sea turtle measurements (curvilinear), tagging and biopsy locations.

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.

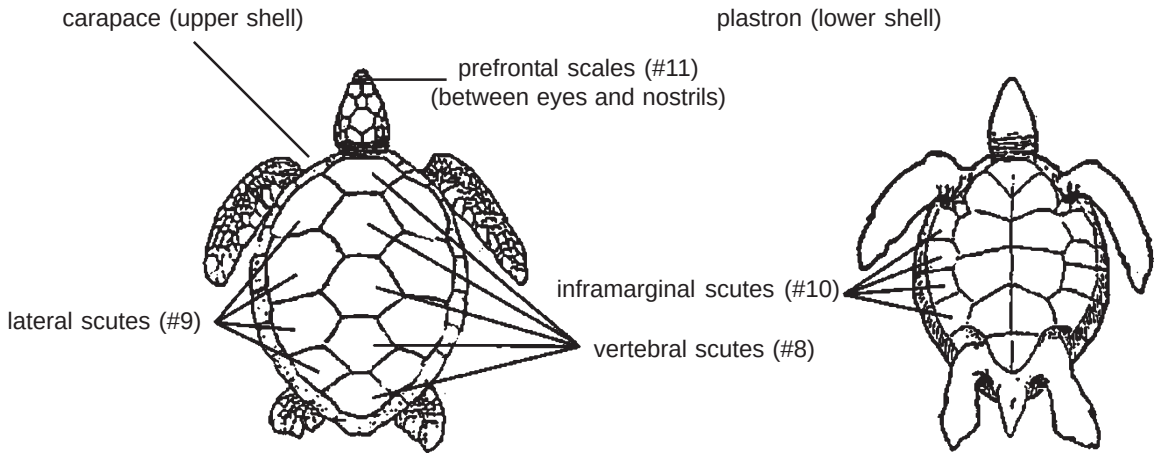


Figure 2. Sea Turtle Terminology.

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NMFS FISHERIES OBSERVER PROGRAM

SEA TURTLE BIOLOGICAL SAMPLE LOG (Front)

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

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	1Pair Pre-Frontals? 0=N 1=Y	Overlap Scutes? 0=N 1=Y	Dorsal Color Code	Whole	Biopsy / Skin	Other list in comments
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
				.	.	.									
				.	.	.									
				.	.	.									

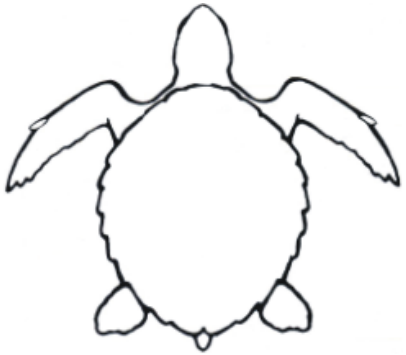
General Comments

DORSAL COLOR CODES:

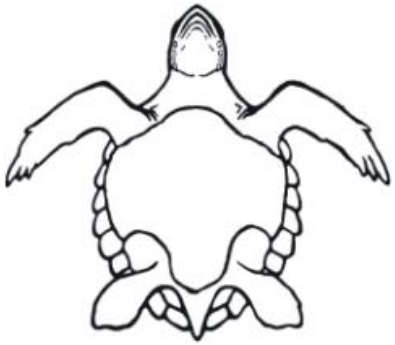
01 = Black
02 = Gray-Green
03 = Orng/Red-Brown
04 = Brown
99 = Other
00 = Unknown

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

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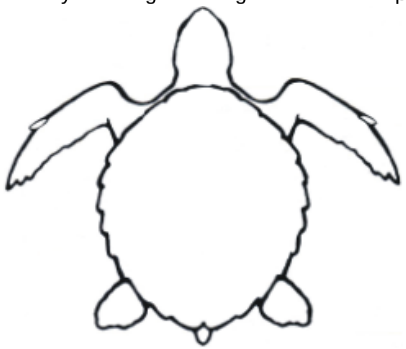
NMFS FISHERIES OBSERVER PROGRAM

SEA TURTLE BIOLOGICAL SAMPLE LOG (Back)

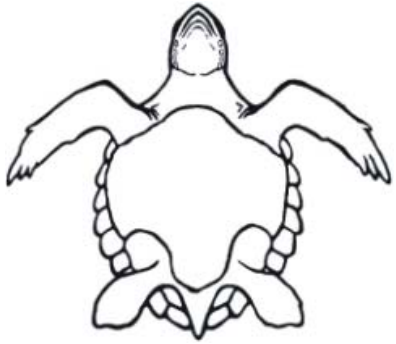
OBS/TRIP ID	**A**
DATE LAND mm/yy	**B** /
PAGE #	**C** ☐ OF ☐

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 # _____



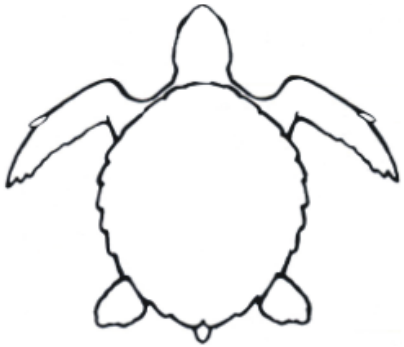
Dorsal View



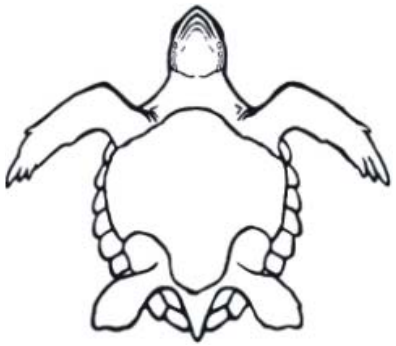
Ventral View

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 # _____



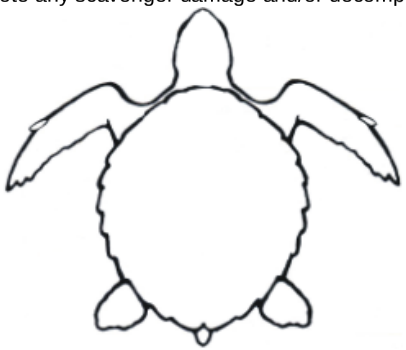
Dorsal View



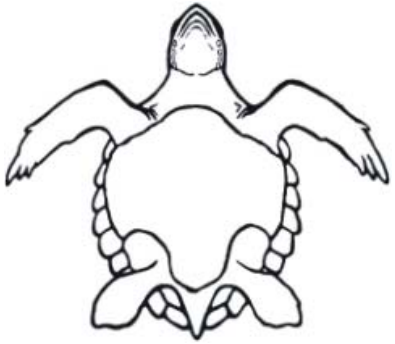
Ventral View

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

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NMFS FISHERIES OBSERVER PROGRAM

SEA TURTLE BIOLOGICAL SAMPLE LOG (Front)

OBS/TRIP ID	**A74021-**
DATE LAND 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	1Pair Pre-Frontals? 0=N 1=Y	Overlap Scutes? 0=N 1=Y	Dorsal Color Code	Whole	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

All turtles dropped from a height of 4 feet onto the deck.

DORSAL COLOR CODES:
01 = Black
02 = Gray-Green
03 = Orng/Red-Brown
04 = Brown
99 = Other
00 = Unknown

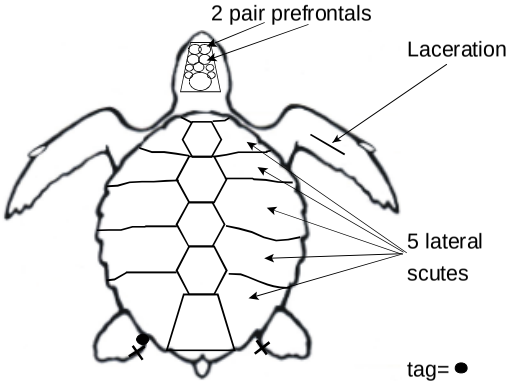
Sketch and describe ID characteristics, overall condition of carapace, plastron and soft tissues, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on the animal, etc.

PSID # __**03**____

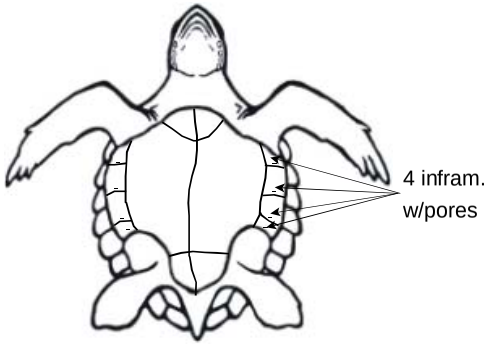
Inframarginal scutes had pores. Fresh laceration (5cm long, 1cm deep and bleeding) in right fore-flipper. No indications of life. Tried to resuscitate for 24 hours with no success.

Rear flippers and neck in good condition with no cuts or scrapes. No cracks seen in carapace or plastron.

Collected the whole turtle, took two biopsies and also tagged on left rear flipper.



Dorsal View



Ventral View

OBBTU 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

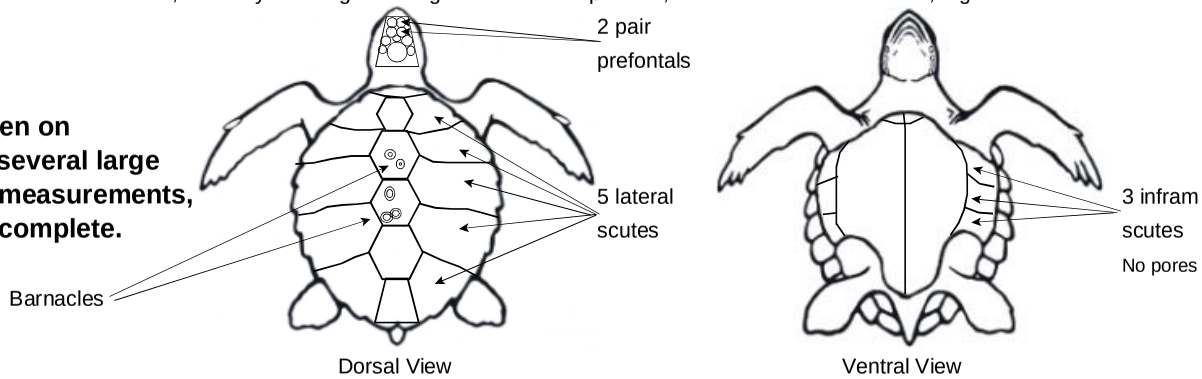
SEA TURTLE BIOLOGICAL SAMPLE LOG (Back)

OBS/TRIP ID	**A74021-**
DATE LAND 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**

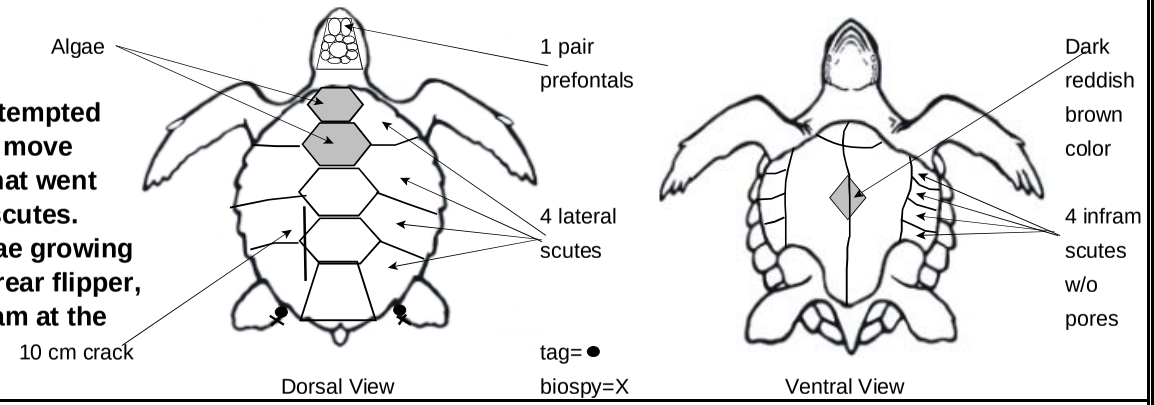
Turtle very active on deck. No new or healed wounds seen on soft tissues, no cracks or chips to carapace. Turtle had several large barnacles on the 2nd & 3rd vertebral scutes. Able to get measurements, but no biopsy or tag as weather was too rough to safely complete. Once in the water, the turtle dove immediately.



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.

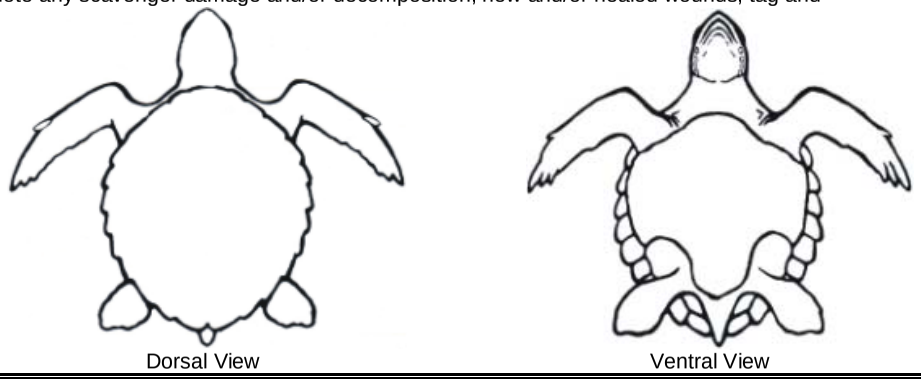
PSID # **06**

Forelimbs had one claw. Turtle appeared very lethargic. Attempted resuscitation for about 5 hours and then the animal began to move around and reacted to stimuli. Carapace had a 10cm crack that went all the way through the scutes. Crack down left side of vert. scutes. Dark coloration, center of plastron (8cm diameter). Some algae growing on the carapace. Turtle was tagged with one inconel in each rear flipper, along with one biopsy from each. After release, the turtle swam at the surface.



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 # _____



OBBTU 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

SEA TURTLE BIOLOGICAL SAMPLE LOG (Front)

OBS/TRIP ID	
DATE LAND mm/yy	/
PAGE #	☐ OF ☐

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	1Pair Pre-Frontals? 0=N 1=Y	Overlap Scutes? 0=N 1=Y	Dorsal Color Code	Whole	Biopsy / Skin	Other list in comments
				.	.	.									
				.	.	.									
				.	.	.									
				.	.	.									

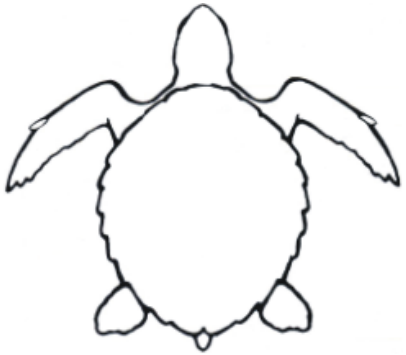
General Comments

DORSAL COLOR CODES:

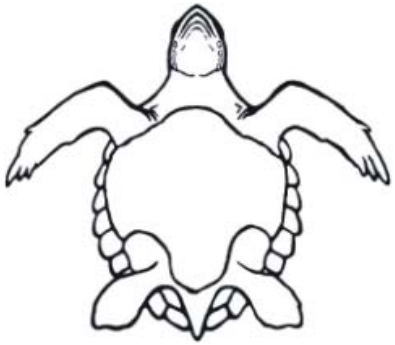
01 = Black
02 = Gray-Green
03 = Orng/Red-Brown
04 = Brown
99 = Other
00 = Unknown

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

OBBTU 01/01/07

NMFS FISHERIES OBSERVER PROGRAM

SEA TURTLE BIOLOGICAL SAMPLE LOG (Back)

OBS/TRIP ID	
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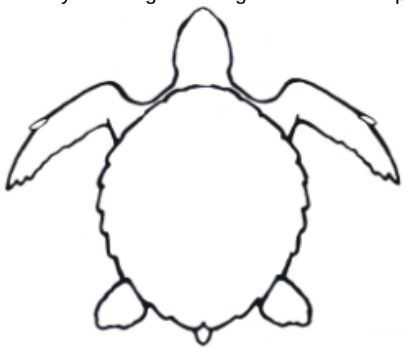
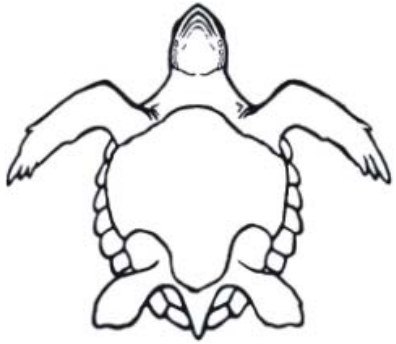


Dorsal View



Ventral View

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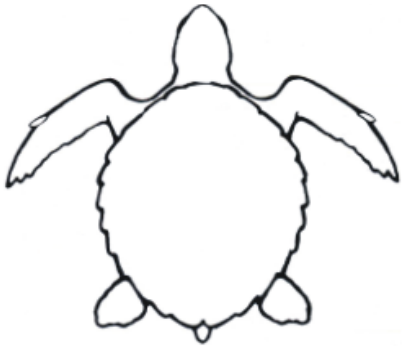

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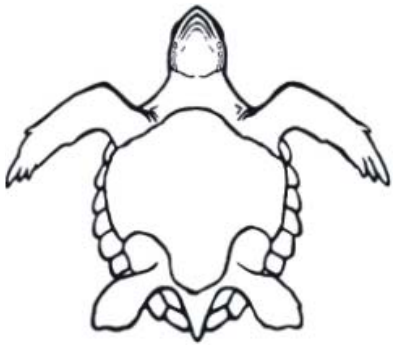

Ventral View

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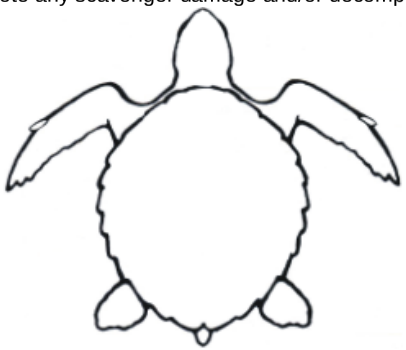
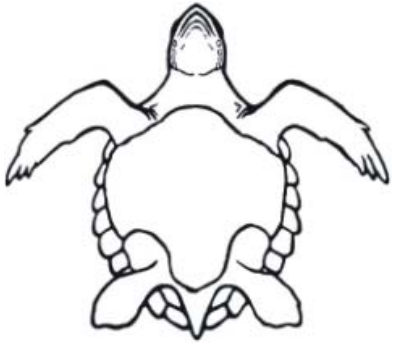


Dorsal View



Ventral View

Appendix A. Species Names

0010	ALEWIFE	*Alosa pseudoharengus*
6632	ALLIGATORFISH	*Aspidophoroides monopterygius*
0030	AMBERJACK, NK	*Seriola* sp
0060	ANCHOVY, BAY	*Anchoa mitchilli*
6860	ANCHOVY, NK	Engraulidae
6645	ANCHOVY, STRIPED	*Anchoa hepsetus*
6878	ANEMONE, NK	Anthozoa
1710	ARGENTINE, ATLANTIC	*Argentina silus*
0180	BARRACUDA, NK	*Sphyraena* sp
6627	BARRELFISH	*Hyperoglyphe perciformis*
4180	BASS, STRIPED	*Morone saxatilis*
6611	BATFISH, ATLANTIC	*Dibranchus atlanticus*
6610	BATFISH, NK	*Ogcocephalidae*
6626	BEARDFISH	*Polymixia lowei*
6100	BIRD, NK	Aves
6629	BLENNY, NK (Fish)	Blenniidae
0230	BLUEFISH	*Pomatomus saltatrix*
6623	BOARFISH, DEEPBODY	*Antigonia capros*
6607	BOARFISH, NK	Caproidae
6624	BOARFISH, SHORTSPINE	*Antigonia combatia*
0330	BONITO, ATLANTIC	*Sarda sarda*
6101	BOOBY, BROWN	*Sula leucogaster*
6102	BOOBY, MASKED	*Sula dactylatra*
6136	BUFFLEHEAD	*Bucephala albeola*
0511	BUTTERFISH	*Peprilus triacanthus*
3610	CAPELIN	*Mallotus villosus*
0630	CARP	*Cyprinus carpio*
7430	CLAM, BLOODARC	*Anadara ovalis*
7640	CLAM, NK	Bivalvia
7600	CLAM, RAZOR	*Ensis directus*
7630	CLAM, SOFT-SHELLED	*Mya arenaria*
7650	CLAM, STIMPSONS SURF (Arctic)	*Spisula polynyma*
7690	CLAM, SURF	*Spisula solidissima*
6894	CLAPPER, NK	
6895	CLAPPER, CLAM	
6896	CLAPPER, SCALLOP	
0570	COBIA	*Rachycentron canadum*
0818	COD, ATLANTIC	*Gadus morhua*
6605	CODLING, METALLIC	*Physiculus fulvus* (Hakeling)
6880	CORAL, STONY, NK	Astrangiidae
6111	CORMORANT, DBL CREST	*Phalacrocorax auritus*
6112	CORMORANT, GREAT	*Phalacrocorax carbo*
6113	CORMORANT, NK	*Phalacrocorax sp*
7000	CRAB, BLUE	*Callinectes sapidus*
7140	CRAB, CANCER, NK	*Cancer* sp
7100	CRAB, DEEP SEA, RED	*Chaceon quinquedens*
7080	CRAB, GREEN	*Carcinus maenas*

6868	CRAB, HERMIT, NK	Paguroidea
7240	CRAB, HORSESHOE	*Limulus polyphemus*
7110	CRAB, JONAH	*Cancer borealis*
7010	CRAB, LADY	*Ovalipes ocellatus*
6866	CRAB, NORTHERN STONE	*Lithodes maja*
7120	CRAB, ROCK	*Cancer irroratus*
7185	CRAB, SNOW (Queen)	*Chionoecetes opilio*
6865	CRAB, SPECKLED	*Arenaeus cribrarius*
7150	CRAB, SPIDER, NK	*Libinia, Pelia* sp
7151	CRAB, SPIDER, PORTLY	*Libinia emarginata*
7130	CRAB, TRUE, NK	Brachyura
0840	CRAPPIE, NK	*Pomoxis* sp
0900	CROAKER, ATLANTIC	*Micropogonias undulatus*
0930	CUNNER (Yellow Perch)	*Tautogolabrus adspersus*
0960	CUSK	*Brosme brosme*
6861	CUSK-EEL, NK	Ophidiidae
6640	CUTLASSFISH, ATL	*Trichiurus lepturus*
0985	DEALFISH (Ribbonfish)	*Trachipterus arcticus*
3460	DOGFISH, CHAIN	*Scyliorhinus retifer*
3501	DOGFISH, NK	*Mustelus, Squalus* sp
3511	DOGFISH, SMOOTH	*Mustelus canis*
3521	DOGFISH, SPINY	*Squalus acanthias*
6941	DOLPHIN, BOTTLENOSE	*Tursiops truncatus*
6961	DOLPHIN, CLYMENE	*Stenella clymene*
6962	DOLPHIN, FRASER'S	*Lagenodelphis hosei*
6997	DOLPHIN, NK (Mammal)	Delphinidae
6963	DOLPHIN, PANTROPICAL SPOTTED	*Stenella attenuata*
6942	DOLPHIN, RISSO'S	*Grampus griseus*
6957	DOLPHIN, ROUGH TOOTH	*Steno bredanensis*
6940	DOLPHIN, COMMON(Saddleback)	*Delphinus delphis*
6944	DOLPHIN, SPINNER	*Stenella longirostris*
6901	DOLPHIN, SPOTTED, ATL	*Stenella plagiodon*
6902	DOLPHIN, SPOTTED, BRID	*Stenella frontalis*
6943	DOLPHIN, SPOTTED, NK	*Stenella* sp
6952	DOLPHIN, STRIPED	*Stenella coeruleoalba*
6951	DOLPHIN, WHITEBEAKED	*Lagenorhynchus albirostris*
6936	DOLPHIN, WHITESIDED	*Lagenorhynchus acutus*
1050	DOLPHINFISH (Mahi Mahi)	*Coryphaena hippurus*
1880	DORY, BUCKLER (John)	*Zenopsis conchifera*
1890	DORY, NK	Zeidae
6131	DOVEKIE	*Alle alle*
6609	DRAGONFISH, BOA	*Stomias boa*
1060	DRUM, BLACK	*Pogonias cromis*
6797	DRUM, NK	Sciaenidae
1070	DRUM, RED	*Sciaenops ocellatus*
6892	ECHINODERM, NK	Echinodermata
1150	EEL, AMERICAN	*Anguilla rostrata*
1160	EEL, CONGER	*Conger oceanicus*
6862	EEL, GARDEN, NK	*Heteroconger* sp
1170	EEL, NK	Anguilliformes

6863	EEL, ROCK (GUNNEL)	*Pholis gunnellus*
6859	EEL, SLENDER SNIPE	*Nemichthys scolopaceus*
6875	EELGRASS	*Zostera marina*
6613	EELPOUT, NK	*Lycenchelys*, *Lycodes* sp
6135	EIDER, COMMON	*Somateria mollissima*
3850	ESCOLAR	*Lepidocybium flavobrunneum*
6796	FILEFISH, NK	Monacanthidae
	FISH, DEEP-WATER, NK	
5260	FISH, NK	Osteichthyes
1240	FLOUNDER, AMERICAN PLAICE	*Hippoglossoides platessoides*
1270	FLOUNDER, FOURSPOT	*Paralichthys oblongus*
1290	FLOUNDER, GULFSTREAM	*Citharichthys arctifrons*
6886	FLOUNDER, LEFTEYE, NK	Bothidae
1260	FLOUNDER, NK	Pleuronectiformes
1250	FLOUNDER, SAND DAB (Windowpane)	*Scophtalmus aquosus*
1300	FLOUNDER, SOUTHERN	*Paralichthys lethostigma*
1219	FLOUNDER, SUMMER (Fluke)	*Paralichthys dentatus*
1200	FLOUNDER, WINTER (Blackback)	*Pleuronectes americanus*
1220	FLOUNDER, WITCH (Grey Sole)	*Glyptocephalus cynoglossus*
1230	FLOUNDER, YELLOWTAIL	*Pleuronectes ferrugineus*
6141	FRIGATEBIRD, MAGNIFICENT	*Fregata magnificens*
6161	FULMAR, NORTHERN	*Fulmarus glacialis*
6171	GANNET, NORTHERN	*Sula bassanus*
6660	GAPER, RED EYE	*Chaunax stigmaeus*
1330	GARFISH (Needlefish)	Belonidae
6152	GREBE, HORNED	*Podiceps auritus*
6150	GREBE, NK	Podicipedidae
6153	GREBE, PIED BILLED	*Podilymbus podiceps*
6154	GREBE, RED NECKED	*Podiceps grisegena*
6671	GRENADIER, COMMON (Marlin spike)	*Nezumia bairdi*
6672	GRENADIER, LONG-NOSED	*Caelorinchus carminatus*
1380	GRENADIER, NK	Macrouridae
6673	GRENADIER, ROUGHEAD	*Macrourus berglax*
1410	GROUPER, NK	*Epinephelus*, *Mycteroperca* sp
1414	GROUPER, SNOWY	*Epinephelus niveatus*
1440	GRUNT, NK	*Haemulon*, *Anisotremus* sp
6181	GUILLEMOT, BLACK	*Cepphus grylle*
6201	GULL, BLACK-HEADED	*Larus ridibundus*
6202	GULL, BONAPARTE'S	*Larus philadelphia*
6203	GULL, FRANKLIN'S	*Larus pipixcan*
6204	GULL, GLAUCOUS	*Larus hyperboreus*
6205	GULL, GREAT BLACK-BACK	*Larus marinus*
6206	GULL, HERRING	*Larus argentatus*
6207	GULL, ICELAND	*Larus glaucoides*
6215	GULL, IVORY	*Pagophila eburnea*
6208	GULL, LAUGHING	*Larus atricilla*
6209	GULL, LESS BLACK-BACK	*Larus fuscus*
6210	GULL, LITTLE	*Larus minutus*
6211	GULL, MEW	*Larus canus*
6200	GULL, NK	Laridae

6212	GULL, RING BILLED	*Larus delawarensis*
6216	GULL, ROSS'S	*Rhodostethia rosea*
6213	GULL, SABINE'S	*Xema sabini*
6214	GULL, THAYER'S	*Larus thayeri*
1477	HADDOCK	*Melanogrammus aeglefinus*
1500	HAGFISH, ATLANTIC	*Myxine glutinosa*
6604	HAKE, BLUE	*Antimora rostrata*
6603	HAKE, LONGFIN	*Urophycis chesteri*
6600	HAKE, NK	*Urophycis*, *Merluccius*, *Physiculus* sp
1520	HAKE, RED (Ling)	*Urophycis chuss*
5090	HAKE, SILVER (Whiting)	*Merluccius bilinearis*
6615	HAKE, SOUTHERN	*Urophycis floridana*
6602	HAKE, SPOTTED	*Urophycis regia*
1539	HAKE, WHITE	*Urophycis tenuis*
1590	HALIBUT, ATLANTIC	*Hippoglossus hippoglossus*
1580	HALIBUT, GREENLAND	*Reinhardtius hippoglossoides*
1656	HARVESTFISH	*Peprilus alepidotus*
1685	HERRING, ATLANTIC	*Clupea harengus*
1120	HERRING, BLUEBACK	*Alosa aestivalis*
1670	HERRING, NK (Shad)	Clupeidae
1280	HOGCHOCKER	*Trinectes maculatus*
1790	HOGFISH, ATLANTIC	*Lachnolaimus maximus*
6690	HOUNDFISH	*Tylosurus crocodilus*
8990	INVERTEBRATE, NK	Invertebrata
0870	JACK, CREVALLE	*Caranx hippos*
6780	JACK, NK	Carangidae
6301	JAEGER, LONG TAILED	*Stercorarius longicaudus*
6300	JAEGER, NK	Stercorariidae
6302	JAEGER, PARASITIC	*Stercorarius parasiticus*
6303	JAEGER, POMARINE	*Stercorarius pomarinus*
6305	JAEGER, SOUTH POLAR	*Catharacta maccormicki*
6871	JELLYFISH, NK	Scyphozoa
6618	KINGFISH, GULF	*Menticirrhus littoralis*
1970	KINGFISH, NK (Sea mullet)	*Menticirrhus* sp
6616	KINGFISH, NORTHERN	*Menticirrhus saxatilis*
6617	KINGFISH, SOUTHERN	*Menticirrhus americanus*
6311	KITTIWAKE, BLK-LEGGD	*Rissa tridactyla*
2680	LADYFISH	*Elops saurus*
6631	LAMPREY, NK	Petromyzontidae
6872	LAMPSHELL, NK	Brachiopoda
2060	LANCE, SAND, NK	*Ammodytes* sp
6774	LANCETFISH, NK	Alepisauridae
6608	LANTERNFISH, NK	Myctophidae
6787	LEATHERJACKET	*Oligoplites saurus*
6647	LIZARDFISH, NK	Synodontidae
7270	LOBSTER, AMERICAN	*Homarus americanus*
6786	LOOKDOWN	*Selene vomer*
6322	LOON, ARCTIC	*Gavia arctica*
6323	LOON, COMMON	*Gavia immer*
6321	LOON, NK	Gaviidae

6324	LOON, RED-THROATED	*Gavia stellata*
6760	LOUVAR	*Luvarus imperialis*
2100	LUMPFISH	*Cyclopterus lumpus*
6635	LUMPSUCKER, ATLANTIC SPINY	*Eumicrotremus spinosus*
2120	MACKEREL, ATLANTIC	*Scomber scombrus*
2150	MACKEREL, CHUB	*Scomber japonicus*
1320	MACKEREL, FRIGATE	*Auxis thazard*
1940	MACKEREL, KING	*Scomberomorus cavalla*
6649	MACKEREL, NK	Scombridae
6638	MACKEREL, SNAKE, NK	Gempylidae
3840	MACKEREL, SPANISH	*Scomberomorus maculatus*
6964	MANATEE, WEST INDIAN	*Trichechus manatus*
6991	MARINE MAMMAL, NK	Cetacea/Pinnipedia
2171	MARLIN, BLUE	*Makaira nigricans*
2181	MARLIN, NK	Istiophoridae
2161	MARLIN, WHITE	*Tetrapturus albidus*
2210	MENHADEN, ATLANTIC (Bunker)	*Brevoortia tyrannus*
6103	MERGANSER, NK	Merginae
6770	MOLA, NK	Molidae
6772	MOLA, OCEAN SUNFISH	*Mola mola*
6771	MOLA, SHARPTAIL	*Mola lanceolata*
6773	MOLA, SLENDER	*Ranzania laevis*
8040	MOLLUSK, NK	Mollusca
0124	MONKFISH (Angler, Goosefish)	*Lophius americanus*
6785	MOONFISH, ATLANTIC	*Selene setapinnis*
2341	MULLET, NK	Mugilidae
2350	MULLET, STRIPED (Jumping)	*Mugil cephalus*
6636	MUMMICHOG	*Fundulus heteroclitus*
6330	MURRE, NK	*Uria* sp
6332	MURRE, THICK-BILLED	*Uria lomvia*
6331	MURRE, THIN-BILLED	*Uria aalge*
7810	MUSSEL, NK	*Mytilus, Modiolus* sp
6966	NARWHAL	*Monodon monoceros*
0190	NEEDLEFISH, ATLANTIC	*Strongylura marina*
6341	NODDY, BROWN	*Anous stolidus*
2500	OCEAN POUT	*Macrozoarces americanus*
7860	OCTOPUS, NK	Cephalopoda
6639	OILFISH	*Ruvettus pretiosus*
2490	OPAH	*Lampris guttatus*
7898	OYSTER, COMMON	*Crassostrea virginica*
7921	OYSTER, EUROPEAN FLAT	*Ostrea edulis*
5250	PELAGIC FISH, NK	
6351	PELICAN, BROWN	*Pelecanus occidentalis*
3110	PERCH, SAND	*Diplectrum formosum*
5060	PERCH, WHITE	*Morone americana*
5170	PERCH, YELLOW	*Perca flavescens*
7980	PERIWINKLE, COMMON	*Littorina littorea*
6791	PERMIT	*Trachinotus falcatus*
6362	PETREL, BERMUDA	*Pterodroma cahow*
6363	PETREL, BLACK-CAPPED	*Pterodroma hastita*

6364	PETREL, FEA'S	*Pterodroma feae*
6361	PETREL, TRINIDADE (Herald)	*Pterodroma arminjoniana*
6371	PHALAROPE, RED	*Phalaropus fulicarius*
6372	PHALOROPE, RED-NECKED	*Phalaropus lobatus*
2580	PIGFISH	*Orthopristis chrysoptera*
6781	PILOTFISH	*Naucrates ductor*
2670	PINFISH	*Lagodon rhomboides*
6621	PIPEFISH/SEAHORSE, NK	Syngnathidae
2695	POLLOCK	*Pollachius virens*
6777	POMFRET, ATLANTIC	*Brama brama*
6776	POMFRET, BIGSCALE	*Taratichthys longipinnis*
6578	POMFRET, NK	Bramidae
6788	POMPANO, AFRICAN	*Alectis ciliaris*
2720	POMPANO, FLORIDA	*Trachinotus carolinus*
6646	PORCUPINEFISH	*Diodon hystrix*
3320	PORGY, NK	Sparidae
3300	PORGY, RED	*Pagrus pagrus*
6960	PORPOISE, HARBOR	*Phocoena phocoena*
6998	PORPOISE/DOLPHIN, NK	Phocoenidae/Delphinidae
4300	PUFFER, NK (Burrfish, nk)	Tetraodontidae/Diodontidae
4290	PUFFER, NORTHERN	*Sphoeroides maculatus*
6381	PUFFIN, ATLANTIC	*Fratercula arctica*
7488	QUAHOG, HARD SHELL CLAM	*Mercenaria mercenaria, M.campechiensis*
7540	QUAHOG, OCEAN (Black clam)	*Artica islandica*
3270	RAVEN, SEA	*Hemitripterus americanus*
6739	RAY, BULLNOSE	*Myliobatis freminvillei*
6741	RAY, BUTTERFLY, NK	*Gymnura* sp
6742	RAY, BUTTERFLY, SMOOTH	*Gymnura micrura*
6743	RAY, BUTTERFLY, SPINY	*Gymnura altavela*
6740	RAY, COWNOSE	*Rhinoptera bonasus*
6745	RAY, DEVIL	*Mobula hypostoma*
6700	RAY, EAGLE, NK	Myliobatidae
6753	RAY, NK	Rajiformes
6730	RAY, TORPEDO	*Torpedo nobiliana*
6720	RAY,MANTA, ATLANTIC	*Manta birostris*
6715	RAY,MANTA,NK	Mobulidae
6391	RAZORBILL	*Alca torda*
2400	REDFISH, NK (Ocean Perch)	*Sebastes* sp
6750	REMORA, NK	Echeneidae
6644	RIBBONFISH, NK	Trachipteridae
6643	RIBBONFISH,POLKA-DOT	*Desmodema polystictum*
6642	RIBBONFISH,SCALLOPED	*Zu cristatus*
6606	ROCKLING, FOURBEARD	*Enchelyopus cimbrius*
6876	ROCKWEED, NK	*Fucus* sp
2420	ROSEFISH, BLACK BELLY	*Helicolenus dactylopterus*
6778	ROUGHY, BIG	*Gephyroberyx darwini*
6779	ROUGHY, NK	Trachichthyidae
2130	RUNNER, BLUE	*Caranx crysos*
6630	SAILFISH	*Istiophorus platypterus*
3050	SALMON, ATLANTIC	*Salmo salar*

3090	SALMON, NK	Salmonidae
3060	SALMON, PINK	*Oncorhynchus gorbuscha*
6874	SAND DOLLAR	*Echinarachnius parma*
3196	SAURY, ATLANTIC	*Scomberesox saurus*
6784	SCAD, BIGEYE	*Selar crumenophthalmus*
6782	SCAD, MACKEREL	*Decapterus macarellus*
	SCAD, NK	*Decapterus, Selur, Trachurus* sp
3310	SCAD, ROUGH	*Trachurus lathami*
7990	SCALLOP, BAY	*Argopecten irradians*
7970	SCALLOP, CALICO	*Aequipecten gibbus*
7950	SCALLOP, ICELANDIC	*Chlamys islandica*
7960	SCALLOP, NK	Pectinidae
8009	SCALLOP, SEA	*Placopecten magellanicus*
6612	SCORPIONFISH, NK	Scorpaenidae
6521	SCOTER, BLACK	*Melanitta nigra*
6520	SCOTER, NK	*Melanitta* sp
6523	SCOTER, SURF	*Melanitta perspicillata*
6522	SCOTER, WHITE-WINGED	*Melanitta deglandi*
6678	SCULPIN, LONGHORN	*Myoxocephalus octodecimspinosus*
3260	SCULPIN, NK	Cottidae
3295	SCUP	*Stenotomus chrysops*
3350	SEA BASS, BLACK	*Centropristis striata*
3330	SEA BASS, NK	Serranidae
8060	SEA CUCUMBER, NK	Holothuroidea
6873	SEA PANSY	*Renilla reniformis*
6884	SEA PEN	*Pennatula aculeata*
6869	SEA POTATO	*Leathesia difformis*
3430	SEA ROBIN, ARMORED	*Peristedion miniatum*
3410	SEA ROBIN, NK	Triglidae
3400	SEA ROBIN, NORTHERN	*Prionotus carolinus*
3420	SEA ROBIN, STRIPED	*Prionotus evolans*
6879	SEA SQUIRT, NK	Ascidiacea
8050	SEA URCHIN, NK	*Echinoidea*
6984	SEAL, BEARDED	*Erignathus barbatus*
6996	SEAL, GRAY	*Halichoerus grypus*
6995	SEAL, HARBOR	*Phoca vitulina*
6981	SEAL, HARP	*Phoca groenlandica*
6982	SEAL, HOODED	*Crystophora cristata*
6985	SEAL, LARGA (SPOTTED)	*Phoca largha*
6994	SEAL, NK	Phocidae
6986	SEAL, RIBBON	*Phoca fasciata*
6983	SEAL, RINGED	*Phoca hispida*
3340	SEATROUT, NK	*Cynoscion* sp
3450	SEATROUT, SPOTTED (Speckled trout)	*Cynoscion nebulosus*
8171	SEAWEED, NK	Phaeophyta
3474	SHAD, AMERICAN	*Alosa sapidissima*
1340	SHAD, GIZZARD	*Dorosoma cepedianum*
1730	SHAD, HICKORY	*Alosa mediocris*
6864	SHANNY, NK	*Lumpenus, Stichaeus, Ulvaria* sp
4771	SHARK, ATL ANGEL	*Squatina dumerili*

4941	SHARK, ATL SHARPNOSE	*Rhizoprionodon terraenovae*
4961	SHARK, BASKING	*Cetorhinus maximus*
4831	SHARK, BIGNOSE	*Carcharhinus altimus*
4871	SHARK, BLACK TIP	*Carcharhinus limbatus*
4931	SHARK, BLUE (Blue Dog)	*Prionace glauca*
	SHARK, BONNETHEAD	*Sphyrna tiburo*
4891	SHARK, BULL	*Carcharhinus leucas*
4971	SHARK, CARCHARHIN, NK	*Carcharhinus* sp
	SHARK, DEEP-WATER, NK	
4841	SHARK, DUSKY	*Carcharhinus obscurus*
4990	SHARK, FINETOOTH	*Carcharhinus isodon*
3860	SHARK, HAMMERHEAD, GREAT	*Sphyrna mokarran*
4781	SHARK, HAMMERHEAD, SCALLOPED	*Sphyrna lewini*
4791	SHARK, HAMMERHEAD, SMOOTH	*Sphyrna zygaena*
4951	SHARK, HAMMERHEAD, NK	Sphyrnidae
4921	SHARK, LEMON	*Negaprion brevirostris*
3581	SHARK, MAKO, LONG FIN	*Isurus paucus*
3571	SHARK, MAKO, NK	*Isurus* sp
3551	SHARK, MAKO, SHORTFIN	*Isurus oxyrinchus*
4861	SHARK, NIGHT	*Carcharhinus signatus*
3591	SHARK, NK	Elasmobranchii
3481	SHARK, NURSE	*Ginglymostoma cirratum*
4901	SHARK, OCEANIC WHITETIP	*Carcharhinus longimanus*
4981	SHARK, PELAGIC	
4811	SHARK, PORBEAGLE (Mackerel Shark)	*Lamna nasus*
3491	SHARK, SAND TIGER	*Odontaspis taurus*
4821	SHARK, SANDBAR (Brown Shark)	*Carcharhinus plumbeus*
4851	SHARK, SILKY	*Carcharhinus falciformis*
4881	SHARK, SPINNER	*Carcharhinus brevipinna*
3531	SHARK, THRESHER	*Alopias vulpinus*
3541	SHARK, THRESHER, BIGEYE	*Alopias superciliosus*
4911	SHARK, TIGER	*Galeocerdo cuvier*
4801	SHARK, WHITE	*Carcharodon carcharias*
6401	SHEARWATER, AUDUBON'S	*Puffinus lherminieri*
6407	SHEARWATER, CORY'S	*Puffinus diomedea*
6402	SHEARWATER, GREATER	*Puffinus gravis*
6403	SHEARWATER, LITTLE	*Puffinus assimilis*
6405	SHEARWATER, MANX	*Puffinus puffinus*
6400	SHEARWATER, NK	*Puffinus* sp
6406	SHEARWATER, SOOTY	*Puffinus griseus*
3560	SHEEPSHEAD	*Archosargus probatocephalus*
6893	SHELLFISH, NK	
7370	SHRIMP, MANTIS	*Squilla empusa*
7350	SHRIMP, NK	Caridea
7360	SHRIMP, PANDALID, NK (Northern)	*Pandalus* sp
7380	SHRIMP, PENAEID, NK (Southern)	*Penaeus* sp
7330	SHRIMP, ROYAL RED	*Pleoticus robustus*
7340	SHRIMP, SCARLET	*Plesiopenaeus edwardsianus*
6881	SHRIMP, SHORE, NK	*Palaemonetes* sp
3620	SILVERSIDE, ATLANTIC	*Menidia menidia*

3630	SILVERSIDE, NK	Atherinidae
3680	SKATE, BARNDOOR	*Dipturus laevis*
3720	SKATE, CLEARNOSE	*Raja eglanteria*
3660	SKATE, LITTLE	*Leucoraja erinacea*
3650	SKATE, NK	Rajidae
3640	SKATE, ROSETTTE	*Leucoraja garmani*
3690	SKATE, SMOOTH	*Malacoraja senta*
3700	SKATE, THORNY	*Amblyraja radiata*
3670	SKATE, WINTER (Big)	*Leucoraja ocellata*
6411	SKIMMER, BLACK	*Rynchops niger*
6304	SKUA, GREAT	*Catharacta skua*
3710	SMELT, RAINBOW	*Osmerus mordax*
6870	SNAIL, MOONSHELL, NK	Naticidae
6877	SNAIL, NK	Gastropoda
6628	SNAKEBLENNY	*Lumpenus lumpretaeformis*
3754	SNAPPER, DOG	*Lutjanus jocu*
3360	SNAPPER, NK	Lutjanidae
3764	SNAPPER, RED	*Lutjanus campechanus*
3740	SNAPPER, VERMILLION	*Rhomboplites aurorubens*
6633	SNIPEFISH, LONGSPINE	*Macrorhamphosus scolopax*
6622	SNIPEFISH, NK	Centriscidae
6634	SNIPEFISH, SLENDER	*Macrorhamphosus gracilis*
3810	SPADEFISH	*Chaetodipterus faber*
6641	SPEARFISH, LONGBILL	*Tetrapturus pfluegeri*
6867	SPONGE, NK	Porifera
4060	SPOT	*Leiostomus xanthurus*
8010	SQUID, ATL LONG-FIN	*Loligo pealei*
8030	SQUID, NK	Cephalopoda
8020	SQUID, SHORT-FIN (Boreal)	*Illex illecebrosus*
0240	SQUIRRELFISH, NK	Holocentridae
6891	STARFISH, BRITTLE, NK	Ophiuroidea
8280	STARFISH, SEASTAR, NK	Asteroidea
6620	STARGAZER, NK	Uranoscopidae
6712	STINGRAY, ATLANTIC	*Dasyatis sabina*
6711	STINGRAY, BLUNTNOSE	*Dasyatis say*
6705	STINGRAY, NK	Dasyatidae
6775	STINGRAY, PELAGIC	*Dasyatis violacea*
6710	STINGRAY, ROUGHTAIL	*Dasyatis centroura*
6431	STORM PETREL, BAND-RUMPED	*Oceanodroma castro*
6432	STORM PETREL, LEACHS	*Oceanodroma leucorhoa*
6430	STORM PETREL, NK	Hydrobatidae
6433	STORM PETREL, WHITE-FACED	*Pelagodroma marina*
6434	STORM PETREL, WILSON	*Oceanites oceanicus*
4200	STURGEON, ATLANTIC	*Acipenser oxyrhynchus*
4211	STURGEON, NK	Acipenseridae
4220	STURGEON, SHORTNOSE	*Acipenser brevirostrum*
4328	SWORDFISH	*Xiphias gladius*
4350	TARPON	*Megalops atlanticus*
4380	TAUTOG (Blackfish)	*Tautoga onitis*
6501	TERN, ARCTIC	*Sterna paradisaea*

6513	TERN, BLACK	*Chlidonias niger*
6502	TERN, BRIDLED	*Sterna anaethetus*
6503	TERN, CASPIAN	*Sterna caspia*
6505	TERN, COMMON	*Sterna hirundo*
6506	TERN, FORSTER'S	*Sterna forsteri*
6507	TERN, GULL-BILLED	*Gelochelidon nilotica*
6508	TERN, LITTLE	*Sterna albifrons*
6500	TERN, NK	Sterninae
6509	TERN, ROSEATE	*Sterna dougallii*
6510	TERN, ROYAL	*Sterna maxima*
6511	TERN, SANDWICH	*Sterna sandvicensis*
6512	TERN, SOOTY	*Sterna fuscata*
4470	TILEFISH	*Lopholatilus chamaeleonticeps*
4440	TILEFISH, BLUELINE	*Caulolatilus microps*
4460	TILEFISH, GOLDEN	*Caulolatilus chrysops*
6637	TOADFISH, NK	Batrachoididae
4510	TOADFISH, OYSTER	*Opsanus tau*
4530	TOMCOD, ATLANTIC	*Microgadus tomcod*
4560	TRIGGERFISH, NK (Leatherjackets)	Balistidae
4590	TRIPLETAIL	*Lobotes surinamensis*
6443	TROPICBIRD, NK	*Phaethon* sp.
6442	TROPICBIRD, RED-BILLED	*Phaethon aethereus*
6441	TROPICBIRD, WHITE-TAILED	*Phaethon lepturus*
4700	TUNA, ALBACORE	*Thunnus alalunga*
4691	TUNA, BIG EYE	*Thunnus obesus*
4641	TUNA, BLACKFIN	*Thunnus atlanticus*
4670	TUNA, BLUEFIN	*Thunnus thynnus*
4681	TUNA, LITTLE (False Albacore, Little Tunny)	*Euthynnus alletteratus*
4657	TUNA, NK	*Euthynnus, Thunnus* sp
4661	TUNA, SKIPJACK	*Katsuwonus pelamis*
4711	TUNA, YELLOWFIN	*Thunnus albacares*
8090	TURTLE, GREEN	*Chelonia mydas*
8140	TURTLE, HAWKSBILL	*Eretmochelys imbricata*
8100	TURTLE, KEMP'S RIDLEY	*Lepidochelys kempii*
8120	TURTLE, LEATHERBACK	*Dermochelys coriacea*
8130	TURTLE, LOGGERHEAD	*Caretta caretta*
8160	TURTLE, SEA, NK	Cheloniidae
8180	TURTLE, OLIVE RIDLEY	*Lepidochelys olivacea*
8110	TURTLE, SLIDER, POND	*Trachemys scripta*
8150	TURTLE, SNAPPER	*Chelydra serpentina*
8081	TURTLE, TERRAPIN (DIAMONDBACK)	*Malaclemys terrapin*
4720	WAHOO	*Acanthocybium solanderi*
6965	WALRUS	*Odobenus rosmarus*
3446	WEAKFISH (Squeteague sea trout/Grey trout)	*Cynoscion regalis*
6993	WHALE, BALEEN, NK	Mysticeti
6958	WHALE, BELUGA	*Delphinapterus leucas*
6908	WHALE, BK, BLAINVILLE'S (Dense)	*Mesoplodon densirostris*
6954	WHALE, BK, CUVIER'S (Goosebeaked)	*Ziphius cavirostris*
6907	WHALE, BK, GERVAIS' (Antillean)	*Mesoplodon europaeus*
6953	WHALE, BK, MESOP, NK	*Mesoplodon* sp

6909	WHALE, BK, SOWERBY'S (North Sea)	*Mesoplodon bidens*
6910	WHALE, BK, TRUE'S	*Mesoplodon mirus*
6947	WHALE, BLUE	*Balaenoptera musculus*
6988	WHALE, BRYDE'S	*Balaenoptera brydei*
6905	WHALE, DWARF SPERM	*Kogia sima*
6930	WHALE, FALSE KILLER	*Pseudorca crassidens*
6931	WHALE, FINBACK	*Balaenoptera physalus*
6933	WHALE, HUMPBACK	*Megaptera novaeangliae*
6950	WHALE, KILLER	*Orcinus orca*
6987	WHALE, MELON-HEADED	*Peponocephala electra*
6945	WHALE, MINKE	*Balaenoptera acutorostrata*
6999	WHALE, NK	Cetacea
6911	WHALE, NORTHERN BOTTLENOSE	*Hyperoodon ampullatus*
6904	WHALE, PILOT, LONG-FIN	*Globicephala melas*
6992	WHALE, PILOT, NK	*Globicephala* sp
6903	WHALE, PILOT, SHORT-FIN	*Globicephala macrorhynchus*
6955	WHALE, PYGMY KILLER	*Feresa attenuata*
6956	WHALE, PYGMY SPERM	*Kogia breviceps*
6946	WHALE, RIGHT, NORTHERN	*Balaena glacialis*
6932	WHALE, SEI	*Balaenoptera borealis*
6948	WHALE, SPERM	*Physeter macrocephalus*
6980	WHALE, TOOTHED, NK	Odontoceti
7760	WHELK, CHANNELED (Smooth)	*Busycon canaliculatum*
7770	WHELK, KNOBBED	*Busycon carica*
7780	WHELK, LIGHTNING	*Busycon contrarium*
7750	WHELK, NK, CONCH	Melongenidae
5080	WHITING, BLACK (Hake, offshore)	*Merluccius albidus*
5120	WOLFFISH, ATLANTIC	*Anarhichas lupus*
6681	WOLFFISH, NORTHERN	*Anarhichas denticulatus*
8230	WORM, BLOOD	*Glycera* sp
8250	WORM, NK	Annelida
5130	WRECKFISH	*Polyprion americanus*
6790	WRYMOUTH	*Cryptacanthodes maculatus*

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 aboard.

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, transfered to another vessel.
170 = Kept, used for bait.
171 = Kept, consumed by captain/crew.

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	WOODBRIDGE	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

350 BEAM TRAWL, OTHER/NK SPECIES
386 DREDGE, CLAM, HYDRAULIC
381 DREDGE, OTHER/NK SPECIES
132 DREDGE, SCALLOP, SEA
105 GILLNET, ANCHORED-FLOATING, FISH[1]
116 GILLNET, DRIFT-FLOATING, FISH[2]
115 GILLNET, DRIFT, LARGE PELAGIC
117 GILLNET, DRIFT-SINK, FISH[3]
100 GILLNET, FIXED OR ANCHORED, SINK, OTHER/NK SPECIES[4]
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
120 PURSE SEINE, OTHER/NK SPECIES
124 PURSE SEINE, TUNA
360 SCOTTISH SEINE
050 TRAWL, OTTER, BOTTOM, FISH
052 TRAWL, OTTER, BOTTOM, SCALLOP
058 TRAWL, OTTER, BOTTOM, SHRIMP
370 TRAWL, OTTER, MIDWATER
170 TRAWL, OTTER, MIDWATER PAIRED
053 TRAWL, TWIN
060 TROLL LINE, OTHER

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[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 NORTHEAST STATISTICAL AREAS & CLOSED AREAS
Do not use for navigation

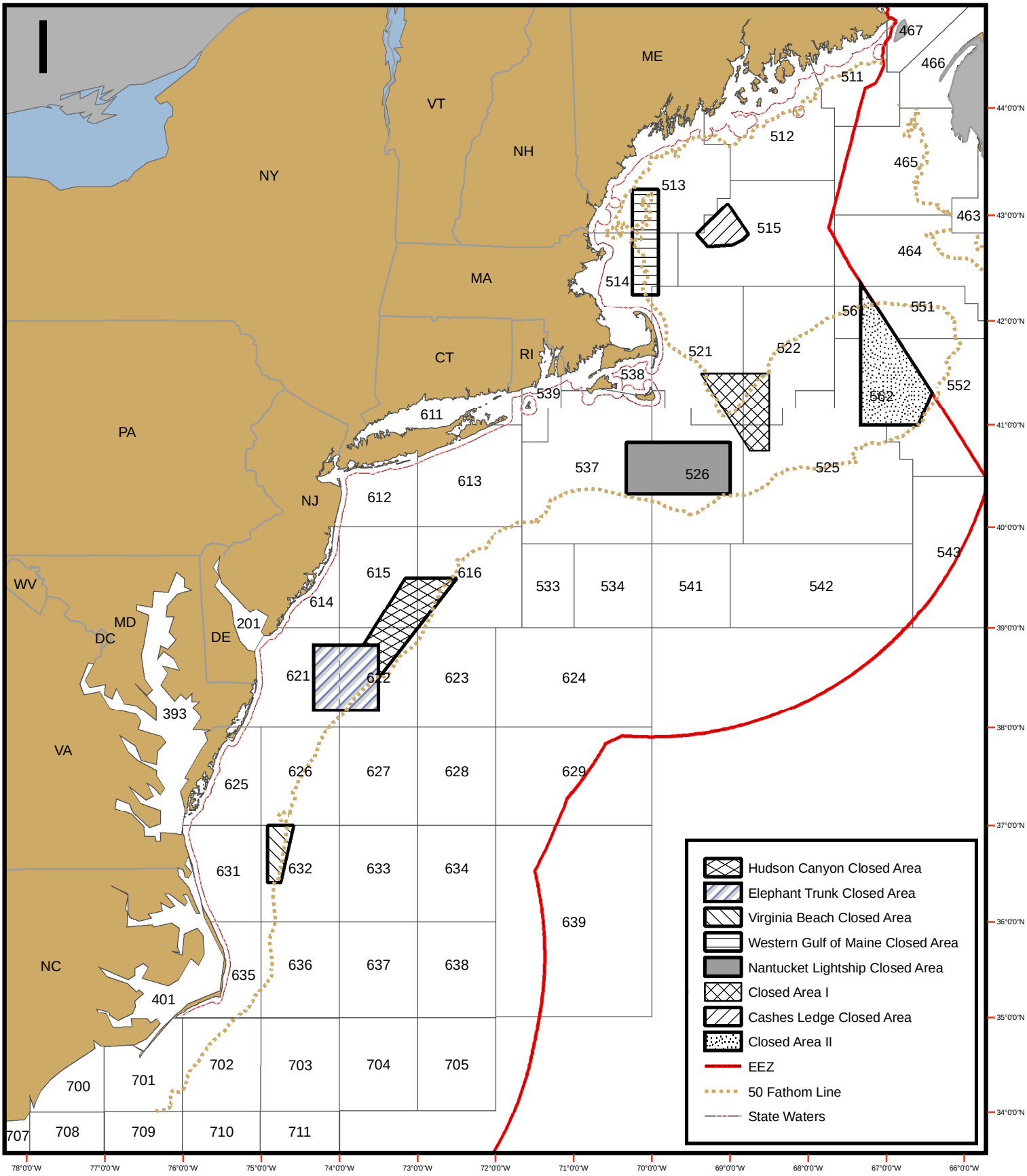


CHART 2. GULF OF MAINE
Do not use for navigation

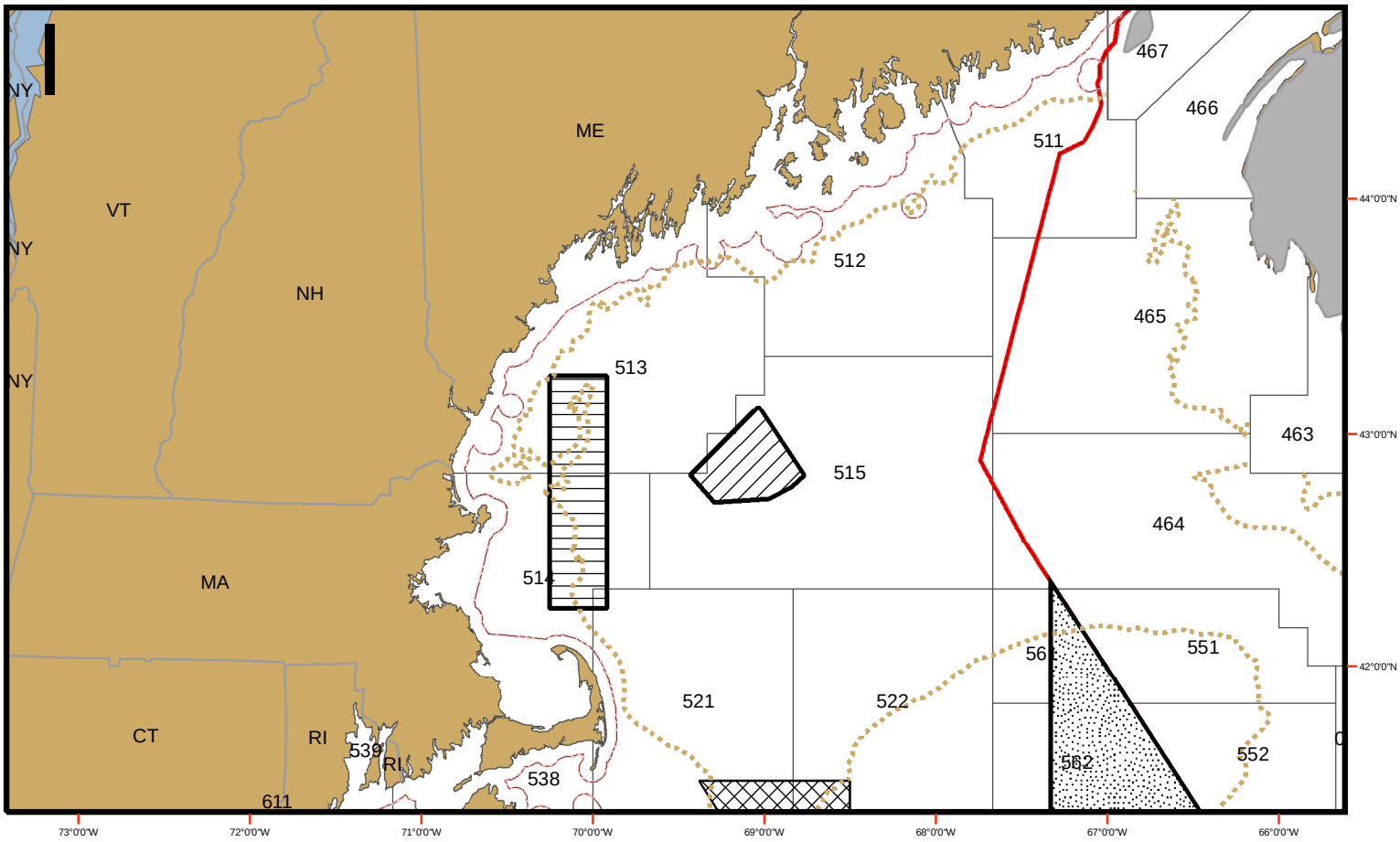


CHART 3. GEORGES BANK
Do not use for navigation

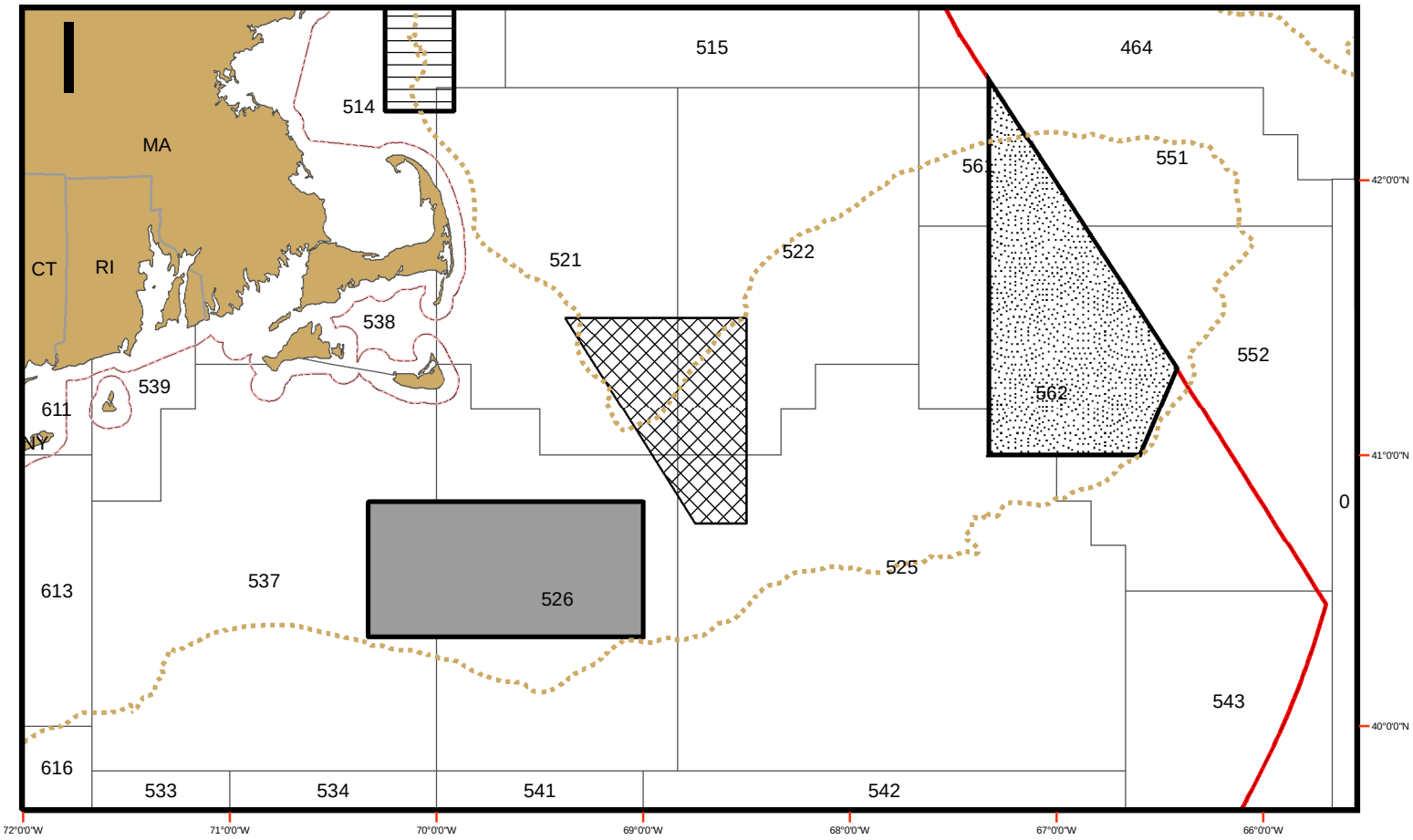


CHART 4. SOUTHERN NEW ENGLAND
Do not use for navigation

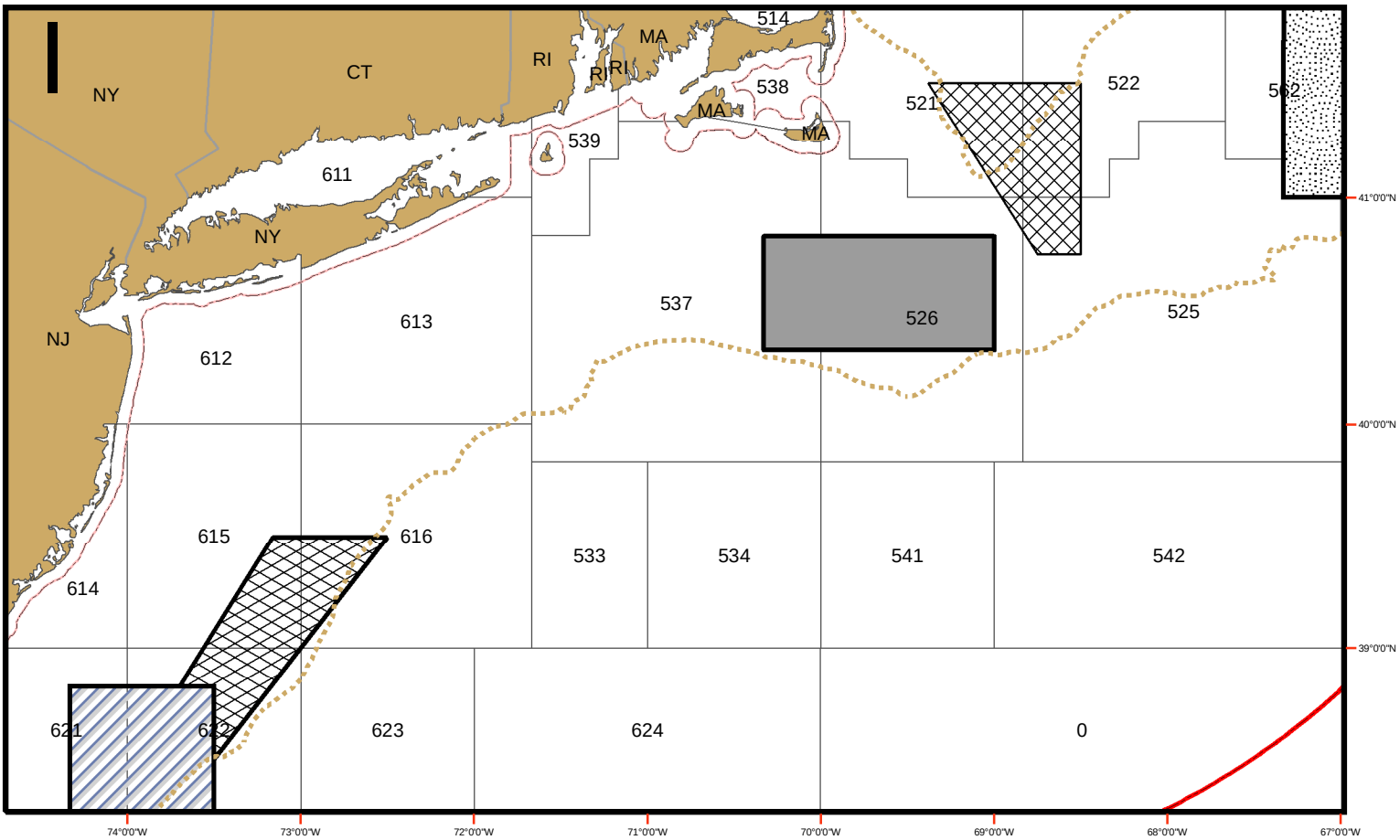


CHART 5. MID-ATLANTIC I
Do not use for navigation

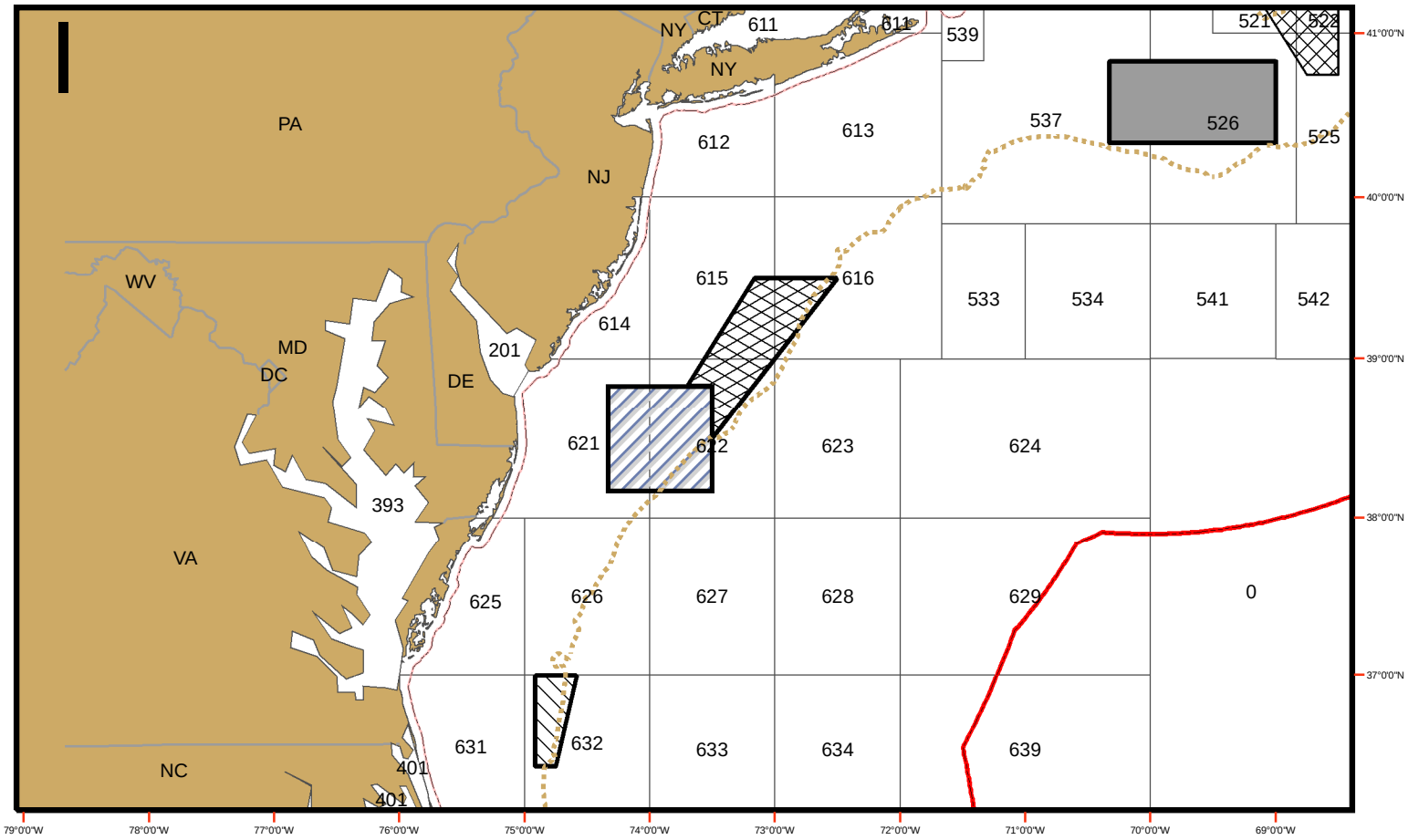
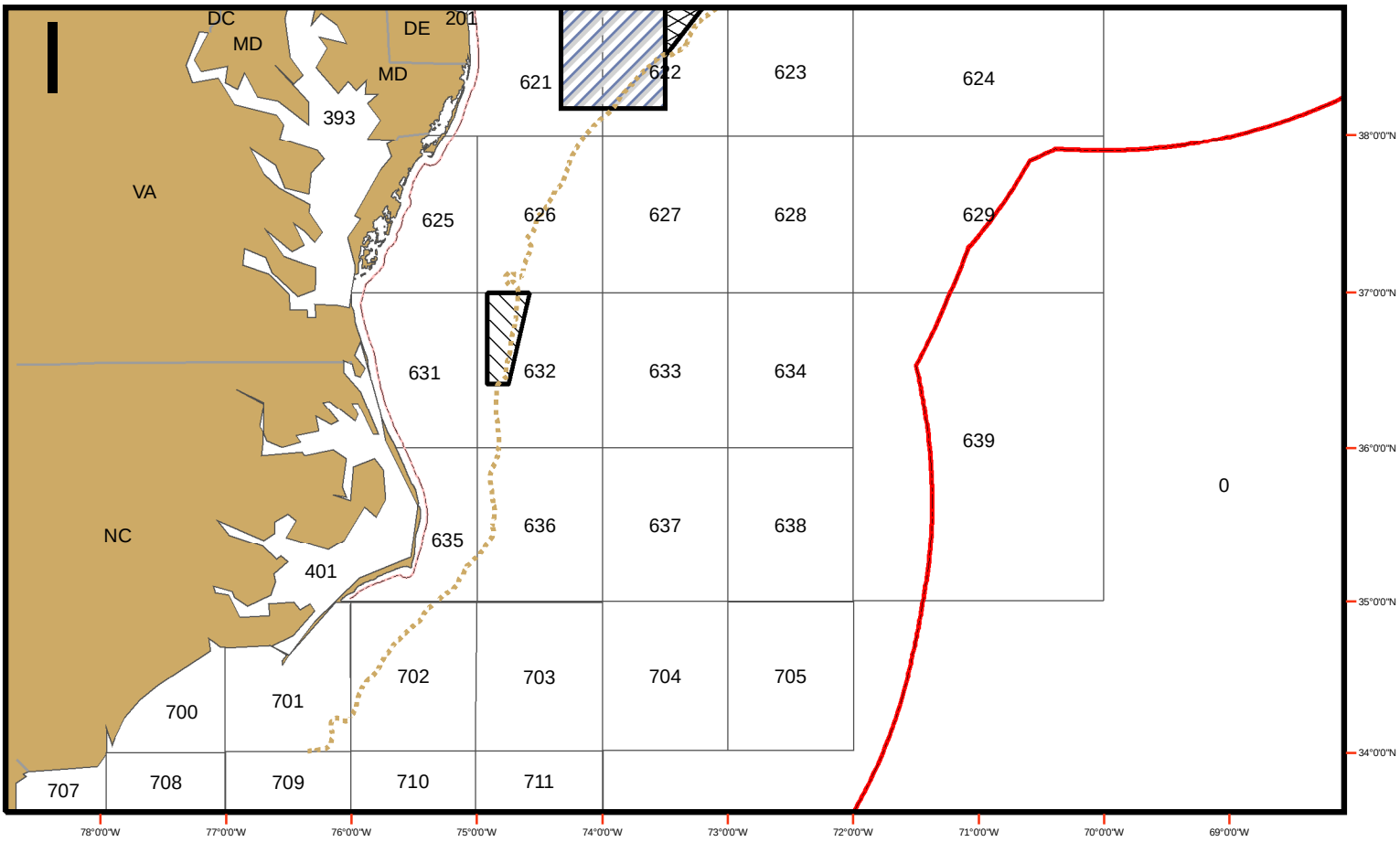


CHART 6. MID-ATLANTIC II
Do not use for navigation



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

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. The page numbers for the Haul Log would be “1 of 7".

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 6".

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 7", and “4 of 7".

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 7".

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 7" and "7 of 7".

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".

SCALLOP 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 three (3) logs to record them all. The page numbers for these logs would be “1 of 3", “2 of 3" and “3 of 3".

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).

PHOTO LOG

These logs are numbered on a per **trip** basis. The log has one side, however, if more than one camera is used on a trip, fill out a separate photo log for each camera.

Example: An observer was on a trip where seven Greater Shearwaters were caught. The observer took 5 photos of each bird. This required the use of two cameras, therefore two logs were filled out. The page numbers for these logs would be “1 of 2" and “2 of 2".

Appendix H. Vessel Equipment Inventory Codes

Used on the Vessel and Trip Information Log.

WHEELHOUSE ELECTRONICS

901 = LORAN
902 = Radar
903 = Echo Sounder
904 = Fax
905 = Plotters
906 = G.P.S. (Global Positioning System)
907 = Cellular Phone
908 = Vessel Tracking System
909 = VHF Radio
910 = Gyro Compass
911 = Navigational Echo Sounder
912 = Video Sounder
913 = Sonar (Single Direction)
914 = Sonar (Multiple Direction)
915 = Gyro Converter
916 = Direction Finder (Electronic Compass)
917 = Weather Satellite Receiver
918 = Wind Meter
919 = Satellite Navigation System
920 = Data Printer
921 = Doppler Log and Docking Sonar
922 = Auto Pilot
923 = Radio Telephone
924 = Watch Receiver
925 = Personal Computer
926 = Temperature Profiling System
927 = Single Side Band Radio
928 = Radio Direction Finder
929 = Bridge Watch
930 = CB Radio
931 = Depth Sensor
932 = Water Temperature Sensor
933 = Satellite Phone

GEAR MOUNTED ELECTRONICS

937 = Headrope Transducer
938 = Depth Sensor
939 = Water Temperature Sensor
940 = Catch Monitor (Codend Sensor)
941 = Forward Scanning Headrope Sonar
942 = Net Width Sensor

943 = Water Salinity Sensor
944 = Net Speed Sensor
945 = Hull Mounted Hydrophone
946 = Net Pingers (actual use will be recorded elsewhere)
947 = Net Height Sensor
948 = Door Transducer

PROCESSING EQUIPMENT

955 = Filleting Machine
956 = Gutting Machine
957 = Skate Wing Cutter
958 = Grading/Sorting Machine
959 = Shucking Machine
960 = Vacuum Packing Machine
961 = Skinning Machine
962 = Scale
963 = Conveyer Belt (for sorting catch)
964 = Baiter
965 = Pot Dumper

REFRIGERATION/FREEZING EQUIPMENT

985 = Refrigerated Sea Water (RSW) - Flooded System
986 = Refrigerated Sea Water (RSW) - Spray System
987 = Brine Freezer
988 = Single Contact Plate Freezer
989 = Double Contact Plate Freezer
990 = Blast Freezer
991 = Holding Freezer
992 = Refrigerated Hull
993 = Ice Maker (Flaker)
994 = Generator (To run either refrigeration or processing equipment. Include backup generators.)
995 = Engine (To power refrigeration or processing equipment, NOT PROPULSION.)

ALL OTHER EQUIPMENT

999 = Other/Uknown

Appendix I. 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 J. 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 = Knife frame bent.
830 = Dredge flipped.
840 = Hose or towline in propeller.
850 = Dredge lost or totally damaged.

Appendix K. 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 L. 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.

Active MM Deterrent Device Brand:

1 = Dukane.
2 = Airmar.
3 = Fumunda.
8 = Combination. Specify all brands.

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'.

Buoyline Type:

1 = Sinking / Neutrally Buoyant.
2 = Floating.
8 = Combination. Specify all types.

Biodegradable Panel Attachment Material:

1 = Iron hog rings.
2 = Degradable plastic.
3 = Softwood lathe.
4 = Uncoated wire.

Escape Outlet Locations:

1 = Net Top.
2 = Net Bottom.
3 = Net Side.
4 = Codend Top.
5 = Codend Bottom.

Escape Outlet Type:

1 = Panel.
2 = Opening.
3 = Single Flap.
4 = Double Flap.

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.
98 = Combination. Specify all types.

Gangion Type: (Pot and Trap Gear Only)

1 = Sinking / Neutrally Buoyant.
2 = Floating.
8 = Combination. Specify all types.

Ground Gear:

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.

Groundline Type:

1 = Sinking / Neutrally Buoyant.
2 = Floating.
8 = Combination. Specify all types.

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.

Weak Link Type:

1 = Rope of Appropriate Breaking Strength.
2 = Off the Shelf.
3 = Overhand Knot.
4 = Hog Rings.
8 = Combination. Specify all types.

Appendix M. 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 N. 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 O. 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 P. 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

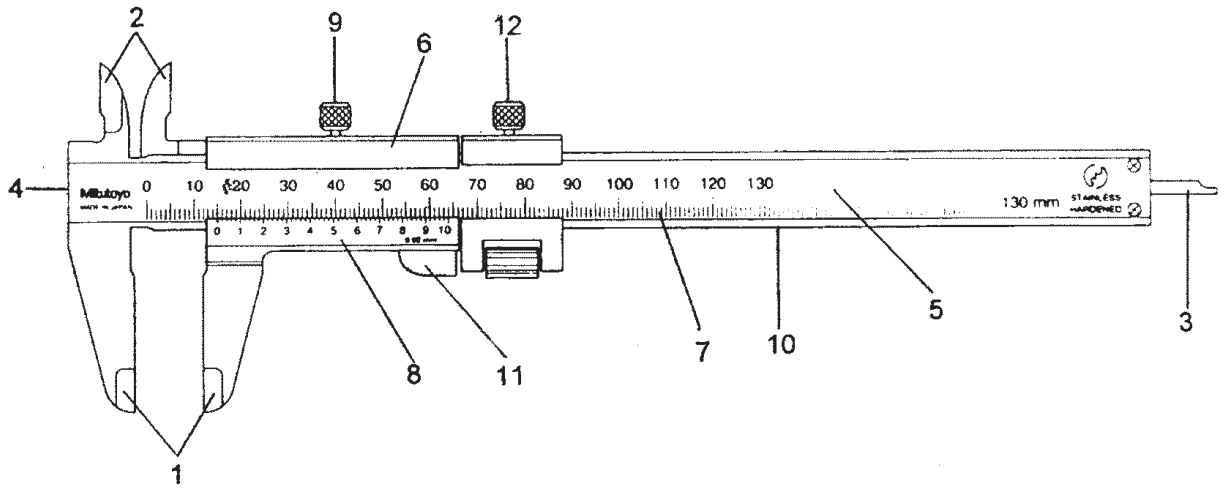
- Reference Figure 1.
- The Vernier Calipers should be used when requested in the manual instructions. Do not substitute measurements obtained from any other tool. If caliper measurements are not possible, measurements should be recorded in the COMMENT section of the corresponding log.
- The calipers 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.



1.	Outside jaws.	7.	Main Scale.
2.	Inside jaws.	8.	Vernier scale- do not use.
3.	Depth bar.	9.	Clamp screw.
4.	Step surface.	10.	Reference Surface.
5.	Main beam.	11.	Knurled thumb rest.
6.	Slider.	12.	Fine adjustment- do not use.

Figure 1. Vernier Caliper parts.

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

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

Length

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

Seconds to Tenths of Minutes (or Minutes to Tenths of Hours)

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

Mass

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

Metric Units

1 meter	=	100 centimeters
1 kilogram	=	1000 grams
1 liter	=	1000 mililiters
mega	=	1,000,000
kilo	=	1,000
deca	=	10
deci	=	0.1 (tenth)
centi	=	0.01 (hundreth)
mili	=	0.001 (thousandth)

Circular Measure

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

24 Hour Clock

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

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 X. Net Name / Net Type / Net Builder

CODE	NET NAME
00	UNKNOWN
01	TROUSER TRAWL
02	BEAM TRAWL
03	TWIN TRAWL
04	BOTTOM TRAWL
05	SEMI-PELAGIC TRAWL
06	PELAGIC TRAWL
99	OTHER

CODE	NET TYPE
00	UNKNOWN
01	2-SEAM FLYNET
02	4-SEAM FLYNET
03	2-SEAM HADDOCK SEPARATOR TRAWL
04	4-SEAM HADDOCK SEPARATOR TRAWL
05	SEPARATOR TRAWL
06	2-SEAM SEPARATOR TRAWL
07	4-SEAM SEPARATOR TRAWL
08	FLYNET
09	HADDOCK SEPARATOR TRAWL
10	FLATFISH TRAWL
11	2-SEAM FLATFISH TRAWL
12	4-SEAM FLATFISH TRAWL
18	4-SEAM MILLIONAIRE TRAWL
20	RAISED FOOTROPE TRAWL
21	2-SEAM RAISED FOOTROPE TRAWL
22	4-SEAM RAISED FOOTROPE TRAWL
24	4-SEAM BOX TRAWL
25	SHRIMP TRAWL
26	2-SEAM SHRIMP TRAWL
27	4-SEAM SHRIMP TRAWL
60	SCALLOP TRAWL
61	2-SEAM SCALLOP TRAWL
62	4-SEAM SCALLOP TRAWL
65	MONKFISH TRAWL
66	2-SEAM MONKFISH TRAWL
67	4-SEAM MONKFISH TRAWL
70	SWEEPLESS TRAWL
71	2-SEAM SWEEPLESS TRAWL
72	4-SEAM SWEEPLESS TRAWL
75	PELAGIC PAIR TRAWL
76	2-SEAM PELAGIC PAIR TRAWL
77	4-SEAM PELAGIC PAIR TRAWL
80	SHUMAN TRAWL
81	2-SEAM SHUMAN TRAWL
82	4-SEAM SHUMAN TRAWL
85	GROUNDFISH TRAWL
86	2-SEAM GROUNDFISH TRAWL
87	4-SEAM GROUNDFISH TRAWL
88	BALLOON TRAWL
89	2-SEAM BALLOON TRAWL
90	4-SEAM BALLOON TRAWL
91	2-SEAM TRAWL
92	4-SEAM TRAWL
99	OTHER

CODE	NET BULDER
00	UNKNOWN
01	CUSTOM BUILT
02	LE DREZEN
03	LEVINE MARINE SUPPLY
04	NOREASTERN TRAWL SYSTEMS LTD
05	SMART NET SYSTEMS LTD
06	SWAN NET GUNDRY
07	WANCHESE TRAWL SUPPLY
08	WILCOX TRAWLS
09	SUPERIOR TRAWL
10	TRAWLWORKS INC
11	DANTRAWL
12	REIDAR'S MANAFACTURING INC
13	CHRISTIANSEN'S NETS
14	JEFF FLAGG
15	SHUMANN
16	YANKEE
17	IMP GROUP
18	VEIDARFAER
19	GEARWORK
99	OTHER

Appendix S. 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
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, ROUGHEAD		SPP
5240	GROUNDFISH, NK		SPP
1410	GROUPER, NK		IAL
1414	GROUPER, 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
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 (SHAD)		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
6787	LEATHERJACKET		SPP
6647	LIZARDFISH		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
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
6351	PELICAN, BROWN		INC
3110	PERCH, SAND		SPP
5060	PERCH, WHITE		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
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
6642	RIBBONFISH,SCALLOPED		SPP
6606	ROCKLING, FOURBEARD		SPP
6876	ROCKWEED, NK		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
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
3340	SEATROUT, NK		SPP
3450	SEATROUT, SPOTTED(SPOTTED WEAKFISH)		SPP
8171	SEAWEED, NK		SPP
3474	SHAD, AMERICAN		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
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
4981	SHARK, PELAGIC	ROUND	IAL
4988	SHARK, PELAGIC	FINS	SPP
4811	SHARK, PORBEAGLE (MACKEREL SHARK)	ROUND	IAL
4818	SHARK, PORBEAGLE (MACKEREL SHARK)	FINS	SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
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, BARNDOOR		SPP
3681	SKATE, BARNDOOR	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, ROSETTTE		SPP
3641	SKATE, ROSETTTE	WINGS	SPP
3690	SKATE, SMOOTH		SPP
3691	SKATE, SMOOTH	WINGS	SPP
3700	SKATE, THORNY		SPP
3701	SKATE, THORNY	WINGS	SPP
3670	SKATE, WINTER (BIG)		SPP
3671	SKATE, WINTER (BIG)	WINGS	SPP
6411	SKIMMER, BLACK		INC
6304	SKUA, GREAT		INC
3710	SMELT, RAINBOW		SPP

CODE	COMMON NAME	MARKET CATEGORY	LOG
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
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

CODE	COMMON NAME	MARKET CATEGORY	LOG
6509	TERN, ROSEATE		INC
6510	TERN, ROYAL		INC
6511	TERN, SANDWICH		INC
6512	TERN, SOOTY		INC
4470	TILEFISH		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-TAILD		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
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

CODE	COMMON NAME	MARKET CATEGORY	LOG
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
5080	WHITING, BLACK (HAKE, OFFSHORE)		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
CALVIN CHI	COS COB
COVE FISH MARKET INC	MYSTIC
GAMBARDELLA WHLSE FISH DLR INC	EAST HAVEN
GARBO LOBSTER CO	GROTON
GURCHIK ENTERPRISES LLC	NEW LONDON
LADY LYNN	STONINGTON
LIVELY LOBSTER LLC	BRIDGEPORT
NEW LONDON SEAFOOD DISTRIBUTORS	NEW LONDON
SEA WELL SEAFOOD	PAWCATUCK
SEAFOOD UNLIMITED INC	PAWACATUCK
STEVEN BURT SEAFOOD	EAST NORWALK
STONINGTON FILLET CO INC	STONINGTON
STONINGTON FISH & LOBSTER	STONINGTON
STONINGTON FISHERMAN'S DOCK	STONINGTON
STONINGTON SEAFOOD HARVESTERS	STONNINGTON
SUPERIOR SCALLOPS	POMFRET CENTER

DELEWARE

F/V ANDREW INC	DAGSBORO
LEWES FISHHOUSE & PRODUCE INC	LEWES
OCEAN FRESH SEAFOOD	HARRINGTON
SEA WATCH INTERNATIONAL LTD	MILFORD

MAINE

A & S TRUCKING INC	TENANTS HARBOR
A C INC	BEALS
ADAMS BAIT & TRANSPORT CO	MONROE
AL RYAN INC	FREEPORT
ALEWIVE'S BROOK FARM	CAPE ELIZABETH
ALFIERO BROS SEAFOOD	AUBURN
AL'S SEAFOOD/ALLAN R MERCHANT	JONESPORT
ATLANTIC EDGE LOBSTER INC	BOOTHBAY HARBOR
ATLANTIC FRESH SEAFOOD INC	CANAAN
ATLANTIC SHELLFISH	JONESPORT
ATWOODS SEAFOOD	AUBURN
BAR HARBOR MARINE	TRENTON
BARBARA STEVENSON	PORTLAND
BATH CANNING	BATH
BAYLEY'S LOBSTER POUND	SCARBOROUGH

MAINE (CONTINUED)

BAYLEY'S QUALITY SEAFOOD INC	SCARBOROUGH
BBS LOBSTER CO INC	BUCKS HARBOR
BEALS JONESPORT CO-OP INC	JONESPORT
BEALS LOBSTER CO INC	JONESPORT
BEDROCK LOBSTER POUND	KITTERY
BILL FREEMAN COMMERCIAL SER	TRENTON
BOLD VENTURES INC	STONINGTON
BOOTHBAY REGION LOBSTERMEN INC	BOOTHBAY HARBOR
BREMEN LOBSTER POUND CO-OP INC	BREMEN
BRISTOL SEAFOOD INC	PORTLAND
BROWNE TRADING COMPANY	PORTLAND
CARVER SHELLFISH INC	BEALS
C H RICH CO INC	BASS HARBOR
CHRISSY D LOBSTER CO	KITTERY
CNW SEAFOOD	BUCKS HARBOR
COD END	TENANTS HARBOR
COLWELL BROS INC	DEER ISLE
CONARY COVE LOBSTER CO	DEER ISLE
COOKS LOBSTER HOUSE INC	BAILEY ISLAND
COREA LOBSTER CO-OP INC	COREA
COZY HARBOR SEAFOD INC	PORTLAND
CRANBERRY ISLES FISHRMN'S COOP	ISLESFORD
CUMMINGS LOBSTER CO INC	KENNEBUNK
CUNDY'S HARBOR WHARF	HARPSWELL
CUPP FAMILY GARDNE CENTER	KENNEBUNK
CUSHING SHELLFISH COMPANY	ROCKLAND
CUSTOM HOUSE SEAFOODS INC	PORTLAND
D & D SEAFOOD INC	DEER ISLE
D & S LOBSTER BAIT	BEALS
DANIEL H HARRIAMAN	CAPE ELIZABETH
DANIEL KALER & SONS INC	BOOTHBAY
D C AIR & SEAFOOD INC	WINTER HARBOR
DICK'S LOBSTERS	SOUTH HARPSWELL
DOUBLE V INC	YARMOUTH
DOUTY BROS INC	PORTLAND
DYERS BAY LOBSTER CO INC	STEUBEN
EAST BAY LOBSTERS	BEALS
EMERY'S LOBSTER BAIT	KITTERY
EUGLEY'S WHARF INC	SOUTH BRISTOL
FARRIN'S WHARF	WALPOLE
FEYLER'S FISHTAILS	CUSHING
FIFIELD LOBSTER CO	STONINGTON
FINASTKIND FISH MARKET INC	WALDOBORO
FISHERMAN'S CATCH SFD MKT INC	DAMARISCOTTA
FISHERMEN'S HERITGE LBSTR COOP	FRIENDSHIP

MAINE (CONTINUED)

FISHERMEN'S LANDING INC	BAR HARBOR
FISHERMENS NET WBC INC	PORTLAND
FREE RANGE FISH	PORTLAND
FRESH PACK SEAFOOD	WISCASSET
FRIENDSHIP LOBSTER CO-OP	FRIENDHSIP
GEORGETOWN FISHERMEN'S CO-OP	GEORGETOWN
GILLISON SEAFOOD	SOUTH BRISTOL
GLEN'S LOBSTER'S	BAILEY ISLAND
GOBEIL BAIT	BIDDEFORD
G T MANAGEMENT INC	SCARBOROUGH
HARBORSIDE LOBSTER	VINALHAVEN
HARRASEEKET LOBSTER CO	SOUTH FREEPORT
HATCHET COVE LOBSTER	FRIENDSHIP
HEIDI TODD	FREEPORT
HIXEY HEAD LOBSTER POUND INC	BEALS
H R BEAL & SONS INC	SOUTHWEST HARBOR
ICEBRAND FOODS INC	PORTLAND
INGRID BENGIS SEAFOOD	STONINGTON
INLAND LOBSTER	VINALHAVEN
INTERSTATE LOBSTER INC	HARPSWELL
ISF TRADING INC	PORTLAND
ISLAND FISH COMPANY	MONHEGAN ISLAND
ISLAND SEAFOOD	DEER ISLE
ISLAND SEAFOOD INC	KITTERY
ISLE AU HAUT LOBSTERMAN'S	ISLE AU HAUT
J & J SONS LOBSTER BAIT	BEALS
J & K LOBSTER BAIT INC	HARRINGTON
JESS'S MKT INC	ROCKLAND
J P SHELLFISH INC	ELIOT
JSSR ENTERPRISES	BOOTHBAY
KELLEY LOBSTER CO	STEUBEN
KEN PETERSON FISH BROKER	PORTLAND
KEN'S LOBSTER	HARPSWELL
KIP'S SEAFOOD COMPANY	CUSHING
KITTERY LOBSTER CO INC	KITTERY
L & L LOBSTER CO INC	ROCKLAND
LANGSFORD RD LOBSTER & FISH	KENNEBUNKPORT
LASH LOBSTER WHARF INC	FRIENDSHIP
LAWRENCE E ALLEY	STEUBEN
LITTLE RIVER LOBSTER CO	EAST BOOTHBAY
LOBSTER OUTLET	WOOLWICH
LOOK'S CANNING COMPANY	WHITING
MAD FISH INC	SCARBORO
MAINE COAST SEAFOOD	SPRUCE HEAD
MAINE LOBSTER OUTLET	KITTERY

MAINE (CONTINUED)

MAINE MARICULTURE	S. BRISTON
MAINE SEAFOOD SPECIALTIES	BIDDEFORD
MAINE SHELLFISH COMPANY INC	ELLSWORTH
MAINE'S BEST SEAFOOD INC	BROOKLIN
MARSH COVE LOBSTER CO INC	ADDISON
MCALENEYS NEW MEADOWS LOBSTER	PORTLAND
MEDOMAK SHELLFISH INC	BREMEN
MIDDLEBAY LOBSTER	HARPSWELL
MILL COVE LOBSTER POUND	BOOTHBAY HARBOR
MOOSABEC MUSSELS INC	JONESPORT
MORNINGSTAR SEAFOOD	STONINGTON
MORRISONS LOBSTERS	KITTERY
MTS SEAFOOD TRADING CO LLC	FALMOUTH
MY LADY INC	STONINGTON
NANCY'S SHELLFISH INC	FALMOUTH
NEW ENGLAND FISH COMPANY	PORTLAND
NEW ERA FISH LLC	PORTLAND
NEW HARBOR CO-OP	NEW HARBOR
NEW MEADOW LOBSTER	PORTLAND
NORTH ATLANTIC INC	PORTLAND
NORTH ATLANTIC LOBSTER SALES	ADDISON
NORTH ATLANTIC PRODUCTS INC	ROCKLAND
NORTH END LOBSTER CO-OP	WESTPORT
NORTHEASTERN SEAFOOD INC	SOUTHWEST HARBOR
OAK ISLAND SEAFOOD INC	ROCKLAND
OCEAN'S HARVEST SEAFOOD	EDMUNDS
OLD SALT SEAFOOD	BEALS
PARSONS' LOBSTER	BAR HARBOR
PEMAQUID FISHERMEN'S COOP	PEMAQUID
PERIO POINT SEAFOOD	BEALS
PHILLBRICK BROS INC	OWLS HEAD
PORT LOBSTER CO INC	KENNEBUNKPORT
PORTLAND FISH EXCHANGE	PORTLAND
PORTLAND LOBSTER POUND INC	PORTLAND
PURSE LINE BAIT	SEBASCO
R & R SEAFOOD	BRISTOL
REDEEMED INC	ROCKLAND
REILLY'S SEA PRODUCTS	SOUTH BRISTOL
RESOURCE TRADING COMPANY	PORTLAND
RIVER CATCH INC	PORTLAND
ROBINSON'S WHARF INC	WEST BOOTHBAY HARBOR
ROEBOAT ENTERPRISES	BOOTHBAY HARBOR
ROUND POND LOBSTER	ROUND POND
SAINT GEORGE MARINE	PORT CLYDE
SAMS SEAFOOD	CUSHING

MAINE (CONTINUED)

SARDINE SUE	KITTERY
SEA FRESH USA INC.	PORTLAND
SEA PIER INC	BOOTHBAY HARBOR
SEAHORSE LOBSTER & FISH	SEBASCO ESATES
SEASIDE FISH & LOBSTER INC	WEST POINT
SEAVIEW FISHERIES INC	KITTERY
SEBASCO WHARF INC	SEBASCO ESTATES
SHARE FRESH SEAFOOD	HARRINGTON
SHAW'S FISH & LOBSTER	NEW HARBOR
SIMMONS LOBSTER WHARF	FRIENDSHIP
SIMPSON'S OCEANFRESH SFD INC	WISCASSET
SMALL POINT FISHERIES II	PHIPPSBURG
SMITH'S LOBSTER	JONESPORT
SOLAR SEAFOOD INC	WESTBROOK
SORRENTO LOBSTER INC	SORRENTO
SOUTH BRISTOL FISHERMEN'S COOP	SOUTH BRISTOL
SPRUCE HEAD FISHERMEN'S CO-OP	SOUTH THOMASTON
STINSON MARINE LLC	BATH
STINSON SEAFOOD 2001 INC	PROSPECT HARBOR
STONINGTON LOBSTER CO-OP	STONINGTON
STONINGTON SEA PRODUCTS INC	STONINGTON
STONINGTON SEAFOOD EXPRESS	STONINGTON
SUNSHINE SEAFOOD INC	STONINGTON
SUPERIOR BAIT	ROCKLAND
SWANS ISLAND FISHERMAN'S CO-OP	SWANS ISLAND
THOMAS J KEZAR INC	CAPE PORPOISE
THOMAS MASSEY LTD	SOUTH BRISTOL
THOMAS W CASAMASSA	SACO
THREE SONS FISHING	FALMOUTH
T P S INDUSTRIES	WEST JONESPORT
UNDER WATER TAXI	SWANS ISLAND
UPSTREAM TRUCKING INC	PORTLAND
VINALHAVEN FISHERMEN'S CO-OP	VINALHAVEN
VITKUS LOBSTER COMPANY	CAMDEN
WARD BAIT CO	KENNEBUNKPORT
WAYNE R PARRY INC	ARUNDEL
WEATHERVANE SEAFOODS INC	KITTERY
WEBER SEAFOOD INC	PORTLAND
WEST BAY FISHING INC	GOULDSBORO
WEST BROS LOBSTER INC	STEUBEN
WILLIAM ATWOOD LOBSTER CO	SPRUCE HEAD
WINTER HARBOR CO-OP INC	WINTER HARBOR
WOTTON LOBSTER INC	NAGS HEAD
YORK RIVER LOBSTER CO	YORK
YOUNG'S LOBSTER POUND	BELFAST

MARYLAND

BLUE WATER FISHERIES INC	OCEAN CITY
COLBOURNE SEAFOOD INC	SECRETARY
CRABKNOCKERS SEAFOOD MARKET	LEONARDTOWN
GOODWIN SEAFOODS	UNKNOWN
J + J WHOLESALE INC.	ROCK HALL
JANIS SMYLY	BRYANTOWN
J H MILES & COMPANY INC	OCEAN CITY
JIMMY CANTLER'S RIVDE INN INC	ANNAPOLIS
MARTIN FISH CO INC	OCEAN CITY
MID-ATLANTIC FOODS INC	POCOMOKE CITY
NAFCO	JESSUP
OCEAN CITY FISH CO	WEST OCEAN CITY
QUALITY SEAFOOD INC	FORT WASHINGTON
SEAHAWK	SILVER SPRINGS
SOUTHERN CONNECTION SEAFOOD	CRISFIELD

MASSACHUSETTS

4TH CLIFF SEAFOOD	MARSHFIELD
A & A SEAFOOD INC	FAIRHAVEN
AARON CEBULA	FAIRHAVEN
ABRAMO FISH CO LTD	BOSTON
AFC TRADING CORP	FAIRHAVEN
ALIVE & KICKING LOBSTER'S	CAMBRIDGE
AMERICAN SFD INTERNATIONAL	NEW BEDFORD
AMERICAN SFDS PROCESSING LLC	NEW BEDFORD
AML INTERNATIONAL	SOUTHBORO
ANGLERS FISHERIES INC	NEW BEDFORD
ATLANTIC COAST FISHERIES CORP	NEW BEDFORD
ATLANTIC COAST SEAFOOD INC	BOSTON
ATLANTIC FROST SEAFOOD INC	FALL RIVER
ATLANTIC GEM SFD	NEW BEDFORD
ATLANTIC SEA COVE INC	BOSTON
B & D BRAMANTE SEAFOOD BROKERAGE	BOSTON
B & M FISH CO LLC	BOSTON
BAIT LADY	SANDWICH
BAYSIDE SEAFOOD CORP	NEW BEDFORD
BERGIE'S SEAFOOD INC	NEW BEDFORD
BERGLES	NEW BEDFORD
BIG G SEAFOOD INC	NEW BEDFORD
BOATHOUSE FISH MARKET	WELLFLEET
BOSTON CRAB CO INC	BOSTON
BOSTON WHOLESALE LOBSTER CORP	LYNN
BREAD & CIRCUS WHOLE FOODS MKT	GLOUCESTER
BREAKWATER FISH &LOBSTER CO	BREWSTER

MASSACHUSETTS (CONTINUED)

BUZZARDS BAY SEAFOOD INC	FAIRHAVEN
BUZZARDS BAY TRADING CO INC	NEW BEDFORD
C & C SEAFOOD	MARBLEHEAD
CAHOON & SONS FISHERIES	WEST YARMOUTH
CANAL MARINE FISHERIES INC	SANDWICH
CANYON SFD INTERN'L CORP	NEW BEDFORD
CAPE ANN SEAFOODS INC	GLOUCESTER
CAPE ANN TUNA	GLOUCESTER
CAPE COD BAY FISHERIES	PROVINCETOWN
CAPE FISH & LOBSTER CO INC	CENTERVILLE
CAPE QUALITY BLUEFIN	SOUTH DENNIS
CAPE SCALLOP & SEAFOOD	CARVER
CAPE SEAFOODS INC	GLOUCESTER
CAPE SHARK CHOWDER	GLOUCESTER
CAPE SHARK FISHERIES	GLOUCESTER
CAPE SPRAY FISHERIES	HYANNIS
CAPE TIP SEAFOODS INC	PROVINCETOWN
CAPT JOE & SONS INC	GLOUCESTER
CAPT VINCE INC	GLOUCESTER
CAPT WP MCCANN INC	WAREHAM
CARLOS SEAFOOD INC	NEW BEDFORD
CAROL AND SHERRY	WELLFLEET
CHANNEL FISH CO INC	EAST BOSTON
CHATHAM FISH & LOBSTER CO INC	S CHATHAM
CHATAM SEAFOOD COOPERATIVE	CHATHAM
CHATHAM WEIRS INC	S CHATHAM
CHATHAMS FINEST SEAFOOD	WEST CHATHAM
CHERRY ST FISH MKT	DANVERS
CMLA INC	GLOUCESTER
COLD ATLANTIC SEAFOOD INC	NEW BEDFORD
COMMERCIAL LOBSTER CO INC	BOSTON
COTE FISHERIES INC	MILTON
COUGAR SEAFOOD CORPORATION	NEW BEDFORD
DAVE'S SEAFOOD INC	MILTON
DAVIDS FISH MARKET INC	SALISBURY
D-FILLET CO INC	NEW BEDFORD
DIMARE SEAFOODS CO INC	REVERE
D J SEAFOOD INC	MARION
DOCKSIDE FISHERIES INC	WESTPORT
EAST COAST SEAFOOD INC	LYNN
EASTERN FISHERIES INC	NEW BEDFORD
EASTERN SHORE SEAFOOD	ESSEX
EDGARTOWN SEAFOOD INC	EDGARTOWN
F&B MUSSELLS	WEST WAREHAM
FAIR TIDE SHELLFISH LTD	NEW BEDFORD

MASSACHUSETTS (CONTINUED)

FAIRWAY FISH CO INC	FAIRHAVEN
FALMOUTH FISH MARKET	EAST FALMOUTH
FAMILY FISHERIES LTD	NEW BEDFORD
FERRY HILL FISHERIES INC	MARSHFIELD
FISH ON WHEELS	BOSTON
FISHERMENS DISPLAY AUCTION	NEW BEDFORD
FISHERMENS WHARF MARINA	PROVINCETOWN
FISHQUEST	FAIRHAVEN
F J O'HARA & SONS INC	BOSTON
FLEET FISHERIES INC.	NEW BEDFORD
FRESH WATER FISH COINC	BOSTON
FUJI INVESTMENT USA INC	HAMILTON
FULFORD FISH	GLOUCESTER
F W F INC	MILTON
GLIDDEN'S ISLAND SEAFOOD INC	NANTUCKET
GLOUCESTER FISH EXCHANGE INC	GLOUCESTER
GLOUCESTER SEAFOOD DISPLAY AUCTION	GLOUCESTER
GREAT EASTERN SEAFOOD INC	BOSTON
GREGS LOBSTER CO INC	HARWICHPORT
H&M FISHERIES INC	WESTPORT
HANOVER LOBSTER & SEAFOOD	HANOVER
HARBOR SEAFOODS INT'L INC	GLOUCESTER
HARVESTER SEAFOOD & SHELLFISH	BUZZARDS BAY
HATCH'S FISH MARKET INC	WELLFLEET
HI HO SEAFOOD INC	MARSTON MILLS
HILTONS FISHING DOCK	NEWBURYPORT
HYGRADE OCEAN PRODUCTS INC	NEW BEDFORD
IDEAL SEAFOOD INC	BOSTON
INTERNATIONAL C FOOD, INC	NEW BEDFORD
INTERNATIONAL SEAFOOD CO	GLOUCESTER
INTERSHELL SEAFOOD COMPANY	GLOUCESTER
IPSWICH SHELLFISH CO INC	IPSWICH
J&J SEAFOOD	SAGAMORE BEACH
JAMES BAY TRADING CO INC	WESTPORT
JEWELS SEAFOOD INC	NEW BEDFORD
JO-AN-HA FISHERIES INC	NEW BEDFORD
JOE'S LOBSTER MART INC	SANDWICH
JOE'S SEAFOOD INC	NEW BEDFORD
JOHN B WRIGHT FISH CO INC	GLOUCESTER
JOHN NAGLE CO	BOSTON
JO-JA SERVICE CORP	ACUSHNET
JOLIN LOBSTER INC	MANCHESTER
J T SEA PRODUCTS INC	NORTH DARTMOUTH
K & F FISH	EAST SANDWICH
KIMBALL FAMILY CORP	PLYMOUTH

MASSACHUSETTS (CONTINUED)

L & L SEAFOOD	UNKNOWN
L A L	GLOUCESTER
LARSEN'S FISH MARKET INC	CHILMARK
LEES WHARF LOBSTER INC	WESTPORT POINT
LIBBYS	FALMOUTH
LISBON SEAFOOD COMPANY	FALL RIVER
LIVE LOBSTER COMPANY INC	CHELSEA
LJ FISH	UNKNOWN
LOBSTER ALFREDO	WHITMAN
LOBSTER TRAP CO INC	BOURNE
LOTZZO'S FISH INC	WESTPORT
LOU-JOE'S	ACUSHNET
LTC FISHERIES	CHATHAM
M MORTILLARO'S BOAT SHOP INC	NEW BEDFORD
M & B SEA PRODUCTS	NEW BEDFORD
M & J SEAFOOD	NEW BEDFORD
MACLEAN'S SEAFOOD	NEW BEDFORD
MAGURO AMERICA INC	SOUTH CHATHAM
MANCHESTER LOBSTER INC	MANCHESTER
MANOMET LOBSTER POUND LLC	MANOMET
MANTIS MARINE RESOURCE	GLOUCESTER
MARBLEHEAD LOBSTER	MARBLEHEAD
MARDER TRAWLING INC	NEW BEDFORD
MARTHA'S VINEYARD SFD GRP INC	VINEYARD HAVEN
M B SEAFOOD INC	NEW BEDFORD
MENEMSHA BASIN SEAFOOD	VINEYARD HAVEN
MET FISHERIES	NEW BEDFORD
M F FOLEY INC NEW BEDFORD	NEW BEDFORD
MICHAEL N GALGANA	QUINCY
MORTILLARO LOBSTER LLC	GLOUCESTER
MULLANEY'S HARBORSIDE FISH	SCITUATE
NANTUCKET FISH COMPANY INC	SOUTH DENNIS
NANTUCKET SEAFOOD	NANTUCKET
NEBULA FOODS INC1	NEW BEDFORD
NEW ENGLAND CRAB COMPANY INC	ROXBURY
NEW ENGLAND EEL CO	GLOUCESTER
NEW ENGLAND FISH EXCHANGE	BOSTON
NEW ENGLAND FRESH SEA PROD INC	GLOUCESTER
NEW ENGND MARINE RESOURCES INC	GLOUCESTER
NEW ENGLAND SEAFOOD	ROXBURY
NEW ENGLAND SHELLFIN INC	FALMOUTH
NEW HORIZON SEA FOODS	PROVINCETOWN
NORDSTROM TRADING CO INC	MATTAPOISETT
NORTH ATLANTIC LOBSETER	DANVERS

MASSACHUSETTS (CONTINUED)

NORTH ATLANTIC TRADERS LTD	MARBLEHEAD
NORTH COAST SEAFOODS	BOSTON
NORTHERN EDGE SEAFOOD INC	S DARTMOUTH
NORTHERN PELAGIC GROUP LLC	NEW BEDFORD
NORTHERN WIND INC	NEW BEDFORD
OCEAN CREST SEAFOODS INC	GLOUCESTER
OCEAN OBSESSION LTD	NEW BEDFORD
OCEAN STAR SEAFOOD	SOUTH BOSTON
OCEAN WIND FISHERIES INC	NEW BEDFORD
OCEANIC SEAFOOD	SOUTH DARTMOUTH
OLD SQUAW FISH CO	NEWBURY
PACIFIC TRADE INC	QUINCY
PALMERS ISLAND SEAFOOD	SOUTH DARTMOUTH
PIER 7 INC	BOSTON
PIGEON COVE FISHERMAN'S COOP	ROCKPORT
PIGEON COVE WHOLE FOODS CO.	GLOUCESTER
POOLE'S FISH INC	CHILMARK
PORTLAND SHELLFISH SALES INC	MARBLEHEAD
PURITAN FISH CO INC	BOSTON
RAW SEAFOOD INC	NEW BEDFORD
RCC FOODS	FAIRHAVEN
RED STARR SEAFOOD INC	NEW BEDFORD
RELIABLE FISH CO INC	PLYMOUTH
ROBERT HARTIGAN	NEWBURYPORT
ROBERT WALSH	MEDFORD
ROCKY BOTTOM FISH COMPANY	SOUTH YARMOUTH
ROLAND SEAFOOD	UNKNOWN
ROWAND FISHERIES INC	BEVERLY
S PARISI & SONS SEAFOODS INC	GLOUCESTER
SAM'S SEAFOOD INC	HINGHAM
SASHAMY SEAFOOD SPECIALTS INC	BOSTON
SAYLE & HENRY INC	NANTUCKET
SAYLE'S SEAFOOD	NANTUCKET
SEA COAST SEAFOOD	NEW BEDFORD
SEA FRESH OF NEW BEDFORD	NEW BEDFORD
SEA QUEST	UNKNOWN
SEA RICH SEAFOODS INC	NEW BEDFORD
SEA STAR FISHERIES CORP	GLOUCESTER
SEA TO YOU BOSTON INC	BOSTON
SEA WATCH INTERNATIONAL LTD	NEW BEDFORD
SEAFOOD CONUSLT & ANALYSIS INC	NEW BEDFORD
SEAFRESH WORLD INC	
SEAHORSE SEAFOODS CO INC	MARION
SEAPORT ASOCIATES INC	PROVINCETOWN
SECONDO FAMILY ENTR INC	PLYMOUTH

MASSACHUSETTS (CONTINUED)

SHAMROCK SEAFOOD LLC	NEW BEDFORD
SHORTLINE FISH CO INC	TRURO
SIX PACK SEAFOODS	ACUSHNET
SNELDERS TRUCKING	SCITUATE
SNUG HARBOR FISH CO	DUXBURY
SOUSA SEAFOOD INC	BOSTON
SOUTH CAPE SEAFOODS INC	CHATHAM
SOUTH SHORE LOBSTER	HINGHAM
SOUZA SEAFOOD	NANTUCKET
STAR FISHERIES CORP	GLOUCESTER
STAVIS SEAFOODS INC	BOSTON
STEVE CONNOLLY SEAFOOD CO INC	GLOUCESTER
STEVE COUTO SEAFOOD	NEW BEDFORD
STEVE'S FILLETS INC	NEW BEDFORD
STOP & SHOP SUPERMARKET	HARWICH
SWAN RIVER FISH MARKET	DENNISPORT
SWAN RIVER RESTAURANT & FISH	DENNISPORT
TASTY SEAFOOD COMPANY	MARION
TEMPEST FISHERIES LTD	FAIRHAVEN
THE BAITMAN	HANSON
THE BEST FISH CO	NORTH TRURO
THE CLAM MAN	FALMOUTH
THE FRESH CATCH INC	MANSFIELD
THE LOBSTER POT	NORWELL
THREE LANTERNS SEAFOOD CO	GLOUCESTER
TICHON SEAFOOD CORPORATION	NEW BEDFORD
TIMOTHY SHEA FISHERIES	KINGSTON
TIRRELL SEAFOOD & SHELLFISH	BOSTON
TREBLOC SEAFOOD	MANOMET
TRI-COASTAL SFD COOP INC	NEWBURYPORT
TRUE WORLD FOODS INC	ROXBURY
TURK'S SEAFOOD	MATTAPOISETT
VENTURE FISHERIES	SOUTH CHATHAM
VESSEL BOZO INC	NORTH DARTMOUTH
VICTORY FISHERIES	PROVINCETOWN
VINEYARD CO-OP/ROBERT MONE	VINEYARD HAVEN
W B VAN DUZER CO	KINGSTON
WELLFLEET OYSTER & CLAM CO LTD	WELLFLEET
WESTPORT LOBSTER CO	WESTPORT
WHALING CITY SEAFOOD DISPLAY AUCTION	NEW BEDFORD
WHOLESALE SEAFOOD	FAIRHAVEN
WILLIS E BLOUNT COMM FISH CORP	NANTUCKET
WONG TRADING INC	CANTON
WORLD WIDE TRADING INC	DANVERS
ZEUS PACKING INC	GLOUCESTER

NEW HAMPSHIRE

BROWN'S SEABROOK LOBSTER POUND	SEABROOK
CAPE SHARK CHOWDER	HOLLIS
DEFIANT LOBSTER COMPANY	HAMPTON
ISLAND LOBSTER CO	NEW CASTLE
LITTLE BAY LOBSTER CO	NEWINGTON
LITTLE JOES SEAFOOD EXPRESS	SANBORNVILLE
NH SEACOAST CRUISES INC	RYE
PORTSMOUTH FISHERMENS COOP	PORTSMOUTH
S J DRISCOLL CO	HAMPTON
SANDERS LOBSTER CO INC	PORTSMOUTH
SEATRADE INTERNATIONAL	PORTSMOUTH
SHAFMASTER FLEET SERVICES	NEWINGTON
TRI STATE SEAFOODS INC	SOMERSWORTH
YANKEE FISHERMAN	HAMPTON
YANKEE FISHERMANS COOPERATIVE	SEABROOK

NEW JERSEY

ABEL H MIGUEL	KEARNY
AHEARN'S SEAFOOD MKT	WARETOWN
ALII NUI CHARTERS INC	VERONA
ATLANTIC CAPES FISHERIES INC	CAPE MAY
AXELSSON & JOHNSON FISH CO INC	CAPE MAY
BCS PARTNERSHIP	BELFORD
BELFORD SEAFOOD CO-OP	BELFORD
BILL'S FLUKE	CAPE MAY COURT HOUSE
BILLY'S RED ROOM INC	WHIPPANY
BLACK TIGER COMPANY INC	EGG HARBOR CITY
CAPE MAY FISHERIES CO-OP INC	WILDWOOD
CAPE MAY FOODS	MILLVILLE
CAPE MAY FOODS INC	BURLEIGH
CAPE SEAPAK INC	CAPE MAY COURT HOUSE
CAPT BILL'S BAIT & TACKLE	NEPTUNE
CAPT'N CHARLIES CLAMS	NORTH CAPE MAY
CARLSONS SEAFOOD INC	WILDWOOD
CARMEN'S LOBSTER POOL	SEA ISLE
CASINO LOBSTER COMPANY	PLEASANTVILLE
CHEFS INTERNATIONAL INC	POINT PLEASANT
COLD SPRING FISH & SUPPLY CO	CAPE MAY
COTTRELL'S LOBSTERS	HIGHLANDS
DILL'S SEAFOOD	BRIDGETON
DOCK STREET SEAFOOD	WILDWOOD
DON PHILIPP	POINT PLEASANT
DONALD L MYERS	WEST CREEK
EMERALD FISH	CHERRY HILL

NEW JERSEY (CONTINUED)

EMPTY POCKETS	HIGHLANDS
EXPORT INC	BARNEGAT LIGHT
F/V SUNNY SUE	CAPE MAY COURTHOUSE
FIRST RESORT CORP	CAPE MAY
FISH QUEST INC	POINT PLEASANT BEACH
FISHERMEN'S DOCK COOPERATIVE	POINT PLEASANT BCH
FISH-N-FOOL	CAPE MAY
GEORGE SIMMONS	CAPE MAY
HAPPY WORLD AMERICA INC	ELIZABETH
HOWARD MASON	VILLAS
IBERIA PENISULA INC	NEWARK
IBERIA TAVERN & REATAURANT INC	NEWARK
JACOB SEMANCHIK	NEPTUNE
JIM GIFFORD SEAFOOD	MAURICETOWN
JUDITH ANN	BEESLEY'S POINT
J W COMMERCIAL FISHING INC	OCEANVIEW
KASHIKO EXPORTS	PT PLEASANT BEACH
KING KRAB RANCH	PORT NORRIS
KLEIN'S FISH MARKET INC	BELMAR
LARMA CORP/ UNION LANDING REST	BRIELLE
LIGHTHOUSE MARINA	BARNEGAT LIGHT
LOBSTER BARN INC	HIGHLANDS
LONGLINE ENTERPRISE	POMPTON PLAINS
LUND'S FISHERIES INC	CAPE MAY
MAB SEAFOOD	TRENTON
MILLER DISTRIBUTORS	POINT PLEASANT BCH
MY THREE SONS SEAFOOD & PROD	PARKERTOWN
NORTHEAST SHELLFISH COMPANY	ALLENWOOD
NORTHSTAR FISH COMPANY	KEARNY
OCEAN BEACH ENT INC	PINE BEACH
OCEAN INTERNATIONAL INC	JERSEY CITY
OCEAN SPORT FISHING	BRICK
ONE THOUSAND FATHOM'S	BRIELLE
PATHWAY INVESTMENT CORP	WYCKOFF
PEACHES & CREAM INC	BELLE MEAD
PETER WALLING	ASBURY PARK
PHILLIPS SEAFOOD INC	BARNEGAT LIGHT
POINT LOBSTER CO INC	POINT PLEASANT BEACH
PT PLEASANT PACKING INC	POINT PLEASANT BEACH
R & E SLAMB INC	CAPE MAY
RED'S	POINT PLEASANT BEACH
RED'S LOBSTER DOCK	POINT PLEASANT BCH
RUGGIERO SEAFOOD INC	NEWARK
SEACOAST OCEAN DIST	HIGHLANDS
SEAHARVESTER	HEISTERVILLE

NEW JERSEY (CONTINUED)

SHOAL HARBOR LOBSTER CO INC	BELFORD
SNOW'S/DOXSEE, INC	CAPE MAY
SPIKE'S OF POINT PLEASANT INC	WALL
STEVE MIZRAHI	FREEHOLD
SURFSIDE PRODUCTS INC	PORT NORRIS
THE LOBSTER HOUSE	CAPEMAY
THE WILLOW HILL FISH CO	BELLE MEAD
TRUE WORLD FOODS INC	ELIZABETH
T R W	TOMS RIVER
VERNON LEWIS	NEPTUNE
VIKING VILLAGE INC	BARNEGAT LIGHT
WALL CHILD INC	TOMS RIVER
WIZARD ENTERPRISES	BAY HEAD
WOOLLEYS FISH MARKET INC	MANASQUAN
YAMA SEAFOOD INC	JERSEY CITY

NEW YORK

AGGER FISH CORP	BROOKLYN
AMY ROSE INC	DEER PARK
ARROW SFD INC	NEW YORK
BABYLON FISHING STATION	BABYLON
BARBARAS SEAFOOD MARKET	HAMPTON BAYS
BAY PARK FISHING STATION INC	OCEANSIDE
BLUE MOON FISH INC	MATTITUCK
BLUE RIBBON FISH CO	NEW YORK
BLUE WATER FISHERIES INC	MONTAUK
BOAT E T	FREEPORT
BURTON PRINCE	RYE BROOK
C & C OCEAN LTD	FREEPORT
C & D FISH INC	MONTAUK
CALAMARI MAN	BRONX
CALEB HALEY & CO INC	NEW YORK
CAPT BEN'S FISH DOCK INC	FREEPORT
CAPT JACK'S LLC	WEST ISLIP
CBSD INC	FREEPORT
C G DINO'S INC	NEW YORK
CLAMMAN SEAFOOD MKT INC	SOUTHAMPTON
COASTAL SEAFOOD TRANSFER	WEST BABYLON
CORCORAN SEAFOOD DELIVERY	MANORVILLE
COR-J SEAFOOD INC	HAMPTON BAYS
D & S SEAFOOD	HARTSDALE
D B FISH INC	MASTIC
DEEPWATER SEAFOODS INC	MONTAUK
DRESNO	BROOKLYN

NEW YORK (CONTINUED)

EMERALD SEAFOOD COMPANY INC	NEW YORK
F & L FILLET	NEW YORK
FAIR FISH CO INC	NEW YORK
FATHERS FISH CO INC	NEW YORK
FISH ONE INC	NEW HYDE PARK
FOOD & FISH INC	HAMPTON BAYS
FRANK W WILKISSON INC	NEW YORK
FROMETTA CONSIGNMENT CORP.	UNKNOWN
FULL MOON FISHERIES	EAST HAMPTON
FULTON FISH MARKET	NEW YORK
GEORGE BRAUN OYSTER CO INC	CUTCHOGUE
GLOUCESTER FISH COMPANY	NEW YORK
GOSMAN'S SEAFOOD CORPORATION	MONTAUK
GOTHAM SEAFOOD CORPORATION	NEW YORK
HAPPY HOOKER FISH CO	BRIGHTWATERS
HART LOBSTER	WEST SAYVILLE
HUDSON POINT FISH STA INC	FREEPORT
INLET SEAFOOD	MONTAUK
JEFFREY M KRAUS	SOUTHAMPTON
JMS SEASONAL SEAFOOD CORP	NEW YORK
JOE MONANI FISH CO	NEW YORK CITY
JOHN G MIHALE	ISLAND PARK
JONES INLET PACKING CO LTD	PT LOOKOUT
JOSEPH H CARTER INC	NEW YORK
KWOK VINCENT	E ELMHURST
KYOTO FISH	NEW YORK
L J FISH INC	NEW YORK
LOCKWOOD & WINANT INC	NEW YORK
LONG ISLAND FISH EXCHANGE	NEW YORK CITY
LONG ISLAND SEAFOOD EXPORT INC	EAST QUOGUE
LOU'S FISH MARKET INC	NEW YORK
M SLAVIN & SONS LTD	NEW YORK
MERIT SEAFOOD CORPORATION	GREENPORT
MILLIGAN SEAFOOD CO	SOUTHAMPTON
MOE BEHRENS SEAFOOD INC	WEST ISLIP
MONTAUK FISH DOCK	MONTAUK
MONTAUK MARINE BASIN	MONTAUK
MONTE'S SEAFOOD EMPORIUM INC	BRONX
MT SINAI FISH INC	NEW YORK
MULTI AQUACULTURE SYSTEMS INC	AMAGANSETT
OFFSHORE SPORTS MARINA INC	MONTAUK
PELLS FISH DOCK & MARINA INC	HAMPTON BAYS
PERRY B DURYEA & SON INC	MONTAUK
PESCADOS FROMETTA	UNKNOWN
PIERLESS FISH CORP	BROOKLYN

NEW YORK (CONTINUED)

POINT CLAM COMPANY	FREEPORT
POINT LOBSTER & FISH	POINT LOOKOUT
PORTLAND MAINE LOBSTER CO	HUNTINGTON
PT LOOKOUT FISH DOCK INC	PT LOOKOUT
RAINBOW CONNECTION INC	EAST HAMPTON
RAJ FISH CORP	GREENLAWN
RALBORAY INC	UNKNOWN
RESTLESS FISHERIS	SEAFORD
RICHARD J RADE JR	MONTAUK
ROBERT HAMILTON JR INC	GREENPORT
S& R FISHERIES INC	HAMPTON BAYS
SALT WATER ENTERPRISES	MATTITUCK
SHINNECOCK FISH DOCK INC.	HAMPTON BAYS
SHINNECOCK FISH PACKING INC	BAYSHORE
SHINNECOCK FISHERMEN'S COOP	SHINNECOCK
SOUTH SHORE FISH MKT INC	ISLAND PARK
ST PETER DOCK INC	FREEPORT
STUART'S SEAFOOD MARKET LTD	AMAGANSETT
SUNRISE LOBSTER CO	BAYSHORE
SUNRISE SEAFOOD INC	NEW YORK CITY
SUSAN DRESNER	BROOKLYN
SUSHI FISHING & CHARTERS INC	BROAD CHANNEL
TCI FISHERIES LLC	FREEPORT
TERRA TRADE COMPANY	JACKSON HEIGHTS
THE SEAFOOD SHOP	WAINSCOTT
THIRD GENERATION FISH CO	NEW YORK
THOMAS E CRONAN	MERRICK
TIM HATCH	FRANKLIN SQUARE
T M FISH INC	MONTAUK
TONY CRAB KING INC	ISLIP
TOP CATCH INC	BROOKLYN
TWO COUSINS FISH MARKET INC	FREEPORT
VALENCAMBO SUPERIOR SEAFOOD	PORT CHESTER
VANDERBILT'S WHARF LTD	OAKDALE
WAH HOI SEAFOOD TRADING INC	NEW YORK
WESTBURY FISH CO	WESTBURY
WHITE CAP FISH CO INC	ISLIP
WILKINSON'S SEAFOOD	NEW YORK
WILLIAM W REED	HAMPTON BAYS
WILLIAMS SEAFOOD ENT. INC	NEW YORK
WOODCLEFT FISHING STATION	FREEPORT
Y SYMA CORPORATION	BROOKLYN
YOUNG KWANG FISH CORP	FLUSHING

NORTH CAROLINA

AMERICAN FISH	SOUTHPORT
AUSTIN SEAFOOD	NAGS HEAD
AVON SEAFOOD	AVON
B & B INC/JERRY A MALINSKI	BEAUFORT
BERESOFF FISHING	BOLIVIA
BIG ROCK BLUE MARTIN TOURNMENT	MOREHEAD
BLACKBURN BROS INC	CAROLINA BEACH
BOWMANS SEAFOOD	SNEADS FERRY
CAPE FEAR FISH MERCHANTS LLC	WILMINGTON
CAPE FEAR SEAFOOD CO	SOUTH PORT
CAPE HATTERAS SEAFOOD	HATTERAS
CAPE POINT BAIT CO INC	BEAUFORT
CAPT JIM'S SEAFOOD INC	MOREHEAD CITY
CAPTAIN CHARLIE'S SEAFOOD INC	ENGELHARD
CAROLINA ATLANTIC SEAFOOD INC	MOREHEAD CITY
CLAYTON FOLCHER SFD CO INC	ENGELHARD
CLYDE PHILLIPS SEAFOOD	SWANSBORO
COASTAL SEAFOOD TRANSFER	LELAND
CRYSTAL COAST FISHERIES	MOREHEAD CITY
DAVID P FARROW JR	MANTEO
DAVIS SEAFOOD	SNEADS FERRY
DIAMOND SHOAL SEAFOOD INC	ORIENTAL
ENGELHARD SEAFOOD INC	ENGELHARD
ENGELHARD SMATTAMASKECT SFD INC	SWAN QUARTER
FISHERMAN'S SEAFOOD INC	WANCHESE
FULCHERS POINT PRIDE SEAFOOD	ORIENTAL
GARLAND F FULCHER SEAFOOD CO	ORIENTAL
GASKILL SEAFOOD INC	BAYBORO
GRANT'S OYSTER HOUSE	SNEADS FERRY
HARRIS SEAFOOD	WILMINGTON
HATTERAS BLUE	HATTERAS
HOBO SEAFOOD	SWAN QUARTER
HOMER SMITH SEAFOOD INC	SALTER PATH
HOPKINS SEAFOOD	BELHAVEN
I T M	CHAPEL HILL
JANET W WHITBECK INC	HATTERAS
JAW'S FISH CO	WANCHESE
JOHNNIE MERCER	NEW BERN
JRA INC/JEFFREYS SEAFOOD	HATTERAS
JS PACKING	WILMINGTON
KERRY & SON SEAFOOD INC	BEAUFORT
LANIER FISHERIES	HAMPSTEAD
LOWLAND SEAFOOD INC	LOWLAND
LT EVERETT & SONS SEAFOOD	SNEADS FERRY
LUCKY INTERNATIONAL INC	MOREHEAD CITY

NORTH CAROLINA (CONTINUED)

LUTHER L SMITH & SON SEAFOOD	ATLANTIC
MATHEW DAVID HOLLAR	WASHINGTON
MATTAMUSKETT SEAFOOD	SWANQUATER
MOON TILLETT FISH CO	WANCHESE
MORGAN HARVEST INC	GLOUCESTER
MOTTS CHANNEL SEAFOOD	WRIGHTSVILLE
O'NEAL'S SEA HARVEST	WANCHESE
OSPREY FISHERIES INC	OCRACOKE
PAMLICO PK CO INC	VANDMERE
PITTMAN SEAFOOD CO	BEAUFORT
QUALITY SEAFOOD CO IN	WANCHESE
R E MAYO CO INC	HOBUCKEN
RISKY BUSINEESS SEAFOOD	BUXTON
ROSE SEAFOOD	BEAUFORT
R W JONES FISH CO INC	NEWPORT
SANDY BAY FISH COMPANY INC	WINSTON SALEM
SEA HARVEST SHELL FISH	SWANSBORO
SEAFOOD CONNCECTIONS	JACKSONVILLE
SHELLFISH 2000	CEDAR POINT
SLIM PICKENS SEAFOOD	OCRACOKE ISLAND
SMITH SEAFOOD CONTAINER INC	BEAUFORT
SNEADS FERRY SEAFOOD	SNEADS FERRY
SOUTH POINT MARKET INC	OCRACOKE
TAYLOR SEAFOOD	BEAUFORT
TIMS SEAFOOD	HAMPSTEAD
TOP DOLLAR SEAFOOD	HATTERAS
TOP FIN L L C	WANCHESE
WILLIAM SMITH SEAFOOD INC	BEAUFORT
WILLIAMS SEAFOOD INC	ENGELHARD
WILLIE R ETHERIDGE SEAFOOD CO	WANCHESE
YEOMANS SEAFOOD	HATTERAS ISLAND

RHODE ISLAND

AMANDA MEL LOBSTER CO	BLOCK ISLAND
AQUIDNECK LOBSTER COMPANY	NEWPORT
BAY STATE SEAFOOD INC	LITTLE COMPTON
BAYSIDE SHELLFISH	TIVERTON
BLACK POINT FISH TRAP CO	WAKEFIELD
BLOCK ISLAND SEAFOOD PACKING	BLOCK ISLAND
BLOUNT SEAFOOD CORP	WARREN
BREACHWAY SEAFOODS INC	WAKEFIELD
BRIDGEPORT SEAFOOD	TIVERTON
CAPEWAY SEAFOODS INC	PROVIDENCE
CARTER SEAFOOD	PORTSMOUTH

RHODE ISLAND (CONTINUED)

CELESTIAL FOOD DIST INC	SAUNDERSTOWN
CHAMPLIN ENTERPRISES	NARRAGANSETT
CHAMPLIN SFD OF WICKFORD	NORTH KINGSTOWN
CHUBBY FISH INC	WAKEFIELD
CLIPPER SEAFOOD	NARRAGANSETT
COAST CANNING & FISH PROCESS	NEWPORT
D & C FISH CO INC	NARRAGANSETT
DAVE HANDRIGAN SEAFOODS INC	NARRAGANSETT
DEEP SEA FISH OF RI INC	WAKEFIELD
ESTRELA SEAFOOD	CRANSTON
F/V ERICA KNIGHT	WAKEFIELD
F/V KAREN ANN	WEST KINGSTON
FINNEST KIND SEAFOOD CO INC	WEST KINGSTON
FINN'S FISH MARKET	BLOCK ISLAND
FISH QUEST INC	PORTSMOUTH
FRANCES FLEET	PEACE DALE
GALILEAN SEAFOOD INC	BRISTOL
GREEN DIAMOND LOBSTER	BLOCK ISLAND
HANDRIGANS SEAFOOD INC	NARRAGANSETT
HEATHER LYNN INC	WAKEFIELD
HENRY AVERY & COMPANY	NEWPORT
HMH INC/CHAMPLIN'S SFD	NARRAGANSETT
H N WILCOX FISHING INC	GREENVILLE
INTERNATIONAL MARINE IND	NEWPORT
J & A FISHERIES	TIVERTON
KENPORT MARINA	WAKEFIELD
KSJ SEAFOOD INC	NARRAGANSETT
LABORE SEAFOOD LTD	NARRAGANSETT
LIONS PRIDE SEAFOOD	WESTERLY
M&M FISH AND LOBSTER	BRISTOL
MC FRESH INC	PEACE DALE
N PARASCANDOLO & SONS INC	NEWPORT
NARRAGANSETT BAY LOBSTERS INC	NARRAGANSETT
NEW ENGLAND SEAFOOD	SO KINGSTOWN
NONQUIT FISH CO	TIVERTON
NORTH EAST ATLANTIC SFD LTD	NARRAGANSETT
OCEAN STATE LOBSTER COMPANY	WAKEFIELD
OLD SALT SEAFOOD CO INC	NARRAGANSETT
OSPREY SEAFOOD INC	NARRAGANSETT
PAIVA'S SHELLFISH INC	CRANSTON
POINT TRAP CO INC	PORTSMOUTH
PT JUDITH FISHERMENS COOP INC	NARRAGANSETT
RAT ISLAND LOBSTER CO	BLOCK ISLAND
RED TAIL FISHERIES INC	W KINGSTON
RHODE ISLAND RED SEAFOOD	EXETER

RHODE ISLAND (CONTINUED)

SEA FRESH USA INC	NARRAGANSETT
SEA PRIDE TRAWLERS INC	WAKEFIELD
SEACOAST SEAFOOD	GALILEE
SEACREST INTERNATIONAL INC	WAKEFIELD
SEAFOOD PROCESSING CO OF RI	NARRAGANSETT
SEAFREEZE LTD	NORTH KINGSTON
SKIPS DOCK INC	WAKEFIELD
SLACKER SEAFOOD INC	NARRAGANSETT
SLAVIN POINT JUDITH CO LLC	NARRAGANSETT
SNUG HARBOR MARINA INC	WAKEFIELD
SOUTH PIER FISH CO INC	WAKEFIELD
TALLMAN & MACK INC	TIVERTON
THE BAIT COMPANY	WEST KINGSTON
TONY'S SEAFOOD	WARREN
TOWN DOCK INC	NARRAGANSETT
WAMM INC	MIDDLETOWN

VIRGINIA

B & C SEAFFOD INC	NEWPORT NEWS
BENDER SEAFOOD	NASSAWADOX
BERNIE'S CONCHS	CHERITON
BRENDA D CLOSE	MOON
C & T SEAFOOD	TANGIER
CAPE CHARLES SEAFOOD	CAPE CHARLES
CAPTAIN FISHES	CHINCOTEAGUE
CHES ATLANTIC SEAFOOD	UNKNOWN
CHESAPEAKE BAY PKG LLC	NEWPORT NEWS
CHINCOTEAGUE FISHERIES	CHINCOTEAGUE
CHINCOTEAGUE SEAFOOD CO , INC	CHINCOTEAGUE
CRAIG G NEFF	NORFOLK
D&M SEAFOOD	VIRGINIA BEACH
DELORES OF WANCHESE	HAMPTON
DEMARIA SEAFOOD	NEWPORT NEWS
D L EDGERTON FISH CO	CHINCOTEAGUE
D.M. MARINA	VIRGINIA BEACH
EAST COAST FISH & SCALLOP CO	NEWPORT NEWS
EASTERN SHORE SEAFOOD PROD	MAPPSVILLE
ESS PRIDE L L C	MAPPSVILLE
FISH HOUSE	ONANCOCK
FISHERMENS SEAFOOD	HAMPTON
GEORGE'S SEAFOOD INC	NORFOLK
HAMPTON ROADS SEAFOODS LTD	HAMPTON
HARRY DOERNTE	POQUOSON
IAN NIGEL	NEWPORT NEWS

VIRGINIA (CONTINUED)

J H LEA & SONS	HAMPSTEAD
J H MILES & COMPANY INC	NORFOLK
J H WEST SEAFOOD	CHERITON
JORDONS SEAFOOD	UNKNOWN
L D AMORY &CO INC	HAMPTON
LILLISTON SEAFOOD	WACHAPREAGUE
LONG POINT FISH CO	GREENBACKVILLE
OLD POINT PACKING INC	NEWPORT NEWS
ONANCOCK COOP	ONANCOCK
PEABODY CORP	NEWPORT NEWS
PYA/MONARCH INC	VIRGINIA BEACH
R STUBBS SEAFOOD CO	CHINCOTEAGUE
R & S SEAFOOD	WACHAPREAGUE
RUSSEL FISH CO	CHINCOTEAGUE
S & S MARINE SUPPLY INC	HAMPTON
SEA BASSTARDS SEAFOOD	CHINCOTEAGUE
SEAFORD SCALLOP CO INC	SEAFORD
SEASIDE ENTERPRISES	PARKSLEY
SELBY ENTERPRISES LLC	HAMPTON
SNELDERS FISHERIES	CHINCOTEAGUE
SPOT FISH COMPANY	VIRGINIA BEACH
THE PHOENIX FRP INTL LLC	VIRGINIA BEACH
V J O'NEAL & COMPANY INC	SEAFORD
WANCHESE FISH CO INC	HAMPTIN
WELLS ICE & COLD STORAGE INC	SEAFORD
WHITTAKER PHARMACEUTICAL	CHINCOTEAGUE
WILLARD READE NICOLLS III	CRADDOCKVILLE
WILLIAM SEAFOOD	CHINCOTEAGUE

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