NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

Date 10/29/2015

Department of Commerce
National Oceanic and Atmospheric Administration

FOR CERTIFYING OFFICIAL: Jennifer Jessup
FOR CLEARANCE OFFICER: Jennifer Jessup

In accordance with the Paperwork Reduction Act, OMB has taken action on your request received 09/21/2015

ACTION REQUESTED: Revision of a currently approved collection
TYPE OF REVIEW REQUESTED: Regular
ICR REFERENCE NUMBER: 201507-0648-009
AGENCY ICR TRACKING NUMBER:
TITLE: NMFS Observer Programs' Information That Can Be Gathered Only Through Questions
LIST OF INFORMATION COLLECTIONS: See next page

OMB ACTION: Approved without change
OMB CONTROL NUMBER: 0648-0593
The agency is required to display the OMB Control Number and inform respondents of its legal significance in accordance with 5 CFR 1320.5(b).

EXPIRATION DATE: 10/31/2018 DISCONTINUE DATE:

BURDEN:	RESPONSES	HOURS	COSTS
Previous	19,296	26,782	1,369
New	19,774	27,238	1,161
Difference			
Change due to New Statute	0	0	0
Change due to Agency Discretion	0	0	0
Change due to Agency Adjustment	478	456	-208
Change due to PRA Violation	0	0	0

TERMS OF CLEARANCE:

OMB Authorizing Official: Dominic J. Mancini
Acting Deputy Administrator,
Office Of Information And Regulatory Affairs

List of ICs			
IC Title	Form No.	Form Name	CFR Citation
Northeast Fisheries Observer Program (forms all/mostly completed by fishermen at end)	NA, NA, NA,

List of ICs			
IC Title	Form No.	Form Name	CFR Citation
At-Sea Hake Observer Program (Northwest)	NA, NA, NA, NA, NA, NA, NA, NA, NA	Safety checklist, Marine Mammal Sighting Form, Bird interaction, activity and species form, Marine Mammal Interaction and Speciman form, Deck form, Observer haul form, Seabilrd Speciman Collection Form, Vessel Haul form, Trip form	50 CFR 660.314
WCGOP: West Coast Groundfish Observer Programs: Catch Share and LE Sablefish - all forms but 2 indicated are for both programs	NA, NA, NA, NA, NA, NA, NA, NA, NA, NA	West Coast Groundfish Catch Shares Trip Form, West Coast Groundfish Catch Shares Catch Form, West Coast Groundfish Catch Shares Species Composition Form, Catch Shares Fixed Gear Catch Form, Catch shares trawl and prawn catch form, Shrimp bycatch reduction form - Limited Access only, Hook and Line Fleet Characterization Form, Safety checklist, IFQ Priority Species Tracking From - Catch Shares only, Pacific Halibut Viability Log	50 CFR 660.314
Pacific Islands Region Observer Program	NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA	General vessel and trip information - Korean, Trip expenditure form - Vietnamese, Trip expenditure form - Korean, Placement checklist, Trip specifications log, Gear configuration log, Post-trip interview (observer evaluation), Set haul log, Trip expenditure form (captain) - English, General vessel and trip information - English, General vessel and trip information - Vietnamese, Observer performance evaluation for captains, Gear Configuration Form, gear configuration log - American Samoa, Set and haul log - American Samoa, Protected species event log, Protected Species Event log - American Samoa, Trip specifications log - American Samoa, Marine debris report form	50 CFR 665.28
Southeast Shark Fishery Observer Program	NA, NA, NA, NA	Safety checklist, Reimbursement form, Observer evaluation form, Observer notification form	50 CFR 222.401
Southeast Pelagic Observer Program	NA, NA, NA, NA, NA, NA	Reimbursement for for assistance with bluefin tuna samplin, Safety checklist with PRA statement, Observer Notification Form, Observer evaluation form, Reimbursement for equipment expenses, Reimbursement for insurance expenses	50 CFR 622.8, 229.7, and 222.401

List of ICs			
IC Title	Form No.	Form Name	CFR Citation
Gulf of Mexico Reef Fish and Shrimp Observer Program	NA, NA, NA, NA	Pre-trip safety checklist, observer notification form, Observer evaluation , Observer reimbursement form	50 CFR 622.8, 229.7, and 222.401
Southwest Region Observer Program - some forms shared with PIRO	NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA	Photo log, Marine mammal biological data form, Gear configuration log, Catch event log, Seabird biological data form, Seabird mitigation form, shark life history form, Fish and invertebrate measurement data, Safety checklist, Sea turle biological data form, Set and haul information, Sketch form including description of category - if a sketch is needed for some purpose, Specimen log, Protected species event log, Trip specification log, Tag events	50 CFR 229 Subpart A
Gulf of Mexico Snapper-Grouper Observer Program	NA, NA, NA, NA, NA	Vessel reimbursement form, Pre-trip safety checklist, Observer notification form, Observer evaluation, Fisherman feedback form	50 CFR 622.8
Northeast At-Sea Monitors	NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA	Meal reimbursement form, Vessel and trip log, Bottom trawl gear characteristics log, Bottom Trawl Haul Log, Discard Log, Individual animal log, Length frequency log, Longline gear characteristics log, Fishermen's Comment Log, Pretrip Vessel and Safety Checklist, Gillnet gear characteristics log, Gillnet haul log, Incidental take log, Longline Haul Log, vessel reimbursement form	

PAPERWORK REDUCTION ACT SUBMISSION

Please read the instructions before completing this form. For additional forms or assistance in completing this form, contact your agency's Paperwork Clearance Officer. Send two copies of this form, the collection instrument to be reviewed, the supporting statement, and any additional documentation to: Office of Information and Regulatory Affairs, Office of Management and Budget, Docket Library, Room 10102, 725 17th Street NW, Washington, DC 20503.

1. Agency/Subagency originating request
DOC/NOAA/NMFS

2. OMB control number
a. 0648 - 0593
b. [ ] None

3. Type of information collection (*check one*)
a. [ ] New Collection
b. [ ] Revision of a currently approved collection
c. [✔] Extension of a currently approved collection
d. [ ] Reinstatement, without change, of a previously approved collection for which approval has expired
e. [ ] Reinstatement, with change, of a previously approved collection for which approval has expired
f. [ ] Existing collection in use without an OMB control number
For b-f, note Item A2 of Supporting Statement instructions

4. Type of review requested (*check one*)
a. [✔] Regular submission
b. [ ] Emergency - Approval requested by ____/____/____
c. [ ] Delegated

5. Small entities
Will this information collection have a significant economic impact on a substantial number of small entities? [ ] Yes [✔] No

6. Requested expiration date
a. [✔] Three years from approval date b. [ ] Other Specify:____/____

7. Title
NMFS OBSERVER PROGRAMS' INFORMATION THAT CAN BE GATHERED ONLY THROUGH QUESTIONS

8. Agency form number(s) (*if applicable*)

9. Keywords
Fishery, Fishing vessels, Fish, Marine resources

10. Abstract

The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) deploys fishery observers on United States (U.S.) fishing vessels and to fish processing plants in order to collect biological and economic data. NMFS has at least one observer program in each of its six regions. These observer programs provide the only reliable and/or most effective method for obtaining information that is critical for the conservation and management of living marine resources. Observer programs primarily collect data through direct observations by employees or agents of NMFS or through non-standardized oral communication in connection with such direct observations, however observer programs also collect information that can only be obtained by asking questions of the respondents thus requiring clearance under the Paperwork Reduction Act (PRA).

11. Affected public (*Mark primary with "P" and all others that apply with "x"*)
a. ___ Individuals or households d. ___ Farms
b. X Business or other for-profit e. ___ Federal Government
c. ___ Not-for-profit institutions f. ___ State, Local or Tribal Government

12. Obligation to respond (*check one*)
a. [ ] Voluntary
b. [ ] Required to obtain or retain benefits
c. [✔] Mandatory

13. Annual recordkeeping and reporting burden
a. Number of respondents: 3,699
b. Total annual responses: 19,774
1. Percentage of these responses collected electronically: 0 %
c. Total annual hours requested: 27,238
d. Current OMB inventory: 26,782
e. Difference: 456
f. Explanation of difference
1. Program change: ____
2. Adjustment: 456

14. Annual reporting and recordkeeping cost burden (*in thousands of dollars)*
a. Total annualized capital/startup costs: ____
b. Total annual costs (O&M): 1
c. Total annualized cost requested: 1
d. Current OMB inventory: 1
e. Difference: 0
f. Explanation of difference
1. Program change: ____
2. Adjustment: ____

15. Purpose of information collection (*Mark primary with "P" and all others that apply with "X"*)
a. ___ Application for benefits e. X Program planning or management
b. ___ Program evaluation f. ___ Research
c. ___ General purpose statistics g. ___ Regulatory or compliance
d. ___ Audit

16. Frequency of recordkeeping or reporting (*check all that apply)*
a. [✔] Recordkeeping b. [✔] Third party disclosure
c. [✔] Reporting
1. [✔] On occasion 2. [ ] Weekly 3. [ ] Monthly
4. [ ] Quarterly 5. [ ] Semi-annually 6. [ ] Annually
7. [ ] Biennially 8. [ ] Other (describe) ____

17. Statistical methods
Does this information collection employ statistical methods
[✔] Yes [ ] No

18. Agency Contact (person who can best answer questions regarding the content of this submission)
Name: Jane DiCosimo
Phone: (301) 427-8109

19. Certification for Paperwork Reduction Act Submissions

On behalf of this Federal Agency, I certify that the collection of information encompassed by this request complies with 5 CFR 1320.9

NOTE: The text of 5 CFR 1320.9, and the related provisions of 5 CFR 1320.8(b)(3), appear at the end of the instructions. *The certification is to be made with reference to those regulatory provisions as set forth in the instructions.*

The following is a summary of the topics, regarding the proposed collection of information, that the certification covers:

(a) It is necessary for the proper performance of agency functions;

(b) It avoids unnecessary duplication;

(c) It reduces burden on small entities;

(d) It used plain, coherent, and unambiguous terminology that is understandable to respondents;

(e) Its implementation will be consistent and compatible with current reporting and recordkeeping practices;

(f) It indicates the retention period for recordkeeping requirements;

(g) It informs respondents of the information called for under 5 CFR 1320.8(b)(3):

- (i) Why the information is being collected;
- (ii) Use of information;
- (iii) Burden estimate;
- (iv) Nature of response (voluntary, required for a benefit, mandatory);
- (v) Nature and extent of confidentiality; and
- (vi) Need to display currently valid OMB control number;

(h) It was developed by an office that has planned and allocated resources for the efficient and effective management and use of the information to be collected (see note in Item 19 of instructions);

(i) It uses effective and efficient statistical survey methodology; and

(j) It makes appropriate use of information technology.

If you are unable to certify compliance with any of the provisions, identify the item below and explain the reason in Item 18 of the Supporting Statement.

Signature of Senior Official or designee	Date

Agency Certification (signature of Assistant Administrator, Deputy Assistant Administrator, Line Office Chief Information Officer, head of MB staff for L.O.s, or of the Director of a Program or StaffOffice)	
Signature signed by Dr. Ned Cyr, Director Science & Technology	Date 9/16/2015
Signature of NOAA Clearance Officer	
Signature BRABSON.SARAH.1365710488 Digitally signed by BRABSON.SARAH.1365710488 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=BRABSON.SARAH.1365710488 Date: 2015.11.06 09:37:30 -05'00'	Date

SUPPORTING STATEMENT
NMFS OBSERVER PROGRAMS' INFORMATION THAT CAN BE GATHERED ONLY THROUGH QUESTIONS
OMB CONTROL NO. 0648-0593

INTRODUCTION

This request is for extension of a current information collection.
\The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) deploys fishery observers on United States (U.S.) fishing vessels and to fish processing plants in order to collect biological and economic data. NMFS has at least one observer program in each of its five regions. These observer programs provide the only reliable and/or most effective method for obtaining information that is critical for the conservation and management of living marine resources. Observer programs primarily collect data through direct observations or through non-standardized oral communication in connection with such direct observations; and such collections are not generally subject to the Paperwork Reduction Act (PRA) (see 5 C.F.R. §§ 1320.3(h)). However, observer programs also collect the following information that requires clearance under the PRA: (1) standardized questions of fishing vessel captains/crew or fish processing plant managers/staff (includes fish buyers/dealers), which include gear and performance questions, safety questions, and trip costs, crew size and other economic questions; (2) questions asked by observer program staff/contractors to plan observer deployments; (3) forms that are completed by observers and that fishing vessel captains are asked to review and sign; (4) questionnaires to evaluate observer performance; (5) forms to certify that a fisherman is the permit holder when requesting observer data from the observer on the vessel; and (6) information on reimbursement forms. Economic information not available during the trip may be requested via mail in a follow-up survey.

The primary authority for NMFS to place observers on fishing vessels is included in the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), and the Marine Mammal Protection Act (MMPA). Sec. 303(b)(8) of the MSA states that any fishery management plan which is prepared by any Council, or by the Secretary of Commerce (Secretary), with respect to any fishery, may require that one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery; Sec. 403(a) requires the Secretary to promulgate regulations for fishing vessels that carry observers; and Sec. 403(b)(1) requires the Secretary to establish programs to ensure that each observer receives adequate training in collecting and analyzing the information necessary for the conservation and management purposes.

Each observer program was subsequently authorized and implemented via MSA regulations: 50 CFR 600 Subpart H, 50 CFR 679 Subpart E, 50 CFR 648 Subpart A, 50 CFR 660 (Subparts C, E, F, I, K); 50 CFR 665 (Subparts B and C), 50 CFR 635 Subpart A, 50 CFR 622 Subpart A, and 50 CFR 222 Subpart D (Marine Mammal Protection).

Similar authority to place observers on fishing vessels is provided by Sec. 118 of the MMPA (50 USC Part 229) and Parts 222 and 223 (USC) of the ESA.

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary.

Biological and economic information collection programs implemented by NMFS address statutory and regulatory mandates to conserve and manage living marine resources, which includes collecting information that may be used to: (1) monitor catch and bycatch; (2) understand the population status and trends of fish stocks and protected species, as well as the interactions between them; (3) determine the quantity and distribution of net benefits derived from living marine resources; and (4) predict the biological, ecological, and economic impacts of existing management measures and alternative proposed management measures.

In particular, these biological and economic information collection programs contribute to analyses required under the MSA, the ESA, the MMPA, the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866. NMFS observer programs are often the only reliable and/or most effective means to collect the biological and economic information required to meet the legislative and regulatory mandates that define the NMFS stewardship responsibilities for the conservation and management of living marine resources.

The lack of more complete economic information in the majority of Federally managed fisheries has limited NMFS' ability to conduct these analyses and has led to lawsuits and regulatory challenges of fisheries policies in the last several years, resulting in overturned rebuilding objectives, biologically unsustainable total allowable catches, and eroded confidence in NMFS' decision making process and social sciences capability. Maintaining and expanding the fishery economic information collections will improve the scientific foundation of the Agency's policies and help decision makers weigh the economic impacts of their decisions.

It is important to note that a key feature of the Federal regulatory process is that NMFS cannot simply implement a regulation to achieve a conservation goal but instead must consider a suite of management alternatives. Economic analyses can identify the alternative that minimizes losses to stakeholders while still achieving conservation goals, allowing NMFS to be proactive, rather than reactive, in its resource management strategy.

Background

MSA

The MSA establishes eight Councils, each of which is charged with the preparation of a fishery management plan and plan amendments with respect to each fishery requiring management within its jurisdiction. Each fishery management plan (FMP) prepared by a Council, or by the Secretary, must contain conservation and management measures that are consistent with the national standards, and any other applicable law [MSA Sec. 303(a)(1)(C)], and a description of

the fishery including actual and potential revenues from the fishery [MSA Sec. 303(a)(2)]. The MSA authorizes FMPs developed by the Secretary or Council to require one or more observers be carried on board a fishing vessel engaged in fishing for species subject to the plan, for the purposes of collecting data necessary for conservation and management of the fishery [MSA Sec. 303 (b)(8)]).

Acting under authorities provided in the MSA, the Councils and Secretary have implemented 47 FMPs, each of which addresses biological and socio-economic characteristics and issues associated with the fishery. For example, the Pacific Coast groundfish FMP includes a framework for the development and evaluation of management decisions having substantial socio-economic implications (Section 6.2.3 of the Pacific Coast Groundfish Plan (see Attachment A). Where management is necessary to address socio-economic issues, the Council must prepare a report, which addresses the achievement of goals and objectives of the FMP, biological and economic impacts and how the proposed action will address at least one of 15 items including: maintaining stability in the fishery, increasing economic yield, and increasing fishing efficiency. With respect to allocation actions, the Council must consider such factors as present participation in and dependence on the fishery, including alternative fisheries, historical fishing practices in and historical dependence on the fishery, as well as consistency with MSA national standards. FMPs prepared by other Councils address issues comparable to those addressed in the Pacific Coast groundfish FMP.

An observer program provides a very efficient method of collecting high quality information at the trip level. Economic information is required to determine what further improvements in safety are practicable.

Each FMP also relies on stock assessments to aid in managing the fishery, set harvest levels, prevent overfishing, and rebuild overfished stocks, as directed by MSA. Stock assessments estimate historical effects of fishing on fish stocks and project sustainable catch levels. The stock assessment process requires detailed information for each species, including size, age, gender, and number caught. Fishery biologists use the information provided by observer programs, along with other data sources such as research cruises and fishermen-reported data, to complete a stock assessment.

MMPA

The MMPA seeks to maintain marine mammal stocks at optimum sustainable population levels, principally by regulating the human-induced mortality and serious injury of marine mammals. This includes fishing-related mortality and serious injury. Although the MMPA prohibits the "take" of marine mammals, it provides exceptions for incidental mortality and serious injury during the operation of commercial fishing, as well as a limited number of other activities. "Take" is defined in the MMPA as, "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. § 1362 (13)). In 1994, Congress amended the MMPA to include Section 118, which established a regime to regulate the take of marine mammals incidental to commercial fishing so that it does not occur at a level that jeopardizes a marine mammal stock's ability to reach its "optimum sustainable population", defined as "the number of animals which will result in the maximum productivity of the population or the

species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element" (16 U.S.C. § 1362(9)).

Section 118 of the MMPA requires that NMFS classify each U.S. commercial fishery according to whether there is a frequent (Category I), occasional (Category II), or a remote (Category III) likelihood of incidental mortality and serious injury of marine mammals. It also requires the establishment of take reduction teams to develop take reduction plans (TRPs) for those fisheries with the greatest impact on marine mammal stocks (Category I and Category II). Participants in Category I or II fisheries are required to register with NMFS, take on board an observer if requested by NMFS [Sec. 118 3(B)], and comply with all applicable TRP regulations.

The MMPA establishes both short-term (six month) and long-term (five year) goals for marine mammal bycatch reduction. Take Reduction Plans are required to reduce, within six months of implementation, the incidental mortality or serious injury of marine mammals incidentally taken in the course of commercial fishing operations to levels less than a stock's potential biological removal (PBR) level. Within five years of implementation, TRPs are required to reduce the mortality or serious injury of marine mammals incidentally taken in the course of commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate (commonly referred to as the Zero Mortality Rate Goal or ZMRG), taking into account the economics of the fishery, the availability of existing technology, and existing state or regional fishery management plans (16 U.S.C. § 1387(f)).

ESA

The ESA requires the Federal government to protect and conserve species and populations that are endangered or threatened with extinction, and to conserve the ecosystems on which these species depend. Some threatened and endangered species, including all sea turtle species and certain species of salmon, seabirds, and marine mammals, are captured as bycatch in commercial and recreational fisheries. The ESA requires development of a recovery plan that identifies criteria and actions to recover each listed species. Recovery plans for marine species generally include reducing incidental capture of protected species in fishing operations as a priority-one action, which is necessary to prevent extinction or irreversible declines. In some cases, fisheries can be restricted or terminated because they incidentally take protected species and impede recovery of the listed population. Other provisions of the ESA ensure that sources of mortality for protected species are identified and minimized or mitigated.

ESA Section 9 prohibits the take of endangered species within the United States or the territorial sea of the United States, and on the high seas. "Take" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 U.S.C. 1536(18)). ESA Sections 4, 6, 7, and 10 provide exceptions to the take prohibition of ESA-listed species. Of particular relevance for fisheries bycatch is Section 7, which provides that "Each Federal agency shall ... insure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species or rest in the destruction or adverse modification of habitat of such species ..." (16 U.S.C. §1536(a)(2)).

Under Section 7(a)(2) of the ESA, Federal agencies must consult with NMFS on activities that may affect a listed species. For Federally managed fisheries, NMFS must formally consult with itself on the effects fisheries management plans may have on listed species and their critical habitat. These interagency, or Section 7, consultations are designed to assist Federal agencies in fulfilling their duty to ensure their actions do not jeopardize the continued existence of a species or destroy or adversely modify critical habitat. Should an action be determined by NMFS to jeopardize a species or adversely modify critical habitat, NMFS will suggest Reasonable and Prudent Alternatives (RPAs) that would not violate Section 7(a)(2). Biological Opinions document NMFS' opinion as to whether the Federal action is likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. Where appropriate, biological opinions provide an exemption for the "take" of listed species while specifying the extent of take allowed, the Reasonable and Prudent Measures (RPMs) necessary to minimize impacts from the Federal action, and the Terms and Conditions with which the action agency must comply. These RPMs may include observer program coverage.

In 2007, the NMFS Office of Protected Resources developed a regulation requiring vessels fishing in areas in state or Federal waters where sea turtles may be present and interactions likely to occur to carry observers when requested to do so by NMFS [ESA Sec. 222 and 223]. Previous ESA regulations only allowed for limited, temporary monitoring of vessels suspected of sea turtle interactions, usually only after an emergency event, such as a mass sea turtle stranding, or under a Biological Opinion. Consequently, NMFS has had to rely on MMPA and MSA authorities to obtain observer coverage in som fisheries. This approach has not always allowed the agency to monitor fisheries it needed to (e.g., non-Federal MMPA Category III fisheries) or to design monitoring programs to optimize data collection of sea turtle bycatch data. The 2007 regulation has enabled NMFS to learn more about interactions between fishing operations and sea turtles, to evaluate existing measures to reduce sea turtle takes, and to determine whether additional measures to address sea turtle bycatch may be necessary.

Requirements for economic analysis are also included in the ESA. For example, to designate critical habitat, and make revisions thereto, the Secretary is to consider the economic impact [Sec. 4(b)(2)].

NEPA

NEPA requires Federal agencies to consider the interactions of natural and human environments, and the impacts on both systems of any changes due to governmental activities or policies. This consideration is to be done through the use of "a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences .... in planning and in decision-making …." [NEPA Sec. 102(2)(A)] and, further, to “identify and develop methods and procedures, ….., which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations” [NEPA Sec. 102(2)(B)]. In addition, NOAA’s NEPA implementation guidelines require that the environmental impact statement (required under NEPA Sec. 102(2)(C)(i)) must include biological, ecolocal, economic, and social consequences.[1] The

[1] For NOAA’s NEPA implementation guidelines see, NOAA Administrative Order (NAO) 216-6, "Environmental Review Procedures for Implementing the National Environmental Policy Act," May 20, 1999.

observer programs provide some of the information that is required to meet these NEPA requirements.

EO 12866

EO 12866 requires an assessment of all costs and benefits of available regulatory alternatives. Under EO 12866, when choosing among regulatory approaches, agencies should select those approaches that maximize net benefits [EO 12866 Sec. 1(a)]. In addition, EO 12866 states that "Each agency shall base its decisions on the best reasonably obtainable scientific, technical, economic and other information concerning the need for, and consequences of, the intended regulation" [EO 12866 Sec. 1(b)(7)].

This executive order, combined with the MSA national standard on use of best scientific information available, obligate NMFS to seek clearance for the collection of the information necessary to meet decision standards set out in the national policies outlined above. Regardless of what action the Councils and Secretary take with respect to management of Federal fisheries for 2009 and beyond (including no action alternatives), biological and economic information is needed to meet the requirements listed above; and, in many cases, the NMFS observer programs are the only reliable or most effective sources for such information.

RF

Whenever an agency is required to publish general notice of proposed rulemaking for any proposed rule, it is required to prepare an initial regulatory flexibility analysis that describes: (1) the impact of the proposed rule on small entities [Sec. 603(a)] and (2) any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and that minimize any significant economic impact of the proposed rule on small entities [Sec. 603(c)]. Each final regulatory flexibility analysis is required to describe the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes [Sec. 604(a)(5)]. In addition, several Sections of the RFA require Federal agencies to analyze the effects of regulations to determine whether an action will have or has had "a significant economic impact on a substantial number of small entities". For example, “Each year, each agency shall publish in the Federal Register a list of the rules which have a significant economic impact on a substantial number of small entities” [Sec. 610(c)]. Cost and revenue information for the specific activity in question (fish harvesting and processing), as well as some level of general information on the full range of income producing activities in which firms are engaged are necessary to effectively conduct these types of RFA analyses.

Other Information Collections from the Same Universe of Respondents

NMFS and state fishery management agencies collect information that will be used in conjunction with the information that will be provided by this collection. For example, the landed catch and effort data that are collected by the state agencies and the data obtained by oberver programs though direct observations or through nonstandardized oral communication in connection with such direct observations are used with the gear and performance information

provided by this collection to estimate bycatch and total catch. Similarly, the information on the physical and operational characteristics of fishing vessels are used to test for, and as necessary adjust for, any sampling bias for the observed vessels and trips. This is important, for example, when logbook or landings data are used to extrapolate observed bycatch to unobserved portions of the fishery. In addition, observer programs provide an independent data source that can be used to verify the accuracy of information obtained by self reporting programs, such as logbook and landings report programs.

Coordination among NMFS and state information collections for the fisheries is used to consolidate requirements on the respondents to this collection. The Interstate Commissions were created in part to facilitate such coordination.

2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.

How the information will be used

The information collected will be used to: (1) monitor catch and bycatch in Federally managed fisheries; (2) monitor interactions with protected resources (e.g., marine mammals and sea turtles); (3) understand the population status and trends of fish stocks and protected species, as ll as the interactions between them; (4) determine the quantity and distribution of net benefits derived from living marine resources; (5) predict the biological, ecological, and economic impacts of existing management measures and alternative proposed management measures.

Comprehensive catch and bycatch information is an essential component of all stock assessments and is necessary for the development of effective fisheries and protected resource management strategies. At-sea observer programs are the most reliable method of collecting bycatch information. The MSA requires implementation of annual catch limits for all Federally managed fisheries. Bycatch data collected by at-sea observer programs are an essential component in the estimation of total catch because bycatch approaches or exceeds landed catch in some fisheries and is a significant part of the total catch in many other fisheries. Analysis of catch, bycatch, and fishing effort information collected by observers also supports development of and recommendations within Take Reduction Plans, Biological Opinions, and Fishery Management Plans. Observer data are also used to assess the impact of experimental fisheries, monitor the effectiveness of bycatch reduction technologies, and enforce fisheries regulations.

In general, analysis of catch and bycatch, cost, revenue, and employment information for fishing vessels will assist analysts in estimating:

1. Environmental impacts of proposed regulations
2. Net economic value to the nation
3. Economic health of the fisher
4. Effects on business efficiency
5. Community economic impacts

6. Firms' economic dependence on the fishery
7. Economic impacts of proposed regulations, including area closures, gear restrictions, and catch or bycatch restrictions
8. Distribution of economic impacts from proposed regulations and, in particular, the significance of impacts on small businesses
9. Likelihood of bankruptcies
10. Effects on international competitiveness.

The following is a summary of the need for each type of question.

Safety Questions: Safety information is required to ensure that an observer can be safely deployed on a specific fishing vessel or stationed at a specific processing plant and work safely once assigned to a specific vessel or plant.

Other Pre-Deployment/Logistical Questions: Pre-deployment questionnaires are utilized by observer program staff when a vessel is selected to be observed. The responses provide critical information on vessel departure point, return point, and communications (to coordinate observer deployment); planned fishing locations (in order to ensure that appropriate coverage levels are achieved for all areas); and Commercial Fishing Vessel Safety Decal number (Decals are required for all vessels in an observed fishery).

Vessel Characteristics: Informati on vessel characteristic (e.g., vessel name, permit or license number, documentation number, length, year built, hull construction, tonnage, horsepower) is necessary to help identify specific vessels. While much of the information on physical descriptors such as hull type, tonnages, and length are available from other sources, these data are often outdated, missing or conflicting. Such information can be used in stratifying vessels; and, as noted above, vessel characteristics information is used in assessing and adjusting for any bias in the selection of the vessels that are observed.

Ownership: The vessel owner's name and address are collected for contact information. Questions regarding ownership are useful in terms of social interest; however, evaluation of owner participation also plays a role in predicting whether marginal vessels will stay in business. For example, the owner of a vessel with zero or slightly negative net profits may decide to remain in the fishery if the owner is deriving a wage from personally operating a vessel. On the other hand, an owner who hires a skipper may be more likely to choose to exit the fishery under a similar circumstance.

Effort/Gear Descriptors: These questions are useful in helping the analyst describe and quantify effort on the fishing grounds in terms of the types and amounts of gear deployed. This information could be used in developing models of efficient fleet size to support such activities as fleet reduction programs, as well as provide information on the level of capitalization within the various sectors of a fishery. Effort information often is collected through direct observations, which includes obtaining the information from the fishing vessel's logbook. However, if a vessel is not required to maintain logbook that the observer can access (e.g., in state fisheries with MMPA observers), the observer asks questions to obtain that information from the captain/crew. Effort information and gear descriptors are used to estimate and extrapolate catch

and bycatch for unobserved hauls and unobserved portions of the fleet, where coverage levels are less than 100%. Even where coverage levels are 100%, this information is still necessary, as some vessels may be considered n-observable due to safety concerns.

Trip Level Operating Costs: This information is necessary to estimate the net value of participation in the fishery; calculate producer surplus and short-run economic and financial profit measures; assess the change in net benefits caused by proposed management actions; and is used in the Fishery Economic Assessment Model and IMPLAN[2] Model to estimate economic impacts.

Catch/Revenue: As noted above, the MSA requires FMPs to contain a description of the fishery including actual and potential revenues from the fishery. Revenue information, in conjunction with cost information, is necessary to derive net economic value. Additionally, revenue information from all activities can be used to allocate fixed costs between different activities and as part of the assessment of relative dependence on the fishery.

For vessels delivering to motherships, these questions are particularly important because in some fisheries there are no fish ticket records for at-sea landings. Information on revenue from other fisheries is needed because of similar deficiencies in fish ticket records, and the lack of access to confidential information for fisheries in some states.

In addition, if the respondents calculate their net income based on their other answers and the result is out-of-line with their experience, they may stop to consider whether they have answered the preceding questions on costs and revenue correctly and entirely. Further, if respondents provide previously calculated ne income without checking for consistency, or analysts compare the reported values with fish ticket revenue information where available, analysts may derive a result different from the survey responses alerting them to some degree of incompleteness in either the survey or the responses to the questions.

Regional Impact: One assumption generally made in assessing impacts on coastal communities is that all employees live in the coastal area of the vessel's homeport and, consequently, crew share is spent in the vessel's homeport. Similarly, current models assume all impacts occur in the port of landing or in a homeport (for vessels delivering to motherships). This information is particularly important in assigning community impacts for vessels delivering to motherships but is also useful when the vessel is active in multiple ports. While this simplifying assumption was useful in the early development of the models used in fisheries income impact assessments, more recent versions of these models allow analysts to relax this assumption. The information solicited by these questions is necessary to make use of this ability to more accurately estimate the distribution of effects. These questions are intended to address the issue with better quality information that is more evenly distributed across sectors.

[2] The Fishery Economic Assessment odel and IMPLAN® (**IM**pact analysis for **PLAN**ning) are economic impact assessment modeling systems, which allows the user to build economic models to estimate the impacts of economic changes in their states, counties, or communities.

Crew Size: This information is of interest in terms of effect on the fishing community and general community employment. Income-related questions will allow a systematic assessment of the degree to which individuals are engaged and dependent on fishing-related activities.

Information users and purpose and frequency of use

The information will be used by NMFS staff, as well as by others who are authorized to access this confidential information. It will be used for the purposes of developing, implementing, revising, and monitoring fishery management plans and actions that are taken in support of the MSA, MMPA, and ESA. The information will be used on a frequent and ongoing basis in meeting NMFS stewardship responsibilities identified in the MSA, MMPA, ESA, NEPA, other applicable law, and treaties.

Complies with all applicable information quality guidelines

NMFS will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. See response to Question 10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Although the information collected will not be disseminated directly to the public, results may be used in scientific, management, technical or general informational publications. All such uses of this information will be subject to: (1) the quality control measures and pre-dissemination review pursuant to Sec. 515 of Public Law 106-554 (Information Quality Act) and (2) NOAA Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates. Among other things, the NOAA guidelines establish an administrative mechanism allowing affected persons to seek and obtain correction of information that does not comply with OMB or NOAA applicable guidelines

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

Typically, the information is collected during brief conversations between the observer and the captain/crew of the fishing vessel; and the form or list of questions is not given to the captain/crew; instead, it is used by the observer to ensure that the appropriate questions are asked. Therefore, in this case, the electronic submission of responses is not possible. In most cases, the forms or lists of questions are included in the observer manuals. Manuals can be found on the National Observer Program webpage: http://www.st.nmfs.noaa.gov/st4/nop/Observer_training_resources.html.

The major exceptions are the questions observer program staff/contractors ask fishing vessel permit holders/captain in order to plan observer deployments, the questions that are asked to evaluate observer performance, and the reimbursement forms (e.g., for the purpose of reimbursing the captain/owner for observer meals). The first can include questions concerning the logistics of planned fishing trips, vessel safety, vessel call numbers, and means of reaching the vessel at sea in case of emergencies. Often, the potential respondents are mailed a form and

asked to complete it and return it by fax. The reimbursement forms typically are mailed or handed to the vessel captain and returned by mail to the service provider.
In two regional observer programs, NMFS has implemented the ability to download and submit electronic observer evaluations. One observer program places a secured lock box at the main fishing dock where fishermen can deposit their observer evaluation. Three other programs allow electronic submission of the.

Observers typically use paper forms because the technology for electronic data entry at sea is very expensive and not available in all cases. However, NMFS has begun to expand the use of electronic data entry by observers. For example, the Northeast Fishery Observer Program (NEFOP) has begun to record data electronically on rugged laptops or handheld devices such as Toughpads from which data can be transmitted wirelessly. Similarly, the West Coast Groundfish Observer Program (WCGOP) has begun testing handheld devices for use in automatic, electronic data collection. . Currently, each observer in the WCGOP is issued a laptop with the option for offline data entry to expedite data availability.

Non-confidential summaries of the information will often be made available to the public over the internet.

4. <u>Describe efforts to identify duplication</u>.

Federal and State collection programs were reviewed to ensure that the questions covered in this collection request do not duplicate information provided by other collection programs. The economic, gear, safety, and other questions asked by observers were designed to provide types of information that are not available from or similar to the information provided by other collection programs. An extensive consultative process is used by each NMFS observer program to determine if the information is available from another collection program. In most cases, this determination is made through an open public process that includes input from a NMFS Regional Office, a NMFS Fisheries Science Center, a Council (including its Scientific and Statistical Committee and other advisory panels), an Interstate Commission, one or more State fishery management agencies, the fishing industry, environmental organizations, and others interested in or affected by the conservation and management of living marine resources.

5. <u>If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden</u>.

Since most of the respondents are considered small businesses, separate requirements based on size of business have not been developed. The methods used to minimize the burden include: (1) limiting the questions that are asked; (2) asking questions that can be answered readily and that do not require additional recordkeeping costs; (3) having the observer ask the questions at times that are convenient for the captain/crew of the fishing vessel; and (4) using plain, coherent, and unambiguous terminology that is understandable to respondents.

6. <u>Describe the consequences to th Federal program or policy activities if the collection is not conducted or is conducted less frequently</u>.

Fisheries observers are trained biologists who monitor and record catch and bycatch data and collect other biological and economic data from U.S. fishing vessels and processing facilities. Data from observers are used to understand the population status and trends of fish stocks and protected species, as well as the interactions between them. Observer data are necessary for determining levels of bycatch of protected species and non-target fish stocks, which can be a major factor affecting mortality rates and, thus, population status and recovery of protected species. Information on target species, gear types used, fishing vessel locations, etc. are necessary to calculate fishing effort, an important component of bycatch estimation. When these data cannot be collected through direct observation (such as when an observer is off-duty), or when the information is known only to the captain and crew (e.g., target species), questions must occasionally be asked of the captain/crew. This includes questions that are asked in order to: (1) ensure the effectiveness and efficiency of the observer programs and (2) maintain the safety of fisheries observers aboard fishing vessels and at processing plants. To effectively and efficiently meet the NMFS stewardship responsibilities, including those identified in the MSA, MMPA, ESA, and NEPA, NMFS observer programs must continue to collect these data.

Trip level economic data, including cost, revenue, and employment data, are among the data required to monitor and predict the economic effects of specific conservation and management actions. Therefore, the ability of NMFS to design and implement actions that will assist in meeting its stewardship responsibilites for living marine resources and their habitat would be limited severely if observer programs do not continue to collect this information.

The gear, safety, and other noneconomic questions asked by observers are critical for the safety of the observers or are used to make the information gathered by observers through direct observation more useful. Therefore, these questions are required for safe and effective observer programs, without which, some of the key biological and economic information used in meeting the Agency's stewardship responsibilities would not be available.

Most of the requested information is trip specific, can vary by trip, and is used with directly observable or reported trip level data to monitor the biological and economic characteristic of observed fishing trips and to estimate the characteristics of unobserved trips. In some cases, haul-specific target, gear, catch, and effort questions are asked to expand the information for observed hauls to all hauls during a trip. Therefore, if the collection is conducted less frequently, the Agency's ability to effectively monitor the full trip characteristics of observed trips and to estimate the characteristics for unobserved trips would be decreased substantially.

There are no special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

7. <u>Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines</u>.

The collection will be conducted in a manner consistent with OMB Guidelines.

8. Provide information on the PRA Federal Register Notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

A Federal Register Notice published on April 22, 2015 (80 FR 22501) solicited public comment on this collection. No comments were received.

\Comments were also solicited from respondents from two observer programs.

Respondents for the WC California Large-Mesh Drift Gillnet Fishery stated “no comments”.

During a visit with the Alaska Fishing Vessel Owners Association at Fisherman's Terminal: there were four fishing vessel captains there, and only one responded that he had filled out the comment form and that it was “fine”. Also, another captain was reached by telephone. He felt that the estimate of 30 minutes was reasonable for the form. He commented that it was straight forward and simple to complete. He had no further comments on the form. Note that other forms are completed by the observers, from the vessel logbooks.

A number of people, both within agencies and the industry were consulted on the types of data elements necessary and available, recordkeeping disclosures, confidentiality of the data and timing of data collection exercises.

Each observer program included an extensive consultative process to determine: (1) whether the information is available from another collection program; (2) whether an observer program is the appropriate data collection mechanism; (3) the appropriate frequency of collection; (4) whether the instructions and recordkeeping requirements were clear: (5) the appropriate disclosure rules and or reporting format; and (6) what data elements should be included in this collection. In most cases, these determinations were made through an open public process that included input from a NMFS Regional Office, a NMFS Fisheries Science Center, a Council (including its Scientific and Statistical Committee and other advisory panels), an Interstate Commission, one or more State fishery management agencies, the fishing industry, environmental organizations, and others interested in or affected by the conservation and management of living marine resources. That consultative process typically is also used to review each collection program and suggest improvements to it.

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

No payments or gifts are made.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agencypolicy.

Information obtained through this collection for fisheries conservation and management will be kept confidential as required under Section 402(b) of the MSA (18 U.S.C. 1881a(b)) and regulations at 50 C.F.R. Part 600, Subpart E. Information provided through this collection for monitoring incidental takes of marine mammals will be kept confidential as required under Section 118(d)(8) of the MMPA (16 U.S.C. 1387(d)(8)) regulations at 50 C.F.R. Part 229, Subpart A and NOAA Administrative Order 216-100, Confidentiality of Fisheries Statistics.

Observers are trained to provide this assurance of confidentiality as part of their trip protocol. NMFS has recently published a proposed rule on confidentiality. Once final guidance is provided, NMFS will draft a standard letter and provide to observers that clarifies the confidentiality requirements.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

There are no questions of a sensitive nature.

12. Provide an estimate in hours of the burden of the collection of information.

The estimates are of the average annual buren hours that would occur in the next three years (approximately December 2015 - November 2018) under the current and planned collection of each NMFS observer program for the following six types of information collections: (1 standardized questions of fishing vessel captains/crew or fish processing plant managers/staff; (2) questions asked by observer program staff/contractors to plan observer deployments; (3) forms that are completed by observers and that fishing vessel captains are asked to review and sign; (4) questionnaires to evaluate observer performance; (5) a form to certify that a fisherman is the permit holder when requesting observer data from the observer on the vessel; and (6) information on reimbursement forms.

Some questions (e.g., target species for a set and catch forsets) are set-specific and asked several times during a trip. Some questions are asked once per trip or deployment. Other questions are asked only on trips in which the observer cannot collect the information through direct observations or through nonstandardized oral communication in connection with such direct observations. **There are 12,247 active vessels and 71 processing plants (unduplicated respondents) in observer programs.** Planned observed vessels and processing plants: 3,699. Planned observed trips: 20,377 (19,774 based on estimated response rate per observer program). Total hours based on 100% response rate: 28,250 hours; based on estimated response rates, 27,238.

Table 1. Average annual burden estimates for all six NMFS Observer Program, 2012-2015.

	Alaska		**Northeast**		**Northwest**		
	NPGHOP	**AMMOP**	**NEFOP**	**ASM**	**ASHOP**	**WCGOP Limited-Entry Sablefish-Endorsed Fixed Gear** [3] [4]	**WCGOP Trawl Catch Shares**
Active vessels in fisheries with a NMFS observer program	1,270	480	1,450	740	15	812	107
Observed vessels	417	36	1,338	700	15	238	107
Planned observed trips	5,883 (5,830)*	250 (238)	5,550 (5,273)	4,000 (,3800)	70 (69)	1000 (990)	2200 (2,178)
Fish processing plants in fisheries with a NMFS observer program	71						
Observed fish processing plants	6 (6)						
Other fishprocessing plants contacted	0						
Burden minutes/trip	55	15	112	112	53	53	53
Estimated burden hours with 100% response	5,398	63	10,360	7,467	62	883	1943
Response rate	99%	95%	95%	95%	99%	99%	99%
Estimated burden hours adjusted by response rate	5,344	60	9,843	7,093	61	874	1924

*Adjusted per response rate shown

NPGHOP: North Pacific Groundfish and Halibut Observer Program
AMMOP: Alaska Marine Mammal Observer program
NEFOP: Northeast Fisheries Observer Program
ASM: At-Sea Monitors (Northeast)
ASHOP: At-Sea Hake Observer Program (Northwest)
WCGOP: West Coast Groundfish Observer Program

[3] unique vessels observed
[4] number of permits (some vessels have multiple permits and some permits are associated with the fisher, not the vessel); there are 1,287 permits that are in the observed fisheries but are excluded because of inactivity, very small landing amounts, etc.

Table 1. Continued.

	Pacific Islands	Southeast				Southwest	All NMFS Observer Programs
	PIROP	**SESFOP**	**SEPOP**	**GOM-RFSOP**	**Snapper-Grouper**	**SWROP**	
Active vessels in fisheries with a NMFS observer program	194	97	80	3,577	2,339	86	12,247
Observed vessels	142	45	62	164	349	86	3,699
Planned observed trips	386 (367) *	120 (120)	150 (150)	244 (244)	349 (349)	175 (166)	20,377 (19,774)*
Fish processing plants in fisheries with a NMFS observer program							71
Observed fish processing plants							6
Other fish processing plants contacted							0
Burden minutes/ trip	81	70	80	105	105	60	NA
Estimated burden hours with 100% response	521	140	200	427	611	175	28,250
Response rate	95%	100%	100%	100%	100%	95%	NA
Estimated burden hours adjusted by response rate	495	140	200	427	611	166	27,238

*Adjusted per response rate shown

PIROP: Pacific Islands Region Observer Program
SESFOP: Southeast Shark Fishery Observer Program
SEPOP: Southeast Pelagic Observer Program
GOMRFSOP: Gulf of Mexico Reef Fish and Shrimp Observer Program
Snapper-Grouper: Gulf of Mexico Snapper-Grouper (currently unfunded)
SWROP: Southwest Region Observer Program

The estimated burden minutes per trip are of the amount of time on average for a trip that is actually taken up by asking questions in this collection and responding to them. The burden hours for processing plants are included in the burden per trip estimates. Alaska is the only Region in which observers are deployed at processing plants. However, in that and other Regions, an observer who has been deployed on a fishing vessel may request minimal information from a processing plant, such as the fishticket number for

a fishticket (landings report) for the trip that was just observed. For the purpose of this collection, the

term “fish processing plant” includes fish buyers/dealers.

13. <u>Provide an estimate of the total annual cost burden to the respondents or record-keepers resulting from the collection (excluding the value of the burden hours in Question 12 above)</u>.

<u>Capital and Start-Up Costs</u>

There are no start-up, capital, or maintenance costs associated with this collection. No new or specialized equipment is needed to respond to this collection. Most of the information is collected by observers directly from fishing vessel captains/crews through one or more brief conversation during a fishing trip when it is convenient for the captain/crew. Gathering and maintaining the information in this collection is part of the customary and usual business practices of fishing vessel captains/crews. This is also true for the limited information obtained from processing plant managers/staff, as well as the pre-deployment information obtained from fishing vessel operators or permit holders.

<u>Operations and Maintenance Costs</u>

Excluding labor costs, the total operations and maintenance costs will be limited to approximately $1,161, which is the cost of mailing or faxing the pre-deployment information for about 509 fishing trips (rest by local calls) and reimbursement forms to NMFS or the service providers. The decreased cost is primarily due to a drop in observer coverage.

14. <u>Provide estimates of annualized cost to the Federal government</u>.
See the Observer Costs table for total costs of $69,242,169, including NMFS staff costs, which are also broken out below

	Salary	Yearly Hours	Average hrly rate
NE Manager	$147,232	2080	$70.78
SE Manager	$151,836	2080	$73.00
Pelagic Manager	$86,072	2080	$41.38
Bottom LL Manager	$126,949	2080	$61.03
Drift G Manager	$101,859	2080	$48.97
WC NW Manager	$108,108	2080	$51.98
SW Manager	$100,632	2080	$48.38
PI Manager	$137,454	2080	$66.08
AK Manager	$157,100	2080	$75.53
TOTAL	**$1,117,242**	**18720**	**$59.68**
AVERAGE	$124,138	2080	$59.68

Observer Program costs by regional observer program for 2013 (Source: National Observer Program)

	ALASKA	NORTHWEST	SOUTHWEST	PACIFIC ISLANDS	NORTHEAST	SOUTHEAST
CONGRESSIONAL APPROPRIATIONS	$7,900,845	$10,291,595	$899,357	$5,817,975	$17,884,338	$9,170,910
INDUSTRY	$13,642,543	$1,619,556	$0	$0	$2,015,000	$0
TOTAL	$21,543,388	$11,911,151	$899,357	$5,817,975	$19,899,338	$9,170,910

Total of this table: $69,242,169.

Note: 2014 costs not yet available.

15. Explain the reasons for any program changes or adjustments.

Adjustments: There was a decrease of 270 active vessels, from 12,517 to 12,247, due to decrease in size of more than one fleet; this is consistent with rationalization of the U.S. fishing fleet. Planned observed vessels have decreased from 4,490 to 3,699. However, probably due to cumulative small changes in sample size, estimated responses increased by 478, from 19,296 to 19,774. Estimated hours increased by 455, from 26,783 to 27,238, with an estimated total compliance rate of 96%, compared to the previous 97%.

16. For collections whose results will be published, outline the plans for tabulation and publication.

The information collected is not expected to be disseminated directly to the public; however, results may be used in scientific, management, technical, or general informational publications. All such uses will be subject to the quality control measures and pre-dissemination review pursuant to: (1) Sec. 515 of Public Law 106-554 (Information Quality Act); (2) NOAA Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates; and (3) the previously mentioned information confidentiality requirements of the MSA and MMPA.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

Not Applicable.

18. Explain each exception to the certification statement.

Not Applicable.

SUPPORTING STATEMENT
NMFS OBSERVER PROGRAMS' INFORMATION THAT CAN BE GATHERED ONLY THROUGH QUESTIONS
OMB CONTROL NO. 0648-0593

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.

The information will be collected for a fishing vessel from its Federal permit holder, captain, or crew; or it will be collected for a fish processing plant from its manager or staff. Therefore, fishing vessels and processing plants are the entities for which information will be collected. The potential respondent universe is the set of fishing vessels and fish processing plants that operate in the fisheries with NMFS observer programs. It is estimated that on average there will be approximately 12,247 active fishing vessels and 900 fish processing plants in such fisheries in 2015-2018. From this universe, the sample sizes are expected to be 3,699 active fishing vessels and about 71 processing plants; however, observers are expected to be deployed at only 6 processing plants, all of which are in Alaska. Other fish processing plants in the sample will be contacted and on average asked less than one question per trip for the fishing vessels delivering to the plant. Some questions are asked once a trip, some are asked several times during a trip to collect haul/set specific information, and others are only asked on trips for which the information cannot be collected readily through direct observation or through nonstandardized oral communication in connection with such direct observations. For the purpose of this collection, all the information collected for or associated with a single trip or deployment to a fish processing plant is considered one response. For example, the pre-deployment information, the information provided to an observer, the information in a completed observer evaluation survey, and any reimbursement and data release information provided for a specific trip is considered to be one response. Therefore, the expected number of responses, 19,774 is the sum of the number of observed trips and the number of observer deployments or data collections from fish processing plants. Similarly, some information is expected to be provided for each observed vessel (i.e., each vessel with an observer for one or more trips) and for each observed or contacted fish processing plant; therefore the total number of respondents is expected to be 3,706 (3,699 + 6).

2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.

Statistical Methodology for Stratification and Sample Selection

Fisheries may occur year-round, or may be seasonal. Before an observer program is implemented for a fishery, coverage levels and sampling methods are determined. Resources generally do not allow the deployment of observers on all fishing vessels and all trips in an observed fishery. Because only a portion of the vessels or trips is observed, observer programs have developed methods to achieve a representative sample. Due to variations in fisheries (e.g. gear types used, length of fishing trip, area of fishery), the sampling methods vary between programs. ***Specific details by fishery are presented in a supplementary document, Statistical Sampling Methods. This document is itself supplemented by documents describing sampling designs in more detail, for the Pacific Islands Region, Alaska Region, West Coast Groundfish Observer Program, and the Northeast Observer Programs. There is currently no such document for the Southwest Fisheries Science Center or for Southeast Observer Programs. These documents were developed independently, not in response to an Observer Program requirement.***

In general, programs identify primary, secondary, and tertiary sampling units (e.g. vessel, trip, and haul/set) and establish sampling frames to meet coverage requirements. Coverage levels for fisheries may be specified by regulation, determined by available resources and program costs, or set to meet certain precision targets (e.g. 30% coefficient of variation (CV) for protected species).

The vessel sampling frame is often derived from a list of active fishing vessels or fishing permits. Programs may stratify the sample by area, gear type, calendar quarter, and/or other variables. Vessel selection methods include census; stratified random sampling (with or without replacement); systematic random sampling, or ad hoc sampling, including at times opportunistic sampling. Once a vessel has been selected for coverage, an observer is assigned to a trip or series of trips (e.g. if trips are one day in length the observer will cover multiple trips). Observers stay with the vessel for the entire trip. Sampling may occur for all hauls/sets, or observers may use sampling schemes (e.g. a random breaks table) to determine which hauls/sets to sample or sub-sample.

The Estimation Procedures

Some types of information, such as the safety, pre-deployment, and gear or vessel characteristics information, are not collected for statistical estimation purposes, other than perhaps for stratification purposes, but rather to provide vessel, haul, or trip-specific information. For example, the safety information is used to ensure that a vessel meets observer program's safety standards before an observer is deployed to or embarks on a specific vessel. Similarly, pre-

deployment information (e.g. the expected date, time, and location of a vessel's departure) is used to ensure that observers can be effectively and efficiently deployed.

Other information collected from the observed vessels and trips will be used to estimate biological variables (e.g., catch and bycatch) and economic variables (e.g., variable operating cost and employment) for the fishery as a whole. In this case, the estimation process relies on the stratification of observed vessels and trips, as well as unobserved vessel and trips, based on physical and operational characteristics of both sets of vessels and trips. Often ratio estimators are used and applied by stratum. For example, the ratio of discarded catch to landed catch for observed trips and estimates of landings for all trips from landings reports is often used to estimate the iscarded catch associated with all landings. Other estimates are based on multivariate functional relationships that are estimated based on data for observed vessel and trips and then applied to other vessels and trips. These are but two generic methods that make use of the observer information for estimation purposes. The methods, which can vary by program, circumstances (e.g. the availability of auxiliary information for all trips and vessels), and the variable(s) to be estimated, typically are subject to external review. That review can include a Council's Scientific and Statistical Committee or the review that is required for a paper to be accepted for publication.

<u>The Degree of Accuracy Needed For the Purpose Described In the Justification</u>

The desired degree of accuracy, and corresponding desired sample size and response rate, depend upon the application for which the data are being used. A basic application of the survey data will be the inference of unobserved population or sub-population mean values from the observed sample mean values. The expected sample sizes and response rates, which are limited by a variety of factors, will result in estimates that are sufficiently accurate for many purposes. For example, given a population of 1,450 vessels in the Federally managed Northeast fisheries covered by the Northeast Fisheries Observer Program and assuming a margin of error of 5% and a confidence level of 90%, the minimum sample size is 229 vessels. If the confidence levels are increased to 95% and 99%, minimum sample sizes increase to 304 and 456, respectively. The largest of these minimum sample size scenarios (a sample size of 456) can be reached with a response rate of about 41.5% of the 1,100 fishing vessels in the Federally managed fisheries that are expected to be observed on average in 2015-2018. The other 238 fishing vessels that will be observed will be in state managed fisheries.

Two reasons can be identified for desiring higher response rates than those needed to support inference of population means from sample means. First, data from this survey will be used to develop a variety of economic models covering applications such as fleet efficiency and fishery participation. In these applications, error will arise not only from how well the data used for model development represents the population, but also from model specification and estimation. Because it is not possible to completely avoid specification and estimation error in model development, there is good reason to desire a higher response rate and higher degree of accuracy in the data collection process. Second, future applications of the data may require further disaggregating the population into smaller groups according to factors such as state of operation, gear type, or vessel size. Identification of all such future disaggregated data needs is not possible

at the present time. A higher response and higher degree of accuracy in the current data collection process will facilitate such future population disaggregation.

Any Unusual Problems Requiring Specialized Sampling Procedures

There are multiple objectives for observer programs and both the nature of and priority for specific objectives can differ by observer program or by fishery. Meeting the diverse objective of a specific observer program can require specialized sampling procedures. Similarly, the objective of providing useful estimates of the bycatch of endangered species, where such bycatch consists of rare events, can require specialized sampling procedures. The specifics of the specialized sampling procedures used in the various NMFS observer programs can be found in Attachment B.

Any Use of Periodic (Less Frequent Than Annual) Data Collection Cycles To Reduce Burden
The observer information is used to estimate variables that can change substantially by area, season, and year. Therefore, the objectives for collecting observer data cannot be met by less frequent data collection.

3. Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses. For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.

Methods Used To Maximize Response Rates

A number of methods have been used to maximize response rates. First, most of the information will be collected directly by an observer on the fishing vessel at a time that it is convenient for the captain/crew. Second, a relatively small number of questions will be asked at any one time. Third, the observers are trained to help the captain/crew understand the purpose and need of the data collection and how data will be kept confidential. Fourth, respondents typically are asked to provide only information that is readily available to them and maintained for their own purposes. Fifth, extensive outreach activities will also help the response rate. Informing the fishing industry about the purpose and need for the collection will be important to the success of the survey. Typically, outreach will occur on a number of levels: (1) news articles in trade magazines such as Commercial Fisheries News and National Fisherman and handouts made available at Council meetings and other fishing industry meetings will describe the purpose and need of the collection (2) similar information will be presented at fishing industry meetings; (3) on board observer interactions with fishermen; (4) a summary of data received in the previous collection will be made available to the target population; and (5) letters to permit holders are used to inform them of a new observer requirement or changes to the existing programs. Sixth, while the collection of economic information is voluntary for some observer programs, being associated with the observer program will increase the amount of attention it gets, and thus improve response rates over, for example, either an interview conducted by someone not associated with the fishery or a separate mail survey. Seventh, plain, coherent, and unambiguous terminology that is understandable to respondents is used. Eighth, responding to some of the

questions (e.g., the safety questions) is mandatory for all programs and responding to all of the questions is mandatory for some observer programs.

Strategy to Address Non-Response

A considerable amount of information is currently available about the physical and operational characteristics for the fishing vessels in the collection population. This information, which is available from other collections, will be used to compare that population with respondents, and to make any adjustments for systematic bias in survey response. Those other collections include: (1) landings reports or vessel logbook programs that provide individual vessel landing information, in both pounds landed and value of landings, by species, port, and gear, and often trip level effort data for all vessels in the survey population; (2) vessel monitoring systems (VMS) that provide additional operational characteristics; and (3) vessel permit systems and state and Coast Guard vessel registrations programs that provide information on the physical characteristics (e.g., gross tonnage, length, engine power, hull material, and year built) of individual fishing vessels. As a result, it is possible to compare respondents and non-respondents with regard to operational characteristics (e.g., seasonal patterns, species landed, and location of landings) and physical characteristics.

Adequacy of Accuracy and Reliability of Information for Intended Uses

NMFS needs to measure the biological and economic performance of Federally managed fisheries and to conduct effective observer programs in order to meet legal and regulatory requirements, support fisheries management decision making, and undertake biological and economic research. For many fisheries, observer programs provide the best source of some of the biological and economic information required for those purposes. The economic data are critical for constructing key economic performance measures such as profitability, capacity utilization, efficiency, productivity, and economic impacts. The data gathered and performance measures constructed will be used to address a wide range of issues. While the data will be used to comply with legal and regulatory requirements, these requirements do not specify a level of data accuracy. Minimum target response sizes for each population stratum are based on the objective of having a sample mean within 15% of the population mean at the 95% confidence level. It is believed that this provides a sufficient level of precision for inference of population means from sample means. As explained in the response to question 2, even greater precision is highly desirable for other anticipated applications of the data.

Due to the methods that have been used to maximize response rates and to address non-response bias, the collections have in the past and are expected to continue to yield "reliable" data that can be generalized to the universe studied.

4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections.

No pilot surveys will be necessary. These are not new collection programs and extensive efforts were undertaken both to develop this collection and to improve it over time.

5. Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

The required information is provided below by Observer Program.

National Observer Program

Jane DiCosimo
Program Manager
Office of Science and Technology
1315 East-West Highway
Silver Spring, MD 20910
301-427-8109
Jane.DiCosimo@noaa.gov

Alaska- North Pacific Groundfish and Halibut Observer Program

Chris Rilling
Director, Fisheries Monitoring and Analysis (FMA) Division,
Alaska Fisheries Science Center
7600 Sand Point Way N.E., Building 4
Seattle, Washington 98115
206-526-4194
Chris.Rilling@noaa.gov

Alaska Marine Mammal Observer Program

Bridget Mansfield
Program Coordinator
Alaska Regional Office
PO Box 21668
Juneau, Alaska 99802-1668
907-586-7642
bridget.mansfield@noaa.gov

Observer Providers certified to provide groundfish and marine mammal observers in Alaska. These companies employ the observers who collect information for the Agency.

Alaskan Observers, Inc.
130 Nickerson, Suite 206
Seattle, WA 98109

A.I.S. Inc.

4516 Union Bay Place NE
Seattle, WA 98105

MRAG Americas Inc.
1810 Shadetree Circle
Anchorage, AK 99502

Saltwater, Inc.
733 N. Street
Anchorage, AK 99501

TechSea International
2303 W. Commodore Way
Suite 306
Seattle, WA 98199

Further information on the Observer Providers is available at: http://www.afsc.noaa.gov/FMA/observer_providers.htm

West Coast Groundfish Observer Program

Jon McVeigh
Program Manager
Northwest Fisheries Science Center (NWFSC)
2725 Montlake Boulevard East
Seattle, WA 98112
(206) 302-2423
Jon.McVeigh@noaa.gov

One observer provider is contracted to provide federally funded observers:

Alaskan Observers, Inc.
130 Nickerson, Suite 206
Seattle, WA 98109

Three observer provider companies are currently permitted to provide observers in the industry-funded Groundfish Catch Share fishery:

Alaskan Observers, Inc.
130 Nickerson, Suite 206
Seattle, WA 98109

Saltwater, Inc.
733 N. Street
Anchorage, AK 99501

TechSea International
2303 W. Commodore Way
Suite 306
Seattle, WA 98199

Pacific Islands Observer Program

John Kelly
Program Manager
Pacific Islands Regional Office (PIRO)
NOAA Inouye Regional Center (IRC)
1845 Wasp Blvd., Building 176
Honolulu, HI 96818
808- 725-5100
john.d.kelly@noaa.gov

Observers are sub-contracted through a contractor that works with the Region. That contractor
Saltwater, Inc.
733 N. Street
Anchorage, AK 99501
(907) 276-3241

Southeast Pelagic Observer Program

Kenneth Keene
Observer Program Coordinator
Southeast Fisheries Science Center (SEFSC)
Miami Lab
75 Virginia Beach Drive
Miami, FL 33149
305-361-4275
Kenneth.Keene@noaa.gov

Chad Lefferson,
Project Manager
Riverside Technology Inc.
228-549-1662
chad.lefferson@noaa.gov

Southeast Shark Bottom Longline and Coastal Gillnet Observer Program

John Carlson
Program Manager
Southeast Fisheries Science Center (SEFSC)
Panama City Lab
3500 Delwood Beach Road

Panama City, FL 32408
305-361-4484
850-234-6541 ext. 221
john.carlson@noaa.gov

Chad Lefferson,
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228-549-1662
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SE Gulf of Mexico Reef Fish and Shrimp Observer Program/Snapper Grouper

Elizabeth Scott- Denton
Program Manager
Southeast Fisheries Science Center (SEFSC)
Galveston Laboratory
4700 Avenue U
Galveston, TX 77551
409-766-3571
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James Nance,
SEFSC- Galveston Laboratory (PI)
Southeast Fisheries Science Center (SEFSC)
Galveston Laboratory, Director
4700 Avenue U
Galveston, TX 77551
409-766-3507
james.m.nance@noaa.gov

Chad Lefferson,
Project Manager
Riverside Technology Inc.
228-549-1662
chad.lefferson@noaa.gov

West Coast Region Observer Program

Lyle Enriquez
Program Manager
West Coast Regional Office (WCRO)
501 West Ocean Blvd, #4200
Long Beach, CA 90802 4213
562-980-4025
Lyle.Enriquez@noaa.gov

Observer Contractor:

Frank Orth and Associates
4201 Long Beach Blvd, #315
Long Beach, CA 90807
Phone: 562-427-1822

Northeast Fisheries Observer Program

Amy Martins
Program Manager
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543
508-495-2266
Amy.Martins@noaa.gov

Northeast Fisheries Observer Contractor:

MRAG Americas
10051 5th St. N, Suite 105
St. Petersburg, FL 33702
At-Sea Monitoring Observer Contractors:

A.I.S., Inc
89 N. Water Street,
New Bedford, MA 02741

East West Technical Services LLC
86 Mumford Road,
Narragansett, RI 02882

MRAG Americas
10051 5th St. N, Suite 105
St. Petersburg, FL 33702

Industry Funded At-Sea Monitoring Observer Contractors

A.I.S., Inc
89 N. Water Street,
New Bedford, MA 02741

East West Technical Services LLC
86 Mumford Road,
Narragansett, RI 02882

MRAG Americas
10051 5th St. N, Suite 105
St. Petersburg, FL 33702

Fathom Research, LLC
1213 Purchase Street
New Bedford, MA 02740

ACD USA Ltd
4 Parker Street, 2nd Floor
Gloucester, MA 01930

Industry Funded Scallop Observer Contractors

A.I.S., Inc
89 N. Water Street,
New Bedford, MA 02741

East West Technical Services LLC
86 Mumford Road,
Narragansett, RI 02882

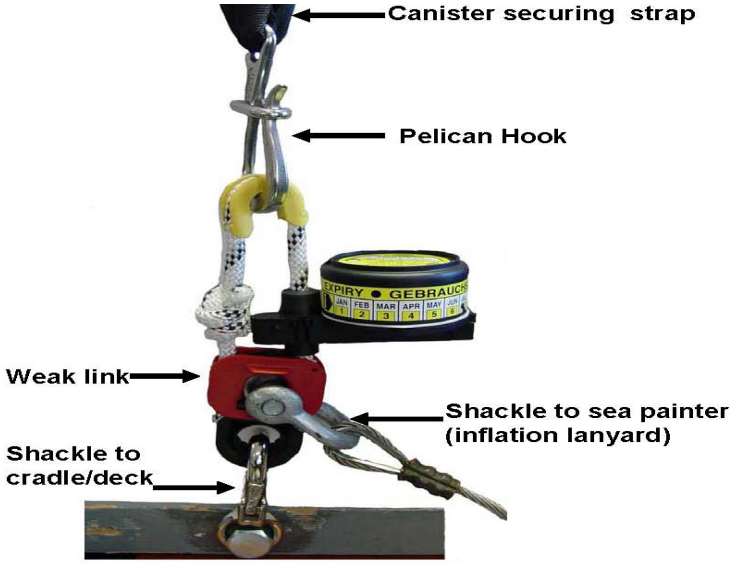
Fathom Research, LLC
1213 Purchase Street
Suite 315
New Bedford, MA 02740

Vessel Safety Checklist

VESSEL NAME: _____ **VESSEL PERMIT:**_____

Ensure the USCG Commercial Fishing Vessel Safety decal is not expired based on the information noted on the face of the decal.

Is the decal valid? **Y N**



Note: Some vessels have their rafts in a float free cradle - this is an approved cradling system, so long as the painter line is properly attached to a weak link.

Is hydrostatic release installed correctly? **Y N**

SURVIVAL CRAFT: Pg 10

Number of:_____

Total capacity:_____

# of crew & observer/s on board_____

Sufficient capacity? **Y N**

Survival craft(s) stowed correctly? Float free or otherwise in accordance with the Federal Requirements for Commercial Fishing Industry Vessels (page 13) **Y N**

Service Due decal exp. date:____/____ (expires on date displayed-inflatables only)

Hydrostatic release exp. date:___/_____ (expires on date displayed)

Your survival craft assignment: _____

Enter information for all additional survival craft in the comments section.

EPIRB *(When Required): Pg 17 Y N

Location(s):_____

Battery exp. date: _____ (expires on date displayed)

Hydrostatic release expiration date (cat. 1 only):____/____ (expires on date displayed)

Located in a Coast Guard approved location?: **Y N**

NOAA Registration Valid? **Y N**

Exp. date: _____ (expires on date displayed)

Registered to this vessel (name of vessel displayed): **Y N**

Alphanumeric code on decal matches code on EPIRB: **Y N**

Signal tested (or asked to see station log in wheelhouse for most recent test. Signal should be tested monthly): **Y N**

*Visual inspection of EPIRB only. Leave all testing/handling to crew

IMMERSION SUIT/PFDS: Pg 6

Available for everyone on board? **Y N**

Location(s):_____

FIRE EXTINGUISHERS: Pg 19

Extinguisher(s) found in every main area/corridor? Y N

Extinguishers in "good and serviceable condition" (gauge in the green, low amounts of rust, canister in good condition, unobstructed, hoses attached, service tags available)? Y N

DISTRESS SIGNALS: Pg 16

(ask captain for assistance)

Location(s):_____

Expiration dates checked? Y N

(expires on date displayed)

If checked, number of flares:_____

THROWABLE FLOTATION DEVICES: Pg 8

Number of flotation devices appropriate for vessel size? **Y N**

Number of: Rings_____/Slings_____

Easily accessible?: Y N

Name of vessel displayed on each? Y N

Location(s):_____

ADDITIONAL SAFETY CHECKS:

Watertight doors (when required)- do they close properly? Y N

Hatches/passageways - are they unobstructed? Y N

Discussed safe places to work on deck and in factory with captain/crew? Y N

Discussed refrigerant leak procedures? Y N

Type of refrigerant used_____

Discussed reporting/identifying inoperative alarm/fire systems? Y N

Did you hear the general alarm? Y N

Where will you go during emergencies:

_____

Does the vessel maintain watch at all times while under way? Y N

If no, was the captain, your contractor, and FMA informed? Y N

FIRST AID MATERIALS: **Pg 24**

Location(s):_____

Is there an individual trained in CPR/First Aid on board? Y N

Who?:_____

Radios: **Pg 26**

How many SSB and VHF radios?: _____ / _____

Are emergency call instructions posted? Y N

Were procedures for making an emergency call discussed? Y N

Did you review the information on the Station Bill? Y N

SAFETY ORIENTATION: **Pg 29**

Did you complete drills upon embarking the vessel? Y N

Did the captain use this safety checklist to complete the required vessel safety orientation? Y N

Did the vessel conduct a safety orientation? Y N

Who gave the orientation? _____

Detail what was covered below

_____

_____

EMERGENCY DRILLS AND DATE(S) CONDUCTED: **Pg 29**

Fire_____

Abandon Ship _____

Man Overboard _____

Vessel Flooding/stabilization_____

General alarm activation _____

Donning immersion suits _____

Radio/visual distress signals _____

Were the drills hands-on involving actual gear? Y N

Did you participate in the drills? Y N

COMMENTS (ALL "N" RESPONSES REQUIRE A COMMENT):

_____

_____

_____

_____

_____

_____

_____

OBSERVER PERSONAL PROTECTIVE EQUIPMENT:

Personal Locator Beacon? (UIN:_____**)** **Y N**

NOAA Registration Decal Expiration Date:_____

Immersion Suit with Strobe Light and Battery? **Y N**

Serial #:_____

Personal Flotation Device with Strobe Light and Battery? **Y N**

Observer Name: _____ Cruise #: _____

Observer Signature: _____ Date: _____

Captain Name: _____

Captain Signature (optional): _____ Date: _____

*Did the vessel request a copy of the Checklist? Y N *If so, were you able to supply a copy? Y N

Blue indicates "no go" items!

Report of Marine Pollution from Commercial Fishing Vessels

At a minimum, provide information for the fields that are underlined.

General Information

Name of vessel	**Permit Number**	**Name of Vessel Captain**
Date of Incident	**Location (Lat/Long) of incident**	**Name of NMFS Observer**

Type of Discharge

Oil/Petroleum Product: *Be as specific as possible, use the comments box to explain circumstances, attach extra pages, or write on the back of this form, if necessary.*

What did the discharge look like? Circle one and describe below	Sheen	Sludge	Emulsion	Discoloration
Size of Sheen (ft X ft)			Amount if known (gallons):	
Type of Oil: Circle One	Diesel	Lube Oil	Hydraulic Oil	Other (explain)

Source of Oil? Please explain. i.e. broken hydraulic line, engine leak, etc.

Path of Discharge: Explain route of discharge from origin to water, i.e. Bilge pump, scupper etc.

Plastics: *Be as specific as possible, use the comments box to explain circumstances, attach extra pages, or write on the back of this form, if necessary. Any plastic discharge is a violation*

Type and amount of Plastic: i.e. 20 ft hose, 3 trash bags, one set of rain gear etc.

HAZMAT: *Some chemicals can be discharged if below a certain amount (reportable quantity). For our purposes, report anything that seems wrong to you. Be as specific as possible.*

Type of HAZMAT: Provide chemical name. i.e. ammonia leak, Ask skipper, engineer if necessary.

Amount: Either in gallons if liquid or pounds if a solid. Estimate when necessary.

Comments: Use reverse side if necessary.

Sample Station Inspections and Inspection Reports

Vessels required by regulation to have an observer sampling station or motion compensated platform scale must have those items certified. Observer sampling stations are certified by Fisheries Analysis and Monitoring Division (FMA) staff and motion compensated platform scales are certified by NMFS Regional Office staff. Certification is good for one year from the date the observer sampling station or motion compensated scale was approved.

Observer Sampling Station Certification Verification

Request an Observer Sampling Station Inspection Report from the vessel. A faxed copy and original inspection report was sent to each vessel's home office following certification and the vessel should be able to obtain a copy. Notify your inseason advisor if the vessel does not have a copy onboard. Document any discrepancies between the inspection report and your verification on the Observer Sample Station Verification Checklist.

Before you complete your inspection of the sampling station to verify that all requirements are met (table of acceptable area and height, adequate work space, etc.), make sure the station is completely set up. Many vessels store their motion compensated platform scales when they are not participating in a fishery that requires one or disassemble the observer sampling station. If possible, test the platform scale before your vessel embarks to make sure it passes the daily test (see "Platform Scale Testing" in your Alaska manual). The scale should be turned on at least 1/2 hour prior to testing so it can warm up. If the scale is not warmed up the display weight may drift.

Mothership Vessel Name _____

Haul #	Catcher Vessel Name	Flowscale End - Start = Flowscale Weight (kg)	[A] + Large Items Not Weighed on Flowscale (kg)	CV discard estimate (lb)	CV discards (kg) = [C] x 0.4536 kg/lb	MS discards (kg)	**record on OHF** **Estimated Discard Weight (kg) = [D] + [E]**	**record on OHF** **Observer Catch Estimate (kg) = [B] + [D]**	% of catch delivered = ([B] / [F]) x 100
		[A]	**[B]**	**[C]**	**[D]**	**[E]**		**[F]**	

A-SHOP Observer Logbook

Name _____ Badge # _____

Cruise # _____ Contractor _____

This logbook is to be used to record all details of your deployment. Take a few minutes to look at each section to familiarize yourself with the format. Each section has instructions on what information to include and how to record it. Please refer to your sampling manual for more detailed instructions, such as documenting a suspected violation.

In order to meet the expectations of the Observer Program for a successful deployment, the following required sections of the logbook must be fully completed:

- *Vessel safety* checklist for each vessel
- Documentation of all *sampling techniques* and changes or difficulties with those techniques
- All suspected *violations*
- Any incidents of vessel interaction with *seabirds or marine mammals*
- All total *catch calculations*
- An entry in the *Daily Notes* section for each day of your deployment, including all non-fishing days and days between vessel assignments
- *Sample station inspection* checklist
- *MCP scale daily test* for each day the MCP scale is used

Always date your entries so that the chronology of events can be traced in each section.

Your logbook is a valuable document. Please make the effort to maintain it, and keep it in a safe place.

All TEXT entries must be made in ink! Calculations may be made in pencil.

Complete the following information in chronological order for each of the vessels you are assigned to during this deployment:

1.Vessel Name and Vessel Permit:_____
Captain Name:_____From:_____To:_____
Captain Name:_____From:_____To:_____
Captain Name:_____From:_____To:_____

Observer Name: _____ Lead _____Second _____
Cruise #:_____From:_____To:_____
Observer Name: _____ Lead _____Second _____
Cruise #:_____From:_____To:_____
Observer Name: _____ Lead _____Second _____
Cruise #:_____From:_____To:_____

2.Vessel Name and Vessel Permit:_____
Captain Name:_____From:_____To:_____
Captain Name:_____From:_____To:_____
Captain Name:_____From:_____To:_____

DATA RELEASE FORM FOR COPIES OF TRIPS

- The only individuals who may request and receive copies of completed AMMOP data forms are ADFG fishing permit holders who participated in the fishery monitored by the NOAA/National Marine Fisheries Service/Alaska Marine Mammal Observer Program. A permit holder may only request and receive data completed of observation of that permit holder's fishing operations.

- Any request for copies of completed observer forms must be submitted in writing on an AMMOP Data Release Request Form (see reverse side), which may be obtained from a NMFS observer or the address below. All signed and completed requests must be sent to the following address:

  Program Coordinator, Alaska Marine Mammal Observer Program
  National Marine Fisheries Service
  Office of Protected Resources
  P.O. Box 21668, Room 461
  Juneau, Alaska 99802

- Upon release of the requested data, the permit holder becomes responsible for it.

- All requests must be completed in pen.

SEE FORM ON REVERSE SIDE

NOAA Fisheries Alaska Marine Mammal Observer Program

DATA RELEASE REQUEST

_____
(Date of Request)

Program Coordinator, Alaska Marine Mammal Observer Program
National Marine Fisheries Service
Office of Protected Resources
P.O. Box 21668, Room 461
Juneau, Alaska 99802

Dear AMMOP Coordinator:

I am a permit holder in the State of Alaska - Southeast Alaska salmon drift gillnet fishery and request the release to myself a copy of all data collected and recorded by an observer from the NOAA/National Marine Fisheries Service- Alaska Marine Mammal Observer Program of my fishing operations on the following date(s):

_____
(MMDDYY - please list each date separately, separated by commas)

I understand that I am responsible for these data upon release to me by NOAA/ National Marine Fisheries Service. I further understand that the data I receive may be preliminary and not yet completely reviewed or finalized by the Alaska Marine Mammal Observer Program.

_____
(SIGNATURE)

_____
(PRINTED NAME)

_____
(FISHERY PERMIT #)

Address to which data should be sent:

_____
Street/ PO Box

_____
City, State, Zip

OFFICE USE ONLY:
Date requested data received/ issued _____
Signature of data releaser _____

FORM AMMOP 021-12

Fishing Effort Summary for Fixed Gear Vessels

The information collected on this form is intended to be utilized only by the assigned observer to complete their required data collections.

Vessel Name _____ **ADF&G number** _____

			Deployment Information					Average bottom depth M or FM circle one	Retrieval Information					Total Segs.	Total hooks /pots	Catch estimate Lb or MT circle one	Gear problem ?
Haul No.	CDQ #	I F Q	Month	Day	Time (ALT)	Latitude (N)	Longitude		Month	Day	Time (ALT)	Latitude (N)	Longitude				
		☐															☐
		☐															☐
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		☐															☐
		☐															☐

Definitions:

Deployment date/time/position: When the first hook/pot enters the water **Catch Estimate:** Visual estimate of total catch including bycatch in lbs or kgs **IFQ:** Check the box if IFQ

Retrieval date/time/position: When the last hook/pot left the water **Gear Problem ?:** Was there any issues with gear if so check the box

CDQ: Indicate CDQ with the CDQ number otherwise, leave blank **Total Segs.:** Total number of gear segment retrieved **Total hooks/pots:** Total number of hooks or pots retreived

Updated 11/8/2012

The information collected on this form is intended to be utilized only by the assigned observer to complete their required data collections.

Fishing Effort Summary for Trawl Vessels

Vessel Name _____ **Vessel ADF&G number** _____

		Deployment Information					Average bottom depth M or FM circle one	Average gear Depth* M or FM circle one	Retrieval Information					Catch estimate Lb or MT circle one	Gear problem ?
Haul No.	CDQ #	Month	Day	Time (ALT)	Latitude (N)	Longitude			Month	Day	Time (ALT)	Latitude (N)	Longitude		
															☐
															☐
															☐
															☐
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															☐
															☐

Definitions:

Deployment date/time/position: When the trawl net first enters the water

Catch Estimate: Visual estimate of total catch including bycatch in lbs or kgs

Retrieval date/time/position: When the trawl net leaves fishing depth

Gear Problem ?: Was there any issues with gear if so check the box

CDQ: Indicate CDQ with the CDQ number otherwise, leave blank

Updated 11/28/2012

Tagged Fish and Crab Form

Cruise No.	Vessel / Plant Permit	Haul / Offload No.	Gear Type

Observer Name: _____

Vessel / Plant Name: _____

Reward Recipient's Name:_____
(Vessel or Plant Personnel)

Reward Shipment Address: _____

_____

_____

Species: _____ Tag Prefix and Serial No.: _____
(e.g. PCA 00392)

I authorize NMFS to provide this form and the tag to the tagging Country/Agency

_____ _____
(Captain/Owner Signature) (Captain/Owner Printed Name)

Date of Capture:_____ Time of Capture:_____ Depth (F): _____

Capture Location: Latitude (N): _____ Longitude: _____ E / W

NMFS or ADF&G Area: _____ (if Latitude / Longitude is unknown)

Source of Capture Information: _____
(e.g. vessel log, navigation equipment, crew member, plant personnel, etc.)

Sex: _____ Gonad Maturity (immature, mature, spawning) _____

Length (cm): _____ Weight (kg): _____

General Appearance (poor body condition, good body condition): _____

Condition of Tagging Wound (healthy healed tissue, open wound): _____

Other Comments: _____

_____

Tape tag and otolith vial here:

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Alaska Fisheries Science Center
Fisheries Monitoring and Analysis Division
7600 Sand Point Way Northeast
Seattle, Washington 98115-0070

NPGOP VESSEL/PLANT OPERATOR COMMENT FORM

NORTH PACIFIC GROUNDFISH OBSERVER PROGRAM

The information on this form will be used by the National Marine Fisheries Service to evaluate how well the observers are performing their duties and to serve as a line of communication between the fishermen and the Observer Program.

Public reporting burden for this collection of information is estimated to average 30 minute per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

All identifying data submitted will be handled as confidential material in accordance with NOAA Administrative Order 216-100, Protection of Confidential Fishery Statistics. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

INSTRUCTIONS

Anonymous responses have little value in this process, so please fill in the identifying information completely. If you don't remember the Observer's name, please fill in the rest of the identifying information and indicate whether the Observer was the Primary or Secondary observer (if known).

In addition to answering Yes or No to each question, please use the Comments section to provide additional information about your answer. If the answer is neither Yes nor No, please use the Comments section to record the appropriate answer (i.e. Sometimes or N/A [not applicable]).

Though this form's primary intent is to allow you to provide information regarding specific observers, the second page affords you an opportunity to provide feedback and ask questions about the Observer Program in general or to open up a line of communication between you and a member of our staff.

Please take the time to answer this Comment Form completely.

Thank you for your time!

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Alaska Fisheries Science Center
Fisheries Monitoring and Analysis Division
7600 Sand Point Way Northeast
Seattle, Washington 98115-0070

Date Revised: May 6, 2009

OMB Control No. 0648-0593
Expiration Date: 11/30/2015

NPGOP VESSEL/PLANT OPERATOR COMMENT FORM

Vessel/Plant Operator_____ Vessel/Plant Name_____Today's Date_____

Observer_____ Observer Provider_____Dates observer onboard_____

Questions about your observer	Yes	No	Comments
Did the observer interact with you and your crew in a professional manner?	○	○	
Did the observer discuss his/her work needs with you and your crew?	○	○	
Did the observer follow vessel/plant rules or policies? If not, please elaborate.	○	○	
Did the observer participate fully in safety drills? If not, why not?	○	○	
Did the observer inform you of any suspected violations of regulations when these were witnessed?	○	○	
Did the observer put himself/herself in any unsafe situations? If yes, please elaborate.	○	○	
Did you have any issues with the observer's duties and responsibilities? If yes, please elaborate.	○	○	
Did you discuss any issues regarding observer duties with the observer?	○	○	How were the issues resolved?
Did you discuss any issues regarding observer duties with anyone else? Observer Program staff ☐ Observer provider _____ My fishing company _____	○	○	Please identify the person you spoke with and whether the issues were resolved.

UNITED STATES DEPARTMENT OF COMMERCE
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Did the observer do anything specific that you appreciated? Please elaborate.	Yes	No	Comments
Questions about the program			
Do you have questions about the work performed by observers? (sampling methods, work schedules, etc)			
Did you ask the observer?			
Would you like to ask a member of our staff?			
Would you like someone on our staff to contact you? (If yes, please provide contact information below)			
In general, are you satisfied with the observers you have had on your vessel or at your plant? Please use this space to provide any relevant comments or suggestions.			

If you would like us to contact you, please provide:

Phone_____Email_____Address_____

UNITED STATES DEPARTMENT OF COMMERCE
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NATIONAL MARINE FISHERIES SERVICE
Alaska Fisheries Science Center
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7600 Sand Point Way Northeast
Seattle, Washington 98115-0070

PUBLIC REPORTING BURDEN STATEMENT

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing the instructions, searching the existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Martin Loefflad, Director, Fisheries Monitoring and Analysis Division, NOAA National Marine Fisheries Service, 7600 Sand Point Way NE, Seattle, WA 98115.

ADDITIONAL INFORMATION

Before completing this form, please note the following: 1) Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number; 2) This information is voluntary and will be used to improve observer training under section 403(b) of the Magnuson-Stevens Act (16 U.S.C. 1801, *et seq*.); 3) **All identifying data submitted will be handled as confidential material in accordance with NOAA Administrative Order 216-100, Protection of Confidential Fishery Statistics.** Other information collected on this form may be subject to public release under various statutes.

Dear Vessel Owner, Operator, or Fisherman:

NOAA's National Marine Fisheries Service has selected your fishing vessel,
F/V_____
(United States Coast Guard (USCG) documentation or state # _____) to take an observer on:

- ☐ your next fishing trip;
- ☐ all fishing trips between the dates of _____, when fishing the following gear type _____, or when fishing under the following Vessel Monitoring System (VMS) declaration code _____.

You must notify the Observer Service Provider representative noted below at least twenty four (24) hours before the start of the vessel's next fishing trip. If you received this letter on the same day as a planned fishing trip, you must notify the Observer Service Provider immediately upon receiving this letter.

You must contact:

_____at phone number _____.
(*Contact name, completed by NMFS, Observer Service Provider staff, or observer and contact phone number*)

FREQUENTLY ASKED QUESTIONS:

Am I legally required to carry an observer?

Yes - if your vessel has certain federal permits, or you are participating in certain fisheries, your vessel is required to carry an observer when selected for observer coverage.

- Any vessel issued a federal permit to fish for Atlantic sea scallops, Northeast multispecies, monkfish, skates, Atlantic mackerel, squid, butterfish, scup, black sea bass, bluefish, spiny dogfish, Atlantic herring, tilefish, Atlantic deep-sea red crab, summer flounder (moratorium permit), and American lobster is required to carry an observer when selected for observer coverage.
- Any vessel participating in a state or Federal Category I or II fisheries, occurring in either state or federal waters, which appear in the Marine Mammal Protection Act List of Fisheries is required to carry an observer when selected for observer coverage. To see if your fishery is listed, please visit http://www.nmfs.noaa.gov/pr/interactions/lof/ or call the Greater Atlantic Regional Fisheries Office Protected Resources Division at 978-281-9328 for more information.
- Under the authority of the Endangered Species Act, 16 U.S.C. 1531, NMFS identifies U.S. fisheries required to take observers upon request for the purpose of learning more about sea turtle interactions. For more information visit: www.nmfs.noaa.gov/pr/species/turtles/observers.htm.

If your vessel is requested to carry an observer or selected for observer coverage, your vessel may not lawfully fish in any fishery noted above unless an observer is on board, or the observer requirement is waived.

Why am I being notified through a Selection Letter?
You have been sent this letter to tell you that your vessel has been selected for observer coverage. Please call the Observer Service Provider contact listed on this letter to discuss your fishing activity. The Observer Service Provider will either send an observer to your vessel, or will verbally waive your next trip for coverage if an observer is not available.

Are there other ways that I may be notified my vessel has been selected?
Yes, in addition to being selected for observer coverage by letter, your vessel may also be selected in person or by telephone by someone from NMFS, Observer Service Provider staff, or by an observer, acting on behalf of the Regional Administrator.

What are the Vessel Safety Requirements I must meet to carry an Observer?
A vessel must meet the requirements outlined in the most current USCG publication 'Federal Requirements for Commercial Fishing Industry Vessels' available at: http://www.fishsafe.info/. All certificates, equipment and equipment servicing, registrations, and hydrostatic releases must be current/not expired.

- USCG Commercial Fishing Vessel (CFV) Safety Examination decal or a USCG certificate of examination with proof of passing the USCG CFV Safety Examination

In order to receive a commercial fishing vessel safety decal, contact the USGC in your region at:

_____.
(*Observer Provider please include contact number of Commercial Fishing Vessel Safety exam coordinators and region)*

- Personal flotation devices/immersion suits for all crew onboard the vessel (note—observers will provide their own)
- Ring buoys or other allowable flotation
- Distress signals (emergency signaling flares – night light and smoke or 3 day/night flares < 3 miles, 3 parachute, 6 hand held, 3 smoke > 3 miles)
- Fire extinguishing equipment
- Emergency position indicating radio beacon (EPIRB) registered to the vessel, including NOAA Search and Rescue Satellite Aided Tracking registration, battery, and hydrostatic release
- Survival craft, with sufficient capacity to accommodate the total number of crew on board, including the observer(s).

Who will verify that my vessel safety requirements are up-to-date before sailing?
Once a vessel is selected for coverage, the assigned observer is required to review emergency instructions with the vessel operator and complete a pre-trip safety check of the vessel's emergency equipment prior to departing on a trip. The observer will be verifying that the equipment, registrations and certificates meet the requirements outlined above. If a vessel fails to pass the required pre-trip safety check, the regulations at 50 CFR 600.746(i) prohibit a vessel from leaving port without an observer until the deficiency has been resolved or a waiver is granted by the observer program.

OMB Control No. 0648-0593 valid through 11/30/2015

Vessel name

05/01/13

Trip ID

Hull number

Date landed (MM/DD/YYYY) / /

Northeast Fisheries Science Center, Fisheries Sampling Branch

PRE TRIP VESSEL SAFETY CHECKLIST (PTVSC)

For each safety item shade ■ in the appropriate box.

Y *= yes,* ***N*** *= no,* ***NR*** *= not required*

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

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

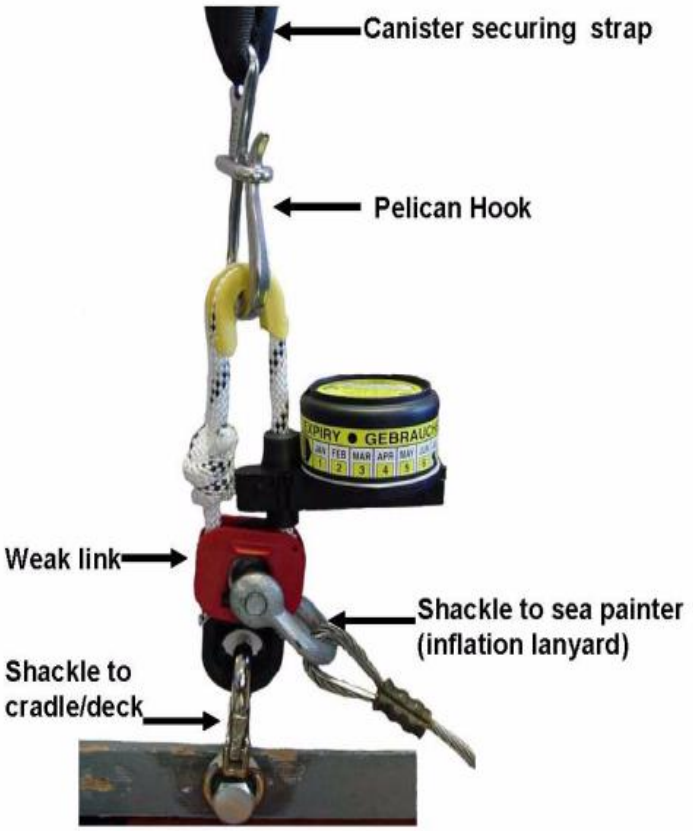
Y	N	NR	
☐	☐		**Vessel Orientation**
☐	☐		**Current USCG Commercial Fishing Vessel Safety Examination Decal** ***Required for all vessels carrying an observer on board** Safety Decal Number ☐☐☐☐☐☐ Expiration ☐☐☐☐ (MM/YY)
☐	☐	☐	**Emergency Position Indicating Radio Beacon (EPIRB)** ***Required for all vessels operating beyond 3 miles** Hydrostatic release service expiration ☐☐☐☐ (MM/YY) Battery expiration ☐☐☐☐ (MM/YY)
☐	☐		Does the alphanumeric code (UIN) on the NOAA SARSAT decal match the UIN code on EPIRB?
☐	☐		Is the EPIRB registered to the vessel or vessel owner? Expiration ☐☐☐☐ (MM/YY)
☐	☐	☐	**Life raft(s)** ***Not required for vessels within 12 mi. of coast, ≤ 3 people and length <36'.** Hydrostatic release service expiration ☐☐☐☐ (MM/YY) Raft service (repack) expiration ☐☐☐☐ (MM/YY) Capacity ☐☐
☐	☐	☐	Is the life raft configured correctly? See back of sheet for figure of the hydrostatic release
☐	☐		**Immersion suits and personal flotation devices** ***PFDs are required to be worn by the observer while out on deck** Are there enough for everyone on board? Keep yours easily accessible.
☐	☐	☐	**Life rings** **Vessels <26' = cushion, >26' = 1 life ring buoy, >65' = 3 life ring buoys**
☐	☐	☐	**Fire extinguishers** ***Not required for vessels <26' with outboard motor(s) and portable fuel tanks**
☐	☐		**Emergency signaling flares** *Check expiration dates **<3mi. = night light and smoke or 3 day/night flares; >3mi. = 3 parachute, 6 hand held, 3 smoke**
☐	☐		First aid material
☐	☐		Radio(s)
☐	☐		Were there any stability concerns/issues, either because of behavior or vessel design, during this trip? ***See back of sheet for examples. If yes, please comment.**
☐	☐		Did you provide any additional comments?

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

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

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

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



Safety Comments

Stability comments

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

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

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

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

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

Signature _____ Date _____

What if my life raft doesn't have enough capacity to carry my assigned observer?
If selected for observer coverage, it is your responsibility to discuss the capacity of your life raft with the assigned observer or the Observer Service Provider. If your life raft is not large enough to carry the observer, you may request that the Observer Service Provider provide a Valise style life raft. Requests for Valise style life rafts may be granted, if feasible. DO NOT ASSUME THE OBSERVER WILL HAVE HIS/HER OWN LIFE RAFT. If you are selected for observer coverage and an observer cannot deploy because your vessel has inadequate life raft capacity, it is unlawful for your vessel to fish.

What are my requirements for carrying an Observer?
In addition, the regulations at § 648.14(e) also prohibit harassing, interfering, or assaulting an observer; refusing to carry an observer; failing to provide information notification, accommodations, access or reasonable assistance to an observer; and submitting false information to the observer program.

Who do I contact for more information?
Please contact Amy Martins, Branch Chief, Northeast Fisheries Observer Program, at 508-495-2266 with questions or concerns.

Sincerely,

John K. Bullard
Regional Administrator

OMB Control No.: 0648-0593
Expires on: 11/30/2015

SECTION J
ATTACHMENTS

Captain Interview Questions

Tripid_____

Date of Trip(s)_____ Date of Interview_____

Vessel Name_____

Operator Name_____

Was the at-sea monitor on time?	Y	N
Did the at-sea monitor clearly explain his/her duties to you?	Y	N
Did the at-sea monitor give you the At-sea monitor Duties Sheet?	Y	N
Did the at-sea monitor explain their duties in regards to incidental takes of marine mammals, turtles and sea birds?	Y	N
Was there a marine mammal, turtle or seabird caught during this trip?	Y	N
Did the at-sea monitor measure the gear (i.e. codend if this is a trawl trip)?	Y	N
Did the at-sea monitor weigh the catch?	Y	N
Did the at-sea monitor take lengths (or shell heights) and biological samples (if required) from the catch?	Y	N
Did the at-sea monitor wear their PFD (life vest) while on deck?	Y	N
Did the at-sea monitor hinder your operations in any way?	Y	N
Did the at-sea monitor get along well with you and your crew?	Y	N
Is the at-sea monitor welcome on your vessel again?	Y	N
Did the at-sea monitor offer the captain a comment card?	Y	N

Trip Data Release Form

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

Policy for Data Requests of NMFS Observer-Obtained Information

1. The only individuals who may request and receive data include: the owner(s), or the captain acting as an authorized representative for the owner(s), or a vessel participating in the National Marine Fisheries Service (NMFS) Northeast Fisheries Science Center (NEFSC) Observer Program. No other individuals may be issued any data under this policy.
2. Any data request must be submitted in writing on a form letter which may be obtained from a NMFS Observer, or the address below. Two signatures are required on this letter: that of the individual requesting the data, and that of the individual releasing the data. All letters must then be returned to the following address:

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

   Any questions or other requests relating to data release should also be directed to the above address.
3. It should be understood that upon release of the requested data, the recipient then becomes responsible for it.
4. The individual signing the letter as the "releasor" must issue the information in compliance with this policy.
5. Data may not be released upon an oral request, or without first completing and signing the authorized release letter mentioned above.
6. Field diaries do not meet the specifications of releasable data under the policy. No field diaries may be copied for, or reviewed by, vessel owners or captains.
7. Release of data for trips in which more than one vessel participated (*i.e.,* pair trawl trips) may only occur if both vessel owners or captains complete and sign data release letters.
8. Any requests for historical data (*i.e.,* data that an observer has already mailed in) should be forwarded to the address above.
9. All letters should be completed in pen, not pencil.

OMB Control No: 0648-0593
Expires on: 11/30/2015

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

BEACH SEINE / BEACH ANCHORED GILLNET HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBSH OBHAU OBSPP 05/01/13

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

GEAR CODE	GEAR #	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 (mm/dd/yy)	TIME (24 hrs)	LATITUDE/LONGITUDE (DD MM.M) - LORAN (XXXXX)				EST SOAK DUR	WATER TEMP	TARGET SPECIES	CODE(S)
			Station 1	**Latitude**/Bearing	Station 2	**Longitude**/Bearing				
BEGIN	/ /	:						o		
END	/ /	:	9960-		9960-		. hrs	. F		

COMMENTS

NUMBER OF NETS	
SET	____
HAULED	____
LOST	____

IF MM DETERRENTS USED	ACTIVE	PASSIVE
HAULED	____	____
LOST	____	____

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

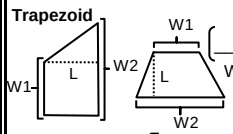
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

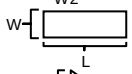
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



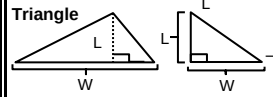
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



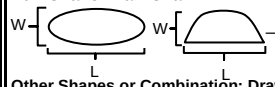
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

BOTTOM TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBOTG 05/01/13

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

GEAR CODE	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER
☐☐☐				

LINER USED?
NO 0 ____
YES 1 ____

DOORS USED?
NO 0 ____
YES 1 ____

WEIGHT OF ONE DOOR
____ kg

CONSTRUCTION MATERIAL

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

LENGTH MEASUREMENTS
Headrope ____ ft
Footrope/Sweep ____ ft
Ground Cable ____ fm
Bridle ____ fm

STRENGTHENER USED?
NO 0 ____ YES 1 ____

CHAFING GEAR USED?
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/LINER

HUNG		CODEND	LINER
Unknown	0	____	____
Diamond	1	____	____
Square	2	____	____
Square, wrapped	3	____	____
Combination	8	____	____

TWINE TYPE		CODEND	LINER
Single	1	____	____
Double	2	____	____
Single on Top/ Double on Bottom	3	____	____
Other	9	____	____

CODEND MESH SIZE
____ mm ____ mm
____ mm ____ mm
____ mm ____ mm
____ mm ____ mm
____ mm ____ mm

LINER MESH SIZE
____ mm ____ mm
____ mm ____ mm
____ mm ____ mm
____ mm ____ mm
____ mm ____ mm

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
(check all that apply)
Unknown 0 ☐
Headrope 1 ☐
Wings 2 ☐
Footrope 3 ☐
Door 5 ☐
Codend 6 ☐
Other 9 ☐
____

EXCLUDER/SEPARATOR DEVICE
USED? NO 0 ____ YES 1 ____
Type Code ____
T.E.D. EXTENSION
Mesh Size ____.____ in
(circle one) A / E

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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PAGE #	OF

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.
06 =	Compound Nordmore Grate	29 =	Parker Soft T.E.D.
07 =	Double Nordmore Grate	30 =	Experimental T.E.D.
08 =	Large Mesh	31 =	Northeast Modified T.E.D.
20 =	T.E.D., Unknown	32 =	Large Flat Bar T.E.D.
21 =	Standard T.E.D.	98 =	Combination (Comment)
22 =	Weedless T.E.D.	99 =	Other (Comment)
23 =	Flounder T.E.D.		

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

BOTTOM TRAWL HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBOTH OBHAU OBSPP 05/01/13

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

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

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

NUMBER OF TURNS

TOW SPEED ____.____ kn

WIRE OUT fm

WATER TEMP o ____.____ F

TARGET SPECIES CODE

COMMENTS

** Only fill in if gear mounted electronics are used

VERTICAL OPENING ** ft

HORIZONTAL OPENING ** ft

DOOR SPREAD ** ft

SAMPLE WEIGHT MULTIPLIER ____.__ __

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

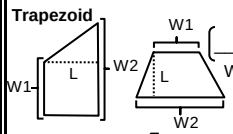
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

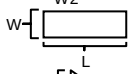
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



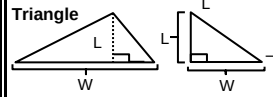
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



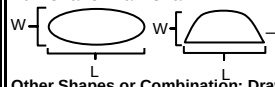
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

CATCH COMPOSITION LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCMP 05/01/13

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

ESTIMATED PUMPING TIME_____ minutes

BASKET # _____ TIME _____ : _____

SPECIES	CODE	POUNDS (R/A)
		.
		.
		.
		.
		.
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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

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		.

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	

(d) TOTAL WEIGHT OF PUMPED CATCH (Captain's Estimate) _____ lbs

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CLAM/QUAHOG DREDGE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCDG 05/01/13

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

DREDGE CAGE

HEIGHT _____ in WIDTH _____ in LENGTH _____ in

SORTER USED?

NO 0 ___

YES 1 ___

CAGE BOTTOM BAR DIAMETER _____.____ in

BAR SPACING _____.____ in

NUMBER OF NOZZLES _____

CHAIN BAG

USED? NO 0 ___ YES 1 ___

AVG # OF LINKS BTW 2 RINGS _____

LINK STOCK SIZE _____/_____

INSIDE RING SIZE (mm)
(5 random measurements)

TOP OF BAG _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____

OUTSIDE RING SIZE _____ mm

TOWLINE

TOWLINE TYPE:

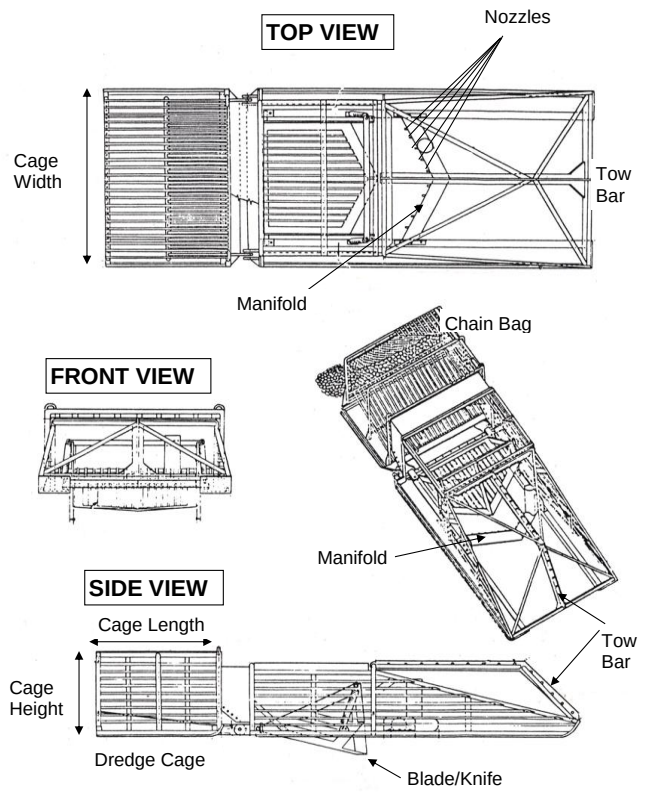
Unknown	0 _____
Single	1 _____
Bridle	2 _____
Other	9 _____

_____

TOWLINE POSITION:

Unknown	0 _____
Forward	1 _____
Over Top of the Knife	2 _____
Other	9 _____

_____



COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CLAM/QUAHOG DREDGE HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCDH OBHAU OBSPP 05/01/13

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

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	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 ____	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	/ /	:				

WATER TEMP	TOW SPEED	WIRE OUT
o ____.____ F	____.____ kn	fm

TARGET SPECIES	CODE

CLAM/QUAHOG CLAPPERS OBS?
N0 0 ___
YES 1 ___

COMMENTS

SAMPLE WEIGHT MULTIPLIER
____.__ __

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

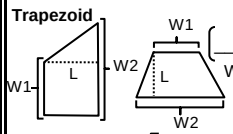
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

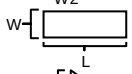
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



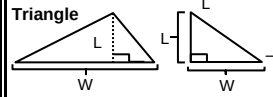
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



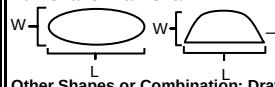
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

CLAM/QUAHOG DREDGE OFF-WATCH HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCDO OBHAU 05/01/13

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

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CRUSTACEAN SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBCRU 05/01/13

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

SPECIES		ANIMALS CAUGHT		SHELL DISEASE
NAME	CODE	NUMBER	A / E	PERCENTAGE

	CARAPACE (mm) LOBSTER - LENGTH CRAB - WIDTH	CDISP (K / D)	SEX	EGG	LOBSTER ONLY V-NOTCH	MOLT	# CLAW		CARAPACE (mm) LOBSTER - LENGTH CRAB - WIDTH	CDISP (K / D)	SEX	EGG	LOBSTER ONLY V-NOTCH	MOLT	# 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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

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

	CARAPACE (mm) LOBSTER - LENGTH CRAB - WIDTH	C D I S P (K / D)	S E X	E G G	LOBSTER ONLY V - N O T C H	M O L T	# C L A W		CARAPACE (mm) LOBSTER - LENGTH CRAB - WIDTH	C D I S P (K / D)	S E X	E G G	LOBSTER ONLY V - N O T C H	M O L T	# C L A W
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

DISCARD LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPDQ 05/01/13

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

GEAR CODE ☐☐☐

GEAR # ☐☐

HAUL # ☐☐☐

Were there discards for this tow?

___ No (0)

___ Yes (1)

__ Unknown (9)

When the pumping/hauling process was complete were you able to see the contents of the codend/ bunt?

___ No (0)

___ Yes, all contents seen on deck (1)

___ Yes, all/some contents seen in water (2)

Why was the catch discarded on this haul?
(CHECK ALL THAT APPLY)

☐ Unknown (0) (comment)

☐ Market (1)

☐ Regulations (2)

☐ Quality (4)

☐ Not brought onboard (5)

☐ Other (9) (comment)

☐ Not applicable

Who estimated the weight of the discarded catch?

___ Observer (1)

___ Captain (2)

___ Combination (8)

___ Not applicable

Was any of the catch pumped to another vessel?

___ No (0)

___ Yes (1)

___ Unknown (9)

Was there an observer onboard the other vessel? If yes, provide the Tripid and Haul Number.

___ No (0)

___ Yes (1)

___ Unknown (9)

TRIPID: _____

HAUL #: _____

Check off the discard event.
(CHECK ALL THAT APPLY)

☐ Unknown (0) (comment)

☐ Operational discards (1)

☐ Tow was partially released (2)

☐ Tow was fully released (3)

☐ Discarded after being brought onboard (4)

☐ Other (9) (comment)

☐ Not applicable

REASONS NOT BROUGHT ONBOARD: Describe any reasons why the catch could not be pumped/hauled onboard.

CATCH COMPOSITION OF DISCARDED CATCH: Describe the catch composition of the discarded catch and how those determinations were made.

CHALLENGES OBSERVING THIS HAUL: Describe any challenges that occurred with observing this haul:

OMB Control No.: 0648-0593
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GILLNET GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBGGG OBMSZ 05/01/13

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

NUMBER OF NETS

AVERAGE NET:

LENGTH _____ ft

HEIGHT (endline) ____ . ____ ft

MESH COUNT VERTICAL _____

HANGING RATIO ____/____

(circle one)
TWINE SIZE _____ A / E

FLOATLINE MATERIAL

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

_____

LEADLINE WEIGHT

____ . ____ lbs/ net

USED?	**NO**	**YES**		**MEASUREMENTS**	
FLOATS	0 ___	1 ___		Dist Between	_____ ft
TIE DOWNS	0 ___	1 ___	(all nets)	Length	____ . ____ ft
		2 ___	(not all nets)		
SPACE(S)					
BETWEEN NETS	0 ___	1 ___		Number	_____
				Width	_____ ft
DROPLINES	0 ___	1 ___		Length	_____ ft
ADDITIONAL WGTS	0 ___	1 ___		Weight	_____ lbs
ANCHOR(S)	0 ___	1 ___		Type	

Number _____

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

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

_____

SECURING METHOD(S)
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 00 ___
Dukane 01 ___
Airmar 02 ___
Fumunda 03 ___
Future Oceans LED 04 ___
Combination 98 ___
Other 99 ___

_____

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) _____

Surface Line
Length (avg) _____ ft

Type Code _____

Diameter ____/____ in

Mark? NO 0___
YES 1___

GROUNDLINE

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

Length (total) _____ ft

Type Code _____

Diameter ____/____ in

BUOYLINE

# of Buoyline(s) _____

Length (avg) _____ ft

Type Code _____

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

Diameter ____/____ in

Mark? NO 0___
YES 1___

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

Number (total) _____

Type Code _____

USED ON STRING?	0 ___	1 ___

Number (total) _____

Type Code _____

COMMENTS

OMB Control No.: 0648-0593
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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

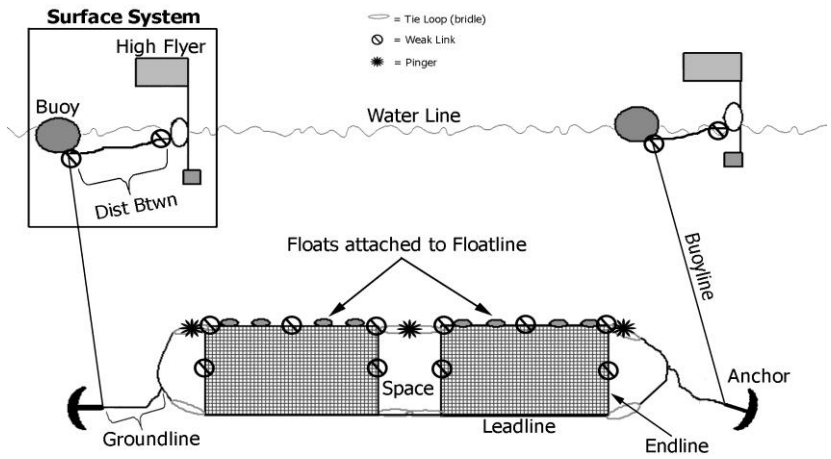
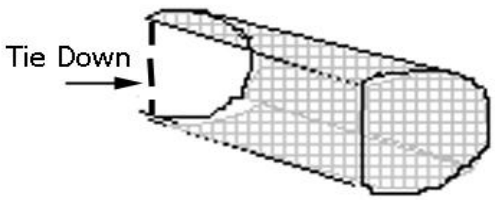


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).



FOR OFFICE USE ONLY

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

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

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	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 ____	NO 0 ____ YES 1 ____		kn	o	ft	fm	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	ESTIMATED SOAK DURATION
SET	BEGIN	/ /	:	9960 -		9960 -		
	END	/ /	:	9960 -		9960 -		. hrs
HAUL INFO								WATER TEMP
HAUL	BEGIN	/ /	:	9960 -		9960 -		o
	END	/ /	:	9960 -		9960 -		. F

TARGET SPECIES	CODE(S)	GEAR COND CODE

NUMBER OF NETS
SET _____
HAULED _____
LOST _____

IF MM DETERRENTS USED:

	ACTIVE	PASSIVE
HAULED	_____	_____
LOST	_____	_____

COMMENTS

SAMPLE WEIGHT MULTIPLIER ____.__

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

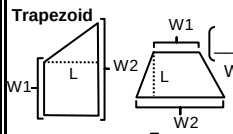
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

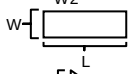
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



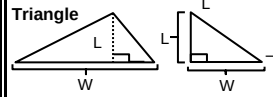
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



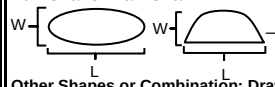
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

MARINE MAMMAL, SEA TURTLE, AND SEA BIRD INCIDENTAL TAKE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBINC 05/01/13

OBS/TRIP ID	
DATE LANDED 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	SAMPLED? 0=No 1=Yes 2 = Yes, feathers only	EST LEN (cm) (if no actual) (no birds)
						NAME	CODE	NUMBER(S) (record most recent first)	CODE(S)						
____ 1				:											
____ 2				:											
____ 3				:											
____ 4				:											
____ 5				:											
____ 6				:											
____ 7				:											
____ 8				:											
____ 9				:											
____ 0				:											

COMMENTS: List identifying characteristics, describe in detail the entanglement situation, include a description of the overall body condition of the animal, behavior on deck and upon release and any other related information. Use back of log if more room is needed.

OMB Control No.: 0648-0593
Expires on: 11/30/2015

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

ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:

0 = Unknown
1 = No Pingers Used On Gear
2 = Audible, Not Tested
3 = Inaudible, Tested and Working
4 = Inaudible, Tested and Not Working
5 = Inaudible, Not Tested
6 = Absent (Lost)
7 = Audible, Tested and Working
8 = Audible, Tested and Not Working

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)
30 = Caught in Catch Pump
31 = Entrapped/caught in Bunt of Purse Seine
32 = Entrapped/caught in Net/Wing of Purse Seine
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 at release).

ADDITIONAL COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

INDIVIDUAL ANIMAL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBIAL 05/01/13

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

GEAR #	SEQ #	SPECIES NAME	SPECIES CODE	INTL STAT-US CODE	END STAT-US CODE	FISH DISP CODE	PROC CODE	WEIGHT POUNDS	WEIGHT MKT D/R	WEIGHT EST. METH-OD	TAG NUMBER(S)	TAG CODE	TAG DATA STORAGE TAG? 0=N, 1=Y	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.

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

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
R = Round

TAG CODES:
0 = Unknown
1 = Tag Applied by Observer
2 = No Tag(s)
3 = Tag Already Present, Left On
4 = Tag Already Present, Removed
5 = Carcass Tagged (fish only)

ESTIMATION METHOD CODES:
01 = Actual, spring scale
04 = Estimated by captain
05 = Tally
06 = Visually Estimated by observer
11 = Actual, electronic scale
99 = Other, describe in COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2013

LENGTH FREQUENCY LOG
NMFS FISHERIES OBSERVER PROGRAM
OBLNH OBLND 05/01/13

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

SPECIES NAME						
SPECIES CODE						
FISH DISPOSITION CODE						
SEX CODE						
SAMPLE WEIGHT (R/A)						SAMPLE WEIGHT (D/A)
AGE SAMPLE TYPE CODE						VOLUMETRIC MEASURE OF MEATS
# SAMPLES						_____ nearest 50 ml

MEASUREMENTS:	0		0		0		0		0		0		0		0		0		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	
	3		3		3		3		3		3		3		3		3		25 - 29		125 - 129	
SEX CODES:	4		4		4		4		4		4		4		4		4		30 - 34		130 - 134	
0=Unknown	5		5		5		5		5		5		5		5		5		35 - 39		135 - 139	
1=Male	6		6		6		6		6		6		6		6		6		40 - 44		140 - 144	
2=Female	7		7		7		7		7		7		7		7		7		45 - 49		145 - 149	
	8		8		8		8		8		8		8		8		8		50 - 54		150 - 154	
AGE SAMPLE TYPE CODES:	9		9		9		9		9		9		9		9		9		55 - 59		155 - 159	
0=None	0		0		0		0		0		0		0		0		0		60 - 64		160 - 164	
1=Scales	1		1		1		1		1		1		1		1		1		65 - 69		165 - 169	
2=Otoliths	2		2		2		2		2		2		2		2		2		70 - 74		170 - 174	
3=Shells	3		3		3		3		3		3		3		3		3		75 - 79		175 - 179	
4=Whole	4		4		4		4		4		4		4		4		4		80 - 84		180 - 184	
5=Vertebra	5		5		5		5		5		5		5		5		5		85 - 89		185 - 189	
6=Dorsal Spines	6		6		6		6		6		6		6		6		6		90 - 94		190 - 194	
7=Scales & Otoliths	7		7		7		7		7		7		7		7		7		95 - 99		195 - 199	
8=Head	8		8		8		8		8		8		8		8		8		100 - 104		200 - 204	
9=Other	9		9		9		9		9		9		9		9		9		105 - 109		205 - 209	

COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

LONGLINE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBLLG 05/01/13

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

GEAR CODE	GEAR NUMBER(S)	NUMBER OF HOOKS	SECTION LENGTH	NUMBER OF SECTIONS
☐☐☐			_____.____ nm	

MAINLINE
OF STRANDS _____
DIAMETER ___ . ____ mm
TEST _____ lbs
MATERIAL _____
COLOR _____

LEADERS
USED? NO 0 ___ YES 1 ___
LENGTH _____ ft
TEST _____ lbs
MATERIAL _____

BUOYLINE
# of Buoylines _____
Length (avg) _____ ft
Type Code _____
Percent of Type (sinking/floating) ____% / ____%
Diameter ____/____ in
Mark? NO 0 ___ YES 1 ___

SURFACE SYSTEM
# of High Flyers _____
# of Buoys _____
Surface Line Length (avg) _____ ft
Type Code _____
Diameter ____/____ in
Mark? NO 0 ___ YES 1 ___

FLOATS **

TYPE	USED? NO	USED? YES	NUMBER	AVG HOOKS BETWEEN
Unknown	0 ___	1 ___	_____	_____
Polyball	0 ___	1 ___	_____	_____
Bullet/Daub	0 ___	1 ___	_____	_____
Other	0 ___	1 ___	_____	_____

HOOKS

BRAND	MODEL/PATTERN	SIZE
_____	_____	_____
_____	_____	_____

ANCHOR USED?
NO 0 ___ YES ___
WEIGHT _____ lbs
Actual 1 ___
Estimated 2 ___

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 _____

LIGHT STICKS USED? **
NO 0 ___ YES 1 ___
COLOR _____
NUMBER _____

DROPLINE **
LENGTH _____ ft
DISTANCE BETWEEN _____ ft

SWIVELS
USED?
NO 0 ___ YES 1 ___
OF SWIVELS/GANGION
_____

RADIO BEACONS ** COUNT _____

RADAR REFLECTORS COUNT _____

GANGIONS
DISTANCE BETWEEN _____ ft
DIAMETER _____ . ____ mm
TEST _____ lbs

LENGTH	COUNT
_____ ft	_____
_____ ft	_____

MATERIAL _____
COLOR _____

COMMENTS

COLOR			
Unknown	00	Multi-Color	07
Clear	01	Red	08
White	02	Orange	09
Pink	03	Purple	10
Black	04	Combination	98
Green	05	Other	99
Blue	06		

MATERIAL	
Unknown	0
Mono-filament Nylon	1
Cotton	2
Steel Wire	3
Multi-strand Nylon	4
Other	9

** only record for Pelagic Longline

OMB Control No.: 0648-0593
Expires on: 11/30/2015

LONGLINE HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBLLH OBHAU OBSPP 05/01/13

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

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED (kn)	WIND DIRECTION (o)	WAVE HEIGHT (ft)	DEPTH, HAUL BEGIN (fm)	GEAR COND CODE
			NO 0 ____ YES 1 ____	NO 0 ____ YES 1 ____	NO 0 ____ YES 1 ____	NO 0 ____ YES 1 ____						

SET/HAUL INFO		DATE mm/dd/yy	AND TIME 24 hours	LATITUDE / LONGITUDE (DD MM.M) - LORAN (XXXXX) Station 1	Latitude / Bearing	Station 2	Longitude / Bearing	WATER TEMP (o F)	TARGET SPECIES	CODE(S)
SET	BEGIN	/ /	:	9960 -		9960 -		____.___		
SET	END **	/ /	:	9960 -		9960 -		____.___	MAINLINE LENGTH **	SET METHOD
HAUL	BEGIN **	/ /	:	9960 -		9960 -		____.___		Unknown 00 ___
HAUL	END	/ /	:	9960 -		9960 -		____.___	____.____ nm	Temperature 01 ___
										Bottom Contours 02 ___
										Compass/Loran 03 ___

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	_____	_____	_____	_____

COMMENTS

SET SPEED ____.____ kn

HOOK DEPTH RANGE ____ — ____ fm

SET METHOD		
Unknown	00	___
Temperature	01	___
Bottom Contours	02	___
Compass/Loran	03	___
Tide/Current	04	___
Visual	05	___
Eddy	06	___
Mixed	98	___
Other	99	___

_____

** only record for Demersal and Pelagic Longline.

SPECIES NAME	SPECIES CODE	SAMP. WEIGHT	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT ESTIMATION METHOD CODE
		___.___				
		___.___				
		___.___				
		___.___				
		___.___				
		___.___				
		___.___				
		___.___				
		___.___				
		___.___				

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

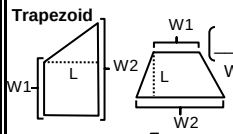
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

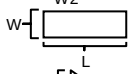
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



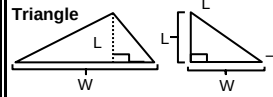
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



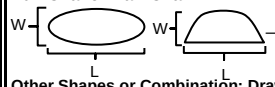
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

MARINE MAMMAL BIOLOGICAL SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBMM 05/01/13

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

PSID#	SPECIES NAME	SEX	MARINE MAMMAL MEASUREMENTS					CETACEANS ONLY			NUMBER OF SAMPLES TAKEN								
		0=U 1=M 2=F	Body Temp °F	Blubber Thickness cm	Total Length cm	Axillary Girth cm	Hind/Pec Flip Len cm	Pec Flip Width cm	Dorsal Fin Height cm	Fluke Width cm	Whole	Finclip/ Flipper/ Skin	Jaw	Stom	Blub	Musc	Repro Tract	Head/ Skull	Other list in comments
			.	.															
			.	.															
			.	.															
			.	.															
			.	.															

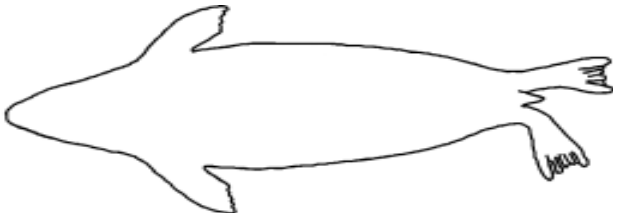
General Comments:

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

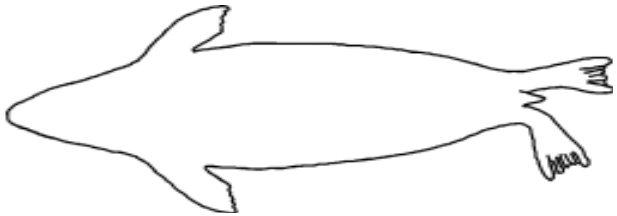
OMB Control No.: 0648-0593
Expires on: 11/30/2015

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

Sketch and describe ID characteristics, overall body condition, note any scavenger damage and/or decomposition, new and/or healed wounds, any gear on the animal, etc:

PSID # _____

Circle one: Left / Right

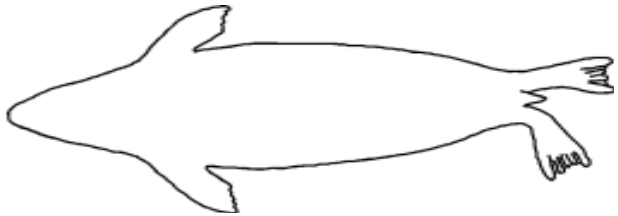


Circle one: Dorsal / Ventral

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

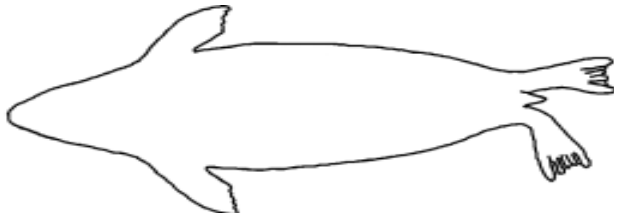


Circle one: Dorsal / Ventral

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

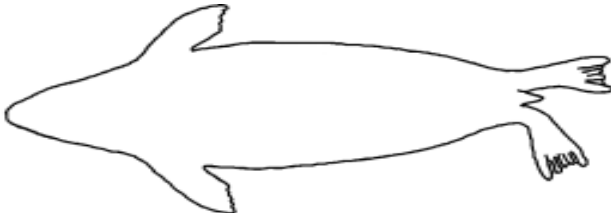


Circle one: Dorsal / Ventral

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

PAIR and SINGLE MID-WATER TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPRG 05/01/13

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

GEAR CODE	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER	YEAR NET MADE
☐☐☐					

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

LINER USED?
NO 0 ____
YES 1 ____

DOORS
USED? NO 0__ YES 1__
WEIGHT _____ kg

WEIGHTS
USED? NO 0__ YES 1__
WEIGHT _____ lb
Actual 1 ___
Estimated 2 ___

CONSTRUCTION MATERIAL

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

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 _____ in

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

STRENGTHENER USED?
NO 0 ____ YES 1 ____
CHAFING GEAR USED?
NO 0 ____ YES 1 ____

COMMENTS

* Fill in only on pair trawl trips.

CODEND/LINER

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

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

CODEND MESH SIZE

_____ mm	_____ mm
_____ mm	_____ mm
_____ mm	_____ mm
_____ mm	_____ mm
_____ mm	_____ mm

LINER MESH SIZE

_____ mm	_____ mm
_____ mm	_____ mm
_____ mm	_____ mm
_____ mm	_____ mm
_____ mm	_____ mm

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 (check all that apply)

Unknown	0 ☐
Headrope	1 ☐
Wings	2 ☐
Footrope	3 ☐
Door	5 ☐
Codend	6 ☐
Other	9 ☐
_____	

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 ___ YES 1 ___

Type Code _____

T.E.D. EXTENSION

Mesh Size _____ . _____ in

(circle one) A / E

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 _____

OMB Control No.: 0648-0593
Expires on: 11/30/2015

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

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.
06 =	Compound Nordmore Grate	29 =	Parker Soft T.E.D.
07 =	Double Nordmore Grate	30 =	Experimental T.E.D.
08 =	Large Mesh	31 =	Northeast Modified T.E.D.
20 =	T.E.D., Unknown	32 =	Large Flat Bar T.E.D.
21 =	Standard T.E.D.	98 =	Combination (Comment)
22 =	Weedless T.E.D.	99 =	Other (Comment)
23 =	Flounder T.E.D.		

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

PINGER TESTER WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

HAUL #			HAUL #			HAUL #		
PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE	PINGER #	ADD COND CODE	ADD BRAND CODE
1			1			1		
2			2			2		
3			3			3		
4			4			4		
5			5			5		
6			6			6		
7			7			7		
8			8			8		
9			9			9		
10			10			10		
11			11			11		
12			12			12		
13			13			13		
14			14			14		
15			15			15		
16			16			16		
17			17			17		
18			18			18		
19			19			19		
20			20			20		
21			21			21		
22			22			22		
23			23			23		
24			24			24		
25			25			25		

ACTIVE DETERRENT DEVICE (ADD) CONDITION CODES:

0 = Unknown
1 = No pinger
2 = Audible, Not Tested
3 = Inaudible, Tested and Working
4 = Inaudible,Tested and Not Working
5 = Inaudible, Not Tested
6 = Absent (Lost)
7 = Audible, Tested and Working
8 = Audible, Tested and Not Working

ACTIVE DETERRENT DEVICE (ADD) BRAND CODES:

00 = Unknown
01 = Dukane
02 = Airmar
03 = Fumunda
04 = Future Oceans LED
99 = Other (Comment)

COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

LOBSTER, CRAB, & FISH POT GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPTG 05/01/13

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

NUMBER OF POTS

COMMENTS

POT CHARACTERISTICS

Shape Code _____

Side Construction Code _____

DIMENSIONS

	Length (in)	Width (in)
Top	_____	_____
Bottom	_____	_____

Height _____ in

ENTRANCE

Number _____

Inside Ring Size ____.____ in

Location

Unknown	0 ___
Top	1 ___
Side	2 ___
End	3 ___
Combination	8 ___
Other	9 ___

_____

SURFACE SYSTEMS

# of High Flyer(s) _____

# of Buoys _____

Surface Line Length (avg) _____ ft

Type Code _____

Diameter ____/____ in

Mark? NO 0 ___ YES 1 ___

ANCHOR(S)

USED? NO 0 ___ YES 1 ___

Number _____

(circle one)

Weight (total) _____ lbs 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

GROUNDLINE

Length of Line Btw Pots (avg) _____ ft

Type code _____

Diameter ____/____ in

BIODEGRADABLE PANEL

USED? NO 0 ___ YES 1 ___

Attachment Type

Unknown	0 ___
Iron Hog Rings	1 ___
Degradable Plastic	2 ___
Softwood Lathe	3 ___
Uncoated Wire	4 ___
Combination	8 ___
Other	9 ___

_____

WEAK LINKS

	NO	YES
USED ON SURFACE?	0 ___	1 ___

Number (total) _____

Type Code _____

GANGIONS

USED? NO 0 ___ YES 1 ___

Length (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 ___

_____

BAIT

METHOD

Unknown	0 ___
String	1 ___
Bait Bag	2 ___
Metal Ring	3 ___
Not Attached	7 ___
Combination	8 ___
Other	9 ___

_____

BUOYLINE

# of Buoyline(s) _____

Length (avg) _____ ft

Type Code _____

Percent of Type *(sinking/floating)* ____%/____%

Diameter ____/____ in

Mark? NO 0 ___ YES 1 ___

RECTANGULAR LOBSTER TRAP
WIRE CONSTRUCTION

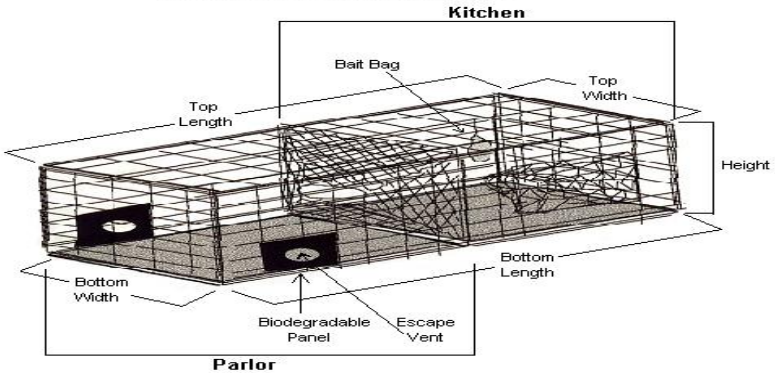


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DIAGRAM FOR REFERENCE ONLY

⊘ = Weak Link

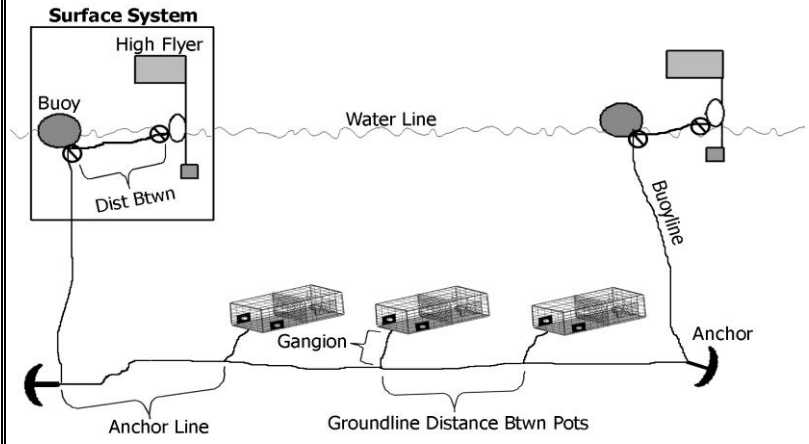


Photo Credit: NOAA Fisheries Service Northeast Regional Office (Original image modified to include additional information).

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

LOBSTER, CRAB, & FISH POT HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPTH OBHAU OBSPP 05/01/13

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

GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	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 ____	NO 0 ____ YES 1 ____		kn	o	ft	fm	

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

TARGET SPECIES CODE(S)

NUMBER OF POTS		BAIT	LBS	KIND	TYPE	COND
SET	____					
HAULED	____	#1	____	____	____	____
LOST	____	#2	____	____	____	____

COMMENTS

SET METHOD

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

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

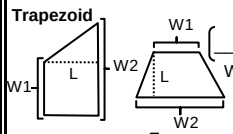
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

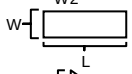
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



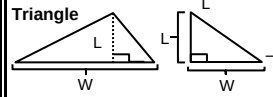
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



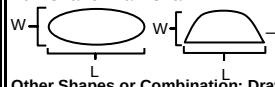
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

PROTECTED SPECIES SIGHTING LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSIG 05/01/13

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	☐ OF ☐
TODAY'S DATE mm/dd/yy	/ /

EVENT #	EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	**LATITUDE/LONGITUDE (DD MM.M)** - LORAN (XXXXX) 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
_____1	:				9960-		9960-										
_____2	:				9960-		9960-										
_____3	:				9960-		9960-										
_____4	:				9960-		9960-										
_____5	:				9960-		9960-										
_____6	:				9960-		9960-										
_____7	:				9960-		9960-										
_____8	:				9960-		9960-										
_____9	:				9960-		9960-										
_____10	:				9960-		9960-										
_____11	:				9960-		9960-										
_____12	:				9960-		9960-										

EVENT TYPE CODES:
08 = On-effort, during dedicated watch
10 = Off-effort, vessel activity unknown
11 = Off-effort, Vessel stop/anchor/drift
12 = Off-effort, sitting on gear
13 = Off-effort, transiting or searching
14 = Off-effort, towing gear
15 = Off-effort, hauling in gear
16 = Off-effort, setting out gear
19 = Off-effort, pumping catch

GENERAL
00 = Unknown
99 = Other

POSITION CODES:
00 = Unknown
01 = Bow, facing wind
08 = Bow, facing sideways
02 = Wheelhouse, facing forward
03 = Wheelhouse, facing backward
09 = Wheelhouse, facing sideways
04 = Work deck, facing backward
05 = Work deck, facing sideways
06 = Starboard side, facing net
07 = Port side, facing net
99 = Other

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 other body part
07 = Alive, hook/gear in/around several body parts
08 = Alive, seen by capt/crew ONLY
10 = Dead, condition unknown
11 = Dead, fresh
12 = Dead, moderately decomposed
13 = Dead, severely decomposed
14 = Dead, seen by capt/crew ONLY
NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal

ANIMAL BEHAVIOR CODES:
00 = Unknown
01 = Near gear, physical contact
02 = Near gear, within 50 meters
03 = Near gear, 51-150 meters
04 = Feeding on catch
05 = Porpoising
06 = Bow riding
07 = Breaching
08 = Swimming at surface
09 = Milling
10 = Motionless at surface
11 = Vessel avoidance
12 = Vessel attraction
99 = Other

OMB Control No.: 0648-0593
Expires on: 11/30/2015

OBS/TRIP ID	
DATE LANDED mm/yy	/
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TODAY'S DATE mm/dd/yy	/ /

EVENT #	COMMENTS	EVENT #	COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

PURSE SEINE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSG 05/01/13

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

SEINE CHARACTERISTICS:

	NET	BUNT
LENGTH	_____ fm	_____ fm
DEPTH	_____ fm	_____ fm
MESH SIZE	___ . __ in	___ . __ in
TWINE SIZE	_____ mm	_____ mm

CONSTRUCTION MATERIAL

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

GEAR CHARACTERISTICS:

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

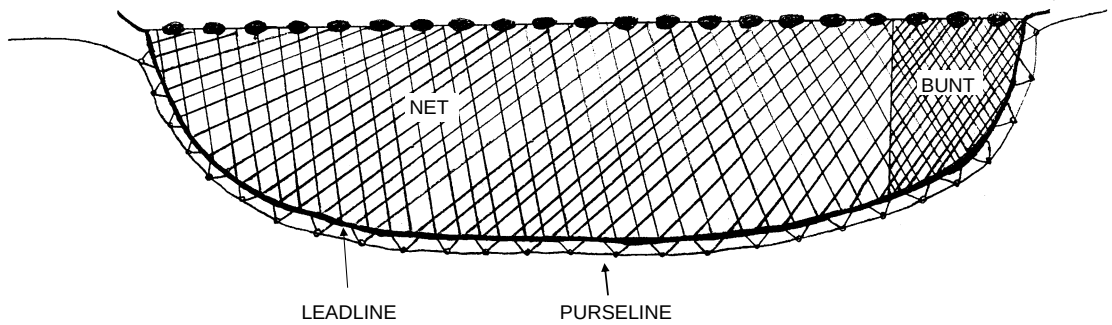
HAULING DEVICE

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

PURSE RINGS:

TYPE		MATERIAL	
Unknown	0 ___	Unknown	0 ___
Round	1 ___	Steel	1 ___
Snap	2 ___	Iron	2 ___
Roller	3 ___	Alloy	3 ___
Combo	8 ___	Other	9 ___
Other	9 ___		
_____		_____	

(diagram for reference only)



COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

PURSE SEINE SET LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSH OBHAU OBSPP 05/01/13

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

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

SET INFO	DATE 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(S)
BEGIN	/ /	:	9960 -		9960 -		. kn		

END	/ /	:	PLANE USED?	TIME UP	WATER TEMP (Fahrenheit)	NO 0	YES 1	NO 0	YES 1
				:		SET BY PLANE? ____	____	SUCCESSFUL SET? ____	____
FISH PUMPING			NO 0 ____						
BEGIN	/ /	:	YES 1 ____	TIME DOWN	o	SET ON DEBRIS? ____	____	FISH LOST? ____	____
END	/ /	:		:	. F				

COMMENTS

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

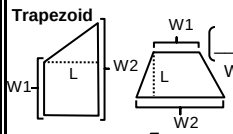
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

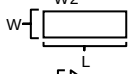
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



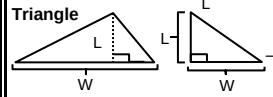
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



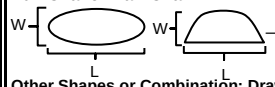
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

SCALLOP DREDGE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSDG 05/01/13

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

GEAR CODE ☐☐☐

GEAR NUMBER(s)

If the dredge is fished off the stern, check box here

AFT (A) ☐

PORT DREDGE (P)

DREDGE FRAME

FRAME TYPE
Unknown 0 ___
Standard 1 ___
TDD 2 ___
Other 9 ___

FRAME HEIGHT _____ in
FRAME WIDTH _____ ft

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

MESHES
WIDE _____
LONG _____
HUNG
Unknown 0 _____
Diamond 1 _____
Square 2 _____
Combination 8 _____

RINGS ON WHICH TWINE TOP HANGS _____

PORT DREDGE COMMENTS

CHAIN BAG

CHAFING GEAR USED?
NO 0 ___
YES 1 ___

ROWS IN APRON _____

INSIDE RING SIZE (mm)
(5 random measurements)

TOP OF BAG _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____

STARBOARD DREDGE (S)

DREDGE FRAME

FRAME TYPE
Unknown 0 ___
Standard 1 ___
TDD 2 ___
Other 9 ___

FRAME HEIGHT _____ in
FRAME WIDTH _____ ft

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

MESHES
WIDE _____
LONG _____
HUNG
Unknown 0 _____
Diamond 1 _____
Square 2 _____
Combination 8 _____

RINGS ON WHICH TWINE TOP HANGS _____

STARBOARD DREDGE COMMENTS

CHAIN BAG

CHAFING GEAR USED?
NO 0 ___
YES 1 ___

ROWS IN APRON _____

INSIDE RING SIZE (mm)
(5 random measurements)

TOP OF BAG _____ _____ _____ _____ _____

BOTTOM OF BAG _____ _____ _____ _____ _____

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ADDITIONAL COMMENTS, PORT DREDGE

ADDITIONAL COMMENTS, STARBOARD DREDGE

FOR OFFICE USE ONLY

OMB Control No.: 0648-0593
Expires on: 11/30/2015

SCALLOP DREDGE HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSDH OBHAU OBSPP 05/01/13

OBS/ TRIP ID	
DATE LAND (mm/yy)	/
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GEAR CODE	GEAR #	HAUL #	HAUL OBS?	ON-EFFORT?	CATCH?	INC TAKE?	WEATHER CODE	WIND SPEED	WIND DIRECTION	WAVE HEIGHT	DEPTH, HAUL BEGIN	GEAR CONDITION CODE
1 3 2			NO 0 ____ YES 1 ____	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
BEGIN HAUL	/ /	:	9960 -		9960 -	
BEGIN FISHING	/ /	:				
END HAUL	/ /	:	9960 -		9960 -	
GEAR ONBOARD	/ /	:				

COMMENTS

DREDGE OBSERVED
Port 1 ___
Starboard 2 ___
Both 3 ___
Aft 4 ___

TOW SPEED ____.____ kn

WIRE OUT fm

WATER TEMP o ___.___ F

TARGET SPECIES: **Sea Scallops** CODE: **8009**

SEA SCALLOP CLAPPERS OBS?
NO 0 ___
YES 1 ___

SAMPLE WEIGHT MULTIPLIER ____.__

	SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT EST METHOD CODE		SPECIES NAME	CODE	SUB-SAMPLE WEIGHT	POUNDS	DISP CODE	WEIGHT D/R	WEIGHT EST METHOD CODE
1	**Sea Scallops**	**8009**	____.__		**100**			11			____.__				
2			.					12			.				
3			.					13			.				
4			.					14			.				
5			.					15			.				
6			.					16			.				
7			.					17			.				
8			.					18			.				
9			.					19			.				
10			.					20			.				

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET (SCALLOP)
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)
_____

ESTIMATION METHODS

01 = Actual (Spring Scale)
03 = Basket or Tote Count
07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)
11 = Actual (Electronic Scale)
05 = Tally
02 = Volume-to-Volume

MAREL SCALE FIT VALUE
_____

DECKLOADING

Entire Deckloading
Haul Range
___
____ ____

Number of Hauls
_____

CUMULATIVE SUM

*Estimation Method used to obtain species Total Samp.Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations and use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

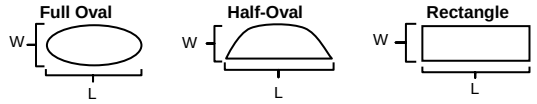
BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . ___		
2						_____ . ___		
3						_____ . ___		

VOLUME-TO-VOLUME

CATCH PILE SHAPE AS SEEN FROM ABOVE:



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

Other Shapes or Combinations: Draw & label all dimensions in comments.

A1) REMAINDER VOLUME from previous haul(s)

Starboard Circle One: Full Oval Half-Oval Rectangle

____.__ ft X ____.__ ft X ____.__ ft (X 0.785) =_____.__ __ ft^3
Width Length Avg. Depth (if oval or half-oval) Volume

Depths: ___.__ ___.__ ___.__ ___.__ ___.__ / ___.__ ___.__ ___.__ ___.__ ___.__

Port Circle One: Full Oval Half-Oval Rectangle

____.__ ft X ____.__ ft X ____.__ ft (X 0.785) =_____.__ __ ft^3
Width Length Avg. Depth (if oval or half-oval) Volume

Depths: ___.__ ___.__ ___.__ ___.__ ___.__ / ___.__ ___.__ ___.__ ___.__ ___.__

A1) TOTAL REMAINDER VOLUME (Starboard + Port) =_____.__ __ ft^3

A2) TOTAL VOLUME after current haul dumped

Starboard Circle One: Full Oval Half-Oval Rectangle

____.__ ft X ____.__ ft X ____.__ ft (X 0.785) =_____.__ __ ft^3
Width Length Avg. Depth (if oval or half-oval) Volume

Depths: ___.__ ___.__ ___.__ ___.__ ___.__ / ___.__ ___.__ ___.__ ___.__ ___.__

Port Circle One: Full Oval Half-Oval Rectangle

____.__ ft X ____.__ ft X ____.__ ft (X 0.785) =_____.__ __ ft^3
Width Length Avg. Depth (if oval or half-oval) Volume

Depths: ___.__ ___.__ ___.__ ___.__ ___.__ / ___.__ ___.__ ___.__ ___.__ ___.__

A2) TOTAL CATCH PILE VOLUME (Starboard + Port) =_____.__ __ ft^3

A) Total Haul Vol. (A2 - A1)	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

COMMENTS

OMB Control No: 0648-0593
Expires on: 11/30/2015

SCALLOP TRAWL OFF-WATCH HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSDO OBHAU 05/01/13

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

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

PROTECTED SPECIES SIGHTING LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSIG 05/01/13

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	☐ OF ☐
TODAY'S DATE mm/dd/yy	/ /

EVENT #	EVENT TIME 24 hours	EVENT TYPE CODE	POSN CODE	HAUL NUM	**LATITUDE/LONGITUDE (DD MM.M)** - LORAN (XXXXX) 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
_____1	:				9960-		9960-										
_____2	:				9960-		9960-										
_____3	:				9960-		9960-										
_____4	:				9960-		9960-										
_____5	:				9960-		9960-										
_____6	:				9960-		9960-										
_____7	:				9960-		9960-										
_____8	:				9960-		9960-										
_____9	:				9960-		9960-										
_____10	:				9960-		9960-										
_____11	:				9960-		9960-										
_____12	:				9960-		9960-										

EVENT TYPE CODES:
08 = On-effort, during dedicated watch
10 = Off-effort, vessel activity unknown
11 = Off-effort, Vessel stop/anchor/drift
12 = Off-effort, sitting on gear
13 = Off-effort, transiting or searching
14 = Off-effort, towing gear
15 = Off-effort, hauling in gear
16 = Off-effort, setting out gear
19 = Off-effort, pumping catch

GENERAL
00 = Unknown
99 = Other

POSITION CODES:
00 = Unknown
01 = Bow, facing wind
08 = Bow, facing sideways
02 = Wheelhouse, facing forward
03 = Wheelhouse, facing backward
09 = Wheelhouse, facing sideways
04 = Work deck, facing backward
05 = Work deck, facing sideways
06 = Starboard side, facing net
07 = Port side, facing net
99 = Other

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 other body part
07 = Alive, hook/gear in/around several body parts
08 = Alive, seen by capt/crew ONLY
10 = Dead, condition unknown
11 = Dead, fresh
12 = Dead, moderately decomposed
13 = Dead, severely decomposed
14 = Dead, seen by capt/crew ONLY
NOTE: If more than one code applies, choose the one that describes the most specific cond. of the animal

ANIMAL BEHAVIOR CODES:
00 = Unknown
01 = Near gear, physical contact
02 = Near gear, within 50 meters
03 = Near gear, 51-150 meters
04 = Feeding on catch
05 = Porpoising
06 = Bow riding
07 = Breaching
08 = Swimming at surface
09 = Milling
10 = Motionless at surface
11 = Vessel avoidance
12 = Vessel attraction
99 = Other

OMB Control No.: 0648-0593
Expires on: 11/30/2015

OBS/TRIP ID	
DATE LANDED mm/yy	/
PAGE #	☐ OF ☐
TODAY'S DATE mm/dd/yy	/ /

EVENT #	COMMENTS	EVENT #	COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

PURSE SEINE GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSG 05/01/13

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

GEAR CODE ☐☐☐

GEAR NUMBER(S)

SEINE CHARACTERISTICS:

	NET	BUNT
LENGTH	_____ fm	_____ fm
DEPTH	_____ fm	_____ fm
MESH SIZE	___ . __ in	___ . __ in
TWINE SIZE	_____ mm	_____ mm

CONSTRUCTION MATERIAL

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

GEAR CHARACTERISTICS:

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

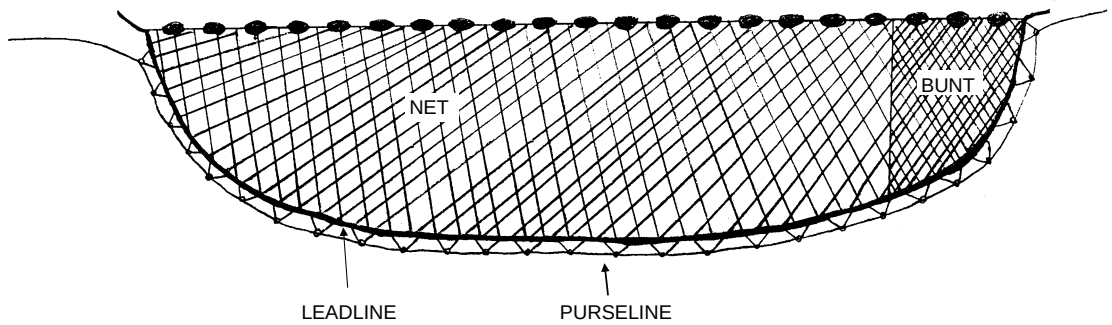
HAULING DEVICE

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

PURSE RINGS:

TYPE		MATERIAL	
Unknown	0 ___	Unknown	0 ___
Round	1 ___	Steel	1 ___
Snap	2 ___	Iron	2 ___
Roller	3 ___	Alloy	3 ___
Combo	8 ___	Other	9 ___
Other	9 ___		
_____		_____	

(diagram for reference only)



COMMENTS

OMB Control No.: 0648-0593
Expires on: 11/30/2015

PURSE SEINE SET LOG
NMFS FISHERIES OBSERVER PROGRAM
OBPSH OBHAU OBSPP 05/01/13

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

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

SET INFO	DATE 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(S)
BEGIN	/ /	:	9960 -		9960 -		. kn		

END	/ /	:	PLANE USED?	TIME UP	WATER TEMP (Fahrenheit)	NO 0	YES 1	NO 0	YES 1
				:		SET BY PLANE? ____	____	SUCCESSFUL SET? ____	____
FISH PUMPING			NO 0 ____						
BEGIN	/ /	:	YES 1 ____	TIME DOWN	o	SET ON DEBRIS? ____	____	FISH LOST? ____	____
END	/ /	:		:	. F				

COMMENTS

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

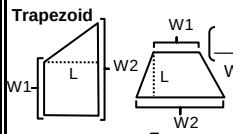
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

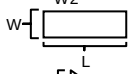
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



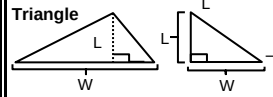
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



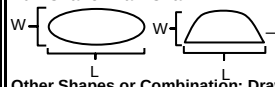
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

SCALLOP TRAWL OFF-WATCH HAUL LOG
NMFS FISHERIES OBSERVER PROGRAM
OBSDO OBHAU 05/01/13

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

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

SEA TURTLE BIOLOGICAL SAMPLE LOG
NMFS FISHERIES OBSERVER PROGRAM
OBBTU 05/01/13

OBS/TRIP ID	
DATE LANDED 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	1 Pair Pre-frontals? 0=N,1=Y	Overlap Scutes? 0=N,1=Y	Dorsal Color Code	Whole	Biopsy/ Skin	Other list in comments
				.	.	.									

Directions: Mark the boxes below for any conditions that apply for PSID above, mark all options that apply. You must mark at least 1 box for each category. Provide more comments and details where instructed.

DORSAL COLOR CODE (Above)

01 = Black
02 = Gray-Green
03 = Orange/Red-Brown
04 = Brown
99 = Other
00 = Unknown

Behavior on Deck

☐ Eyes open while on deck
☐ Lifting head to breath
☐ All flippers moving/flapping

If yes to following, provide comments & photo/video

☐ Moving sluggish/slow
☐ No movement seen
☐ Head or flippers hanging limply

Reflex Tests and Resuscitation

If yes to following, provide comments on the reaction

☐ No reflex test performed, explain
☐ Touch corner/upper eyelid (both eyes)
☐ Tail or flipper pinch (all 4 flippers)
☐ Rocking side to side
☐ Lightly splashing water on face
☐ Touch soft tissue around nose
☐ Put in resuscitation position

Duration(hrs): _____._____

Shell (Carapace and Plastron)

☐ No cracks/chips/injuries observed

If yes to following, provide comments & photo/video

☐ Shell crack with bone or tissue visible
☐ Crack includes vertebral scutes
☐ Crack with sharp/clean edges
☐ Crack includes marignal scutes
☐ Only marignals cracked, <50% width
☐ Only marginals cracked, =>50% width
☐ Superficial scuffs/chips/abrasions observed
☐ Barnacles present
☐ Algae present
☐ Not examined

Head

☐ No injuries/wounds/bleeding observed

If yes to following, provide comments & photo/video

☐ One or both eyes closed/injured
☐ Any bones or muscle visible
☐ Object seen in/coming from mouth
☐ Discharge/bleeding/growth seen from eyes/nares/mouth
☐ Any indents, abrasions, swelling, lacerations or bleeding seen
☐ Barnacles present
☐ Not examined

Skin

☐ No injuries/wounds/bleeding observed

If yes to following, provide comments & photo/video

☐ Any indents, abrasions, swelling, lacerations or bleeding seen
☐ External bleeding from skin
☐ Cut/injury through skin (no bleeding)
☐ Bleeding seen while tagging/biopsy
☐ Bleeding from cloaca (anus)
☐ Barnacles present
☐ Algae present
☐ Worms/parasites present
☐ Not examined

Flippers

☐ No injuries/wounds/bleeding observed

If yes to following, provide comments & photo/video

☐ Amputation of <50% of flipper
☐ Amputation of =>50% of flipper
☐ Whole or broken bone visible in wound
☐ Soft tissue exposed/involved
☐ Any indents, abrasions, swelling, lacerations or bleeding seen
☐ Not examined

Behavior at Release

☐ Eyes open at release
☐ Lifting head to breath
☐ All flippers moving/flapping
☐ Immediately dove
☐ Seen in water after release

If yes to following, provide comments & photo/video

☐ Still no response to reflex tests
☐ Moving sluggish/slow once in water
☐ Head or flippers hangling limply
☐ Gear on animal
☐ Circling/listing once in water
☐ Upside down/can't right itself once in water
☐ Surfaced after diving
☐ Stays at surface, does not dive
☐ Released while observer not present
☐ Not seen once in water

Additonal Information

Sampling completed and waiting to release

☐ Protected from elements
☐ Anything put over eyes, nares not covered

Additonal release details

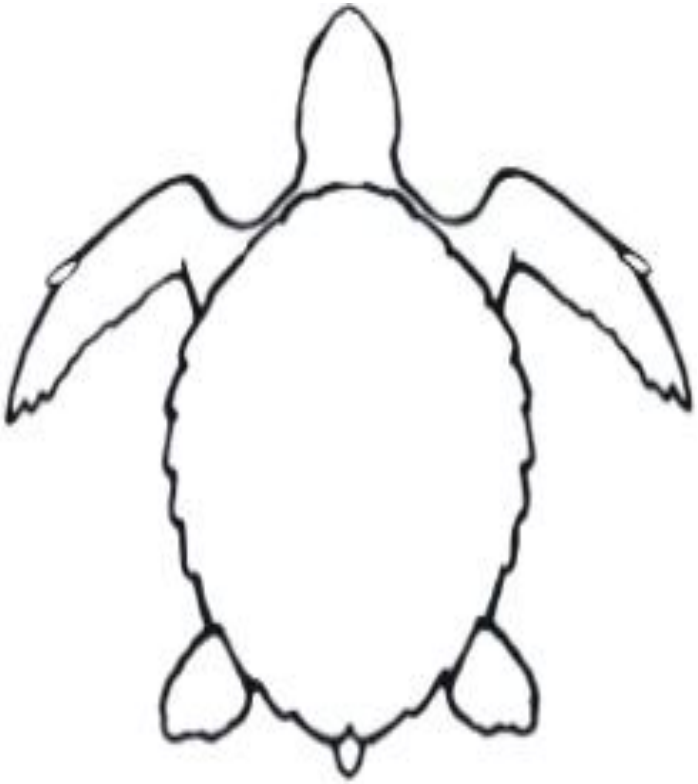
☐ Boat in neutral and gear out of water
☐ Released off stern of boat
☐ No other boats in immediate area

Comments: Using the boxes above as a guide, provide comments and sketches to describe ID characteristics, overall condition of carapace, plastron and soft tissue, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on animal, results of reflex tests/resuscitation, details of retrieval, details of release and any other relevant information. Sketches and space for more comments available on back of log.

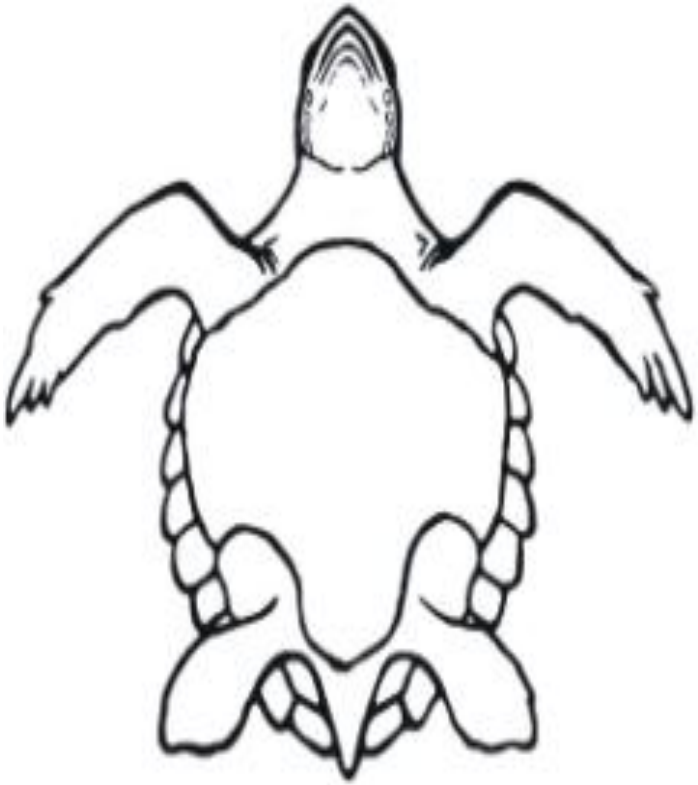
OMB Control No.: 0648-0593
Expires on: 11/30/2015

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

Comments and Sketches: Using the boxes on the front of the log as a guide provide comments and sketches to describe ID characteristics, overall condition of carapace, plasteron and soft tissue, note any scavenger damage and/or decomposition, new and/or healed wounds, tag and biopsy location, any gear on animal, results of reflex tests/resuscitation, details of retrieval, details of release and any other relevant information.



Dorsal View



Ventral View

Additonal space for comments (if needed):

OMB Control No.: 0648-0593
Expires on: 11/30/2015

TWIN TRAWL GEAR CHARACTERISTICS LOG
NMFS FISHERIES OBSERVER PROGRAM
OBTTG 05/01/13

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

GEAR CODE	GEAR NUMBER	NET NAME	NET TYPE	NET BUILDER
☐☐☐				

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	LINER
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

STRENGTHENER USED?
NO 0 _____ YES 1 _____

CHAFING GEAR USED?
NO 0 _____ YES 1 _____

LINER USED?

NO 0 _____
YES 1 _____

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/LINER

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

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

CODEND MESH SIZE

_____mm _____mm
_____mm _____mm
_____mm _____mm
_____mm _____mm

LINER MESH SIZE

_____mm _____mm
_____mm _____mm
_____mm _____mm
_____mm _____mm
_____mm _____mm

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
(check all that apply)

Unknown	0	☐
Headrope	1	☐
Wings	2	☐
Footrope	3	☐
Door	5	☐
Codend	6	☐
Other	9	☐

_____

EXCLUDER/SEPARATOR DEVICE

USED? NO 0 _____ YES 1 _____

Type Code _____

T.E.D. EXTENSION

Mesh Size _____.____in

(circle one) A / E

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

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.
06 =	Compound Nordmore Grate	29 =	Parker Soft T.E.D.
07 =	Double Nordmore Grate	30 =	Experimental T.E.D.
08 =	Large Mesh	31 =	Northeast Modified T.E.D.
20 =	T.E.D., Unknown	32 =	Large Flat Bar T.E.D.
21 =	Standard T.E.D.	98 =	Combination (Comment)
22 =	Weedless T.E.D.	99 =	Other (Comment)
23 =	Flounder T.E.D.		

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
NMFS FISHERIES OBSERVER PROGRAM
OBTTH OBHAU OBSPP 05/01/13

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

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

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	WATER TEMP
BEGIN HAUL	/ /	:	9960 -		9960 -			___.___ kn	fm	o ___.___ F
BEGIN FISHING	/ /	:								
END HAUL	/ /	:	9960 -		9960 -					
GEAR ONBOARD	/ /	:								

TARGET SPECIES CODE

NET OBSERVED
Port 1 ____
Starboard 2 ____
Both 3 ____

**Only fill in if gear mounted electronics are used

VERTICAL OPENING ** ft

HORIZONTAL OPENING ** ft

DOOR SPREAD ** ft

SAMPLE WEIGHT MULTIPLIER ____.__

COMMENTS

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

OMB Control No.: 0648-0593
Expires on: 11/30/2015

CATCH ESTIMATION WORKSHEET
NMFS FISHERIES OBSERVER PROGRAM
05/01/13

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

SORTING METHOD

1 ☐ Picked
2 ☐ Shoveled
3 ☐ Deckloaded
4 ☐ Conveyor System
5 ☐ Pumping System
8 ☐ Combination (Comment)
9 ☐ Other (Comment)

_____

ESTIMATION METHODS

01 = Actual (Spring Scale) 11 = Actual (Electronic Scale)
05 = Tally 03 = Basket or Tote Count
02 = Volume-to-Volume 07 = Cumulative Sum
04 = Captain
06 = Visually Estimated
10 = Catch Composition Log
98 = Combination (Comment)
99 = Other (Comment)

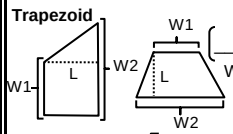
MAREL SCALE FIT VALUE

_____

VOLUME-TO-VOLUME

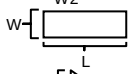
CATCH PILE SHAPE AS SEEN FROM ABOVE:

Trapezoid



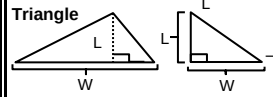
(____.__ft + ____.__ft) X ___.__ ft X ___.__ft X 0.5 =_____.__ __ ft^3
Width 1 Width 2 Length Avg. Depth Volume

Rectangle



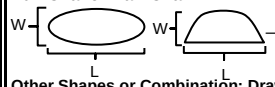
____.__ft X ____.__ ft X ____.__ ft =_____.__ __ ft^3
Width Length Avg. Depth Volume

Triangle



____.__ft X ____.__ ft X ____.__ft X 0.5 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Full Oval or Half-Oval



____.__ft X ____.__ft X ____.__ft X 0.785 =_____.__ __ ft^3
Width Length Avg. Depth Volume

Other Shapes or Combination: Draw and label all dimensions in comments. =_____.__ __ ft^3
Volume

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

____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__	____.__

A) Total Haul Vol.	B) Total Subsample Vol.	C) Sample Weight Multiplier (A ÷ B)
_____.__ __ft^3	____ Basket(s) X 1.47 ft^3 =_____.__ __ft^3 ____ Tote(s) X 2.65 ft^3 =_____.__ __ft^3 ____ Other(s) X ____.__ __ft^3 =_____.__ __ft^3	_____.___ ___ >> Copy to Front >>

DECKLOADING and CUMULATIVE SUM

Entire Deckloading Haul Range	Deckloading Measurements: Total Pile Vol.	Remainder Pile Vol.	A) Total Haul Vol.
_____ – _____	____.__ __ft^3	- ____.__ __ft^3	= ____.__ __ft^3

Number of Hauls _____

*Est.Meth.: Estimation Method used to obtain species Total Samp. Wgt. for cumulative sum calculation. If not '01' or '11' show all additional calculations & use '98' on front.

SPECIES	DISP. CODE	TOTAL SAMP. WGT.	*EST. METH.	WGT. PER HAUL
1				
2				
3				
4				
5				

BASKET OR TOTE COUNT OR TALLY

**Unit Types: B = Basket, T = Tote, I = Individual (tally), O = Other

SPECIES	DISP. CODE	**UNIT TYPE	LIST INDIVIDUAL SAMPLE WGTS.	TOTAL SAMPLE WGT.	# OF SAMPLE UNITS	AVG. WGT. PER UNIT	TOTAL # OF UNITS	TOTAL EST. WGT.
1						_____ . __		
2						_____ . __		
3						_____ . __		
4						_____ . __		
5						_____ . __		
6						_____ . __		
7						_____ . __		
8						_____ . __		
9						_____ . __		
10						_____ . __		

COMMENTS :

OMB Control No: 0648-0593
Expires on: 11/30/2015

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

IN-OFFICE

DATE RECEIVED	
EDITED BY	

OBS/TRIP ID	PROGRAM CODE	SECTOR ID	FLEET	VENDOR ID	INCIDENTAL TAKES	AGE STRUCTURES	WHOLE FISH	FIELD DIARY	COMMENT LOG
					N B M T	Env. Froz.	N Y	N Y	N Y

VESSEL NAME # 1	VESSEL NUMBER # 1	VESSEL PERMIT # 1	PORT SAILED (CITY, STATE) CODE	DATE SAILED mm/dd/yy	TIME SAILED 24 h
				/ /	:
VESSEL NAME # 2	**VESSEL NUMBER # 2**	**VESSEL PERMIT # 2**	**PORT LANDED (CITY, STATE) CODE**	**DATE LANDED mm/dd/yy**	**TIME LANDED 24 h**
				/ /	:

HOME PORT (CITY,STATE) CODE	EXP. TRIP DUR	CREW SIZE (INCLUDE CAPT)	DEALER'S NAME	VTR SERIAL NUMBER	STEAM TIME (calc)
	day(s)				. hrs

TRIP TYPE	ICE USED	FUEL USED	DAMAGE/LOSS *	SUPPLIES *	FOOD	ICE (PER TON)	FUEL (PER GAL)	WATER	OIL	BAIT
Single Gear 1 ____			Unknown ____	Unknown ____	Unknown ____	Unknown ____	Unknown ____	Unknown ____	Unknown ____	Unknown ____
Multiple Gear 2 ____	_____ . __ __ tn	_____ gal	$ _____ . 00	$ _____ . 00	$ _____ . 00	$ ____ . __ __	$ _____ . __ __	$ _____ . 00	$ _____ . 00	$ _____ . 00

TRIP COSTS

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		No 0 ____ Yes 1 ____					
OTHER GEAR 2		No 0 ____ Yes 1 ____					
OTHER GEAR 3		No 0 ____ Yes 1 ____					

TIME LOST *

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

# TRIP HAULS	# UNOBSERVED HAULS	PRIMARY SPECIES LANDED	PHOTOS?
			N Y

SCALLOP TRIPS ONLY

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

COMMENTS

DATE BOARDED mm/dd/yy	TIME BOARDED 24 h
/ /	:
DATE DISEMBARKED mm/dd/yy	**TIME DISEMBARKED 24 h**
/ /	:

* Fields that require a comment

OMB Control No.: 0648-0593
Expires On: 11/30/2015

VESSEL REIMBURSEMENT FOR OBSERVER MEALS
Norteast Fisheries Observer Program

MRAG Americas
ASM/NEFOP Program
National Marine Fisheries Service

MRAG will reimburse $40/day for each day adequate meals are provided

Vessel provided all meals ☐ Observer provided all meals ☐

	Trip Start Date	Trip Start Time	Landing Date	Landing Time	Number of Days
Cruise Dates					-1

Vessel Name: ☐ Permit Number: ☐

Observer: ☐ Cruise Number: ☐

Were sleeping accommodations equal to that of a regular crew members? ___Yes ___No
Were you afforded reasonable privacy for dressing and sleeping? ___Yes ___No
Were meals adequate In quantity and quality. ___Yes ___No

Observer's Signature_____ Date ☐

Make payment to: ☐

Payment Address: ☐

If you would like to have funds transferred into you bank account, please contact
Bruce Lambert @ 774-501-7416 or Bryan Belay @ 888-425-8772 with account information.
Comments:

ASM
VESSEL REIMBURSEMENT FORM
TRIPS LONGER THAN 24 HOURS ONLY

TRIP ID # _____

Subsistence Reimbursement Form for Vessel Master on F/V _____

for At-Sea Monitor (name) _____

Date Sailed: _____ Time Sailed: _____

Date Landed: _____ Time Landed: _____

Total Hours at Sea: _____hrs

Total Reimbursement: _____

Reimbursement is for trips that are greater than 24 hours dock to dock. For each 24 hour period starting when the vessel sails it will be reimbursed $40. The chart below defines the reimbursement:

Total Time at Sea	Vessel Reimbursement	Total Time at Sea	Vessel Reimbursement
0 to < 24 hours (< 1 day)	$0	168 to 191.9 hours (7 days)	$280
24 to 47.9 hours (1 day)	$40	192 to 215.9 hours (8 days)	$320
48 to 71.9 hours (2 days)	$80	216 to 239.9 hours (9 days)	$360
72 to 95.9 hours (3 days)	$120	240 to 267.9 hours (10 days)	$400
96 to 119.9 hours (4 days)	$160	264 to 287.9 hours (11 days)	$440
120 to 143.9 hours (5 days)	$200	288 to 311.9 hours (12 days)	$480
144 to 167.9 hours (6 days)	$240	312 to 335.9 hours (13 days)	$520

_____ _____
Monitor's Signature Date

_____ _____
Captain's Signature Date

Please make check payable to _____

Attn: _____

F/V _____

Street _____

City, State, Zip _____

MAIL TO: AIS, Inc.
P.O. Box 2093
New Bedford, MA 02741

Last updated April 2012

ASM Meal Reimbursement Form

East West Technical Services LLC

	Trip ID #
Monitor's Name:	
Vessel's Name:	
Captain's Name:	Phone:

Trip Information	
Departure Date:	Return Date:
Departure Time:	Return Time:
	Total Reimbursable Days:

Recipient Information ***Please Print Clearly***
Recipient's Name:
Recipient's Address:

EWTS shall compensate vessels at a rate of $40 per day (for every completed 24 hour period) to cover At-Sea Monitor accommodation and food costs while aboard the vessel for trips lasting longer than one 1 day (i.e., 24 hours).

East West Technical Services LLC
86 Mumford Road
Narragansett, RI 02882

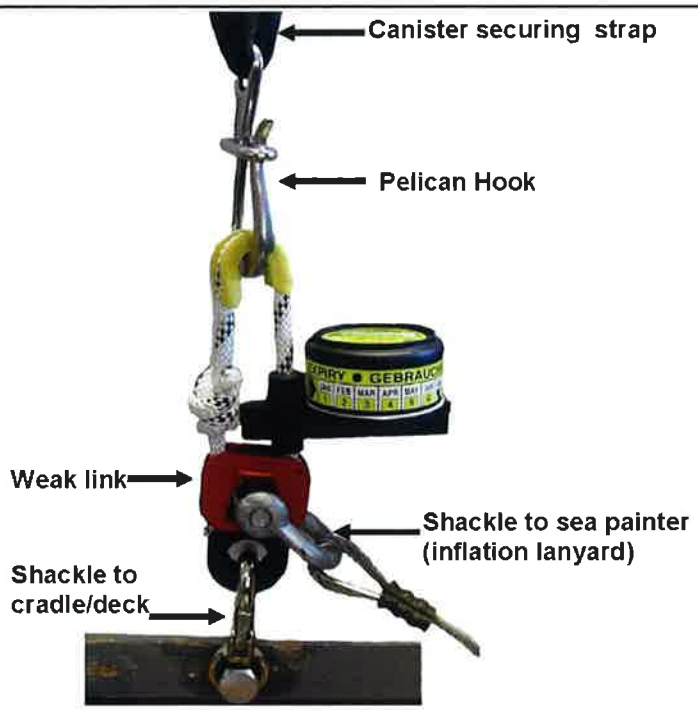
Phone: 860-910-4957
Fax: 860-223-6005
Email: ewtsct@ewts.com

Vessel Safety Checklist

Vessel Name: _____ Vessel permit: _____

Ensure the USCG Commercial Fishing Vessel Safety decal is not expired based on the information noted on the face of the decal.

Is the decal valid? Y N



Is hydrostatic release installed correctly? Y N

Survival Craft: p. 10

Number of: _____

Total capacity: _____

# of crew & observers on board _____

Sufficient capacity? Y N

Survival crafts stowed correctly? Float free or otherwise in accordance with the Federal Requirements for Commercial Fishing Industry Vessels (p. 13) Y N

Service Due decal exp. date: ___/___ (expires on date displayed-inflatables only)

Hydrostatic release exp. date: ___/___ (expires on date displayed)

Your survival craft assignment: _____

Immersion Suit/PFDs: p. 6

Available for everyone on board? Y N

Location(s): _____

Distress Signals: p. 16

Location(s): _____

Expiration dates checked? Y N

(expires on date displayed)

Number of flares: _____

EPIRB: p. 17

(Visual inspection only. Please leave all testing/handling to crew)

Location(s): _____

Battery exp. date: _____ (expires on date displayed)

Hydrostatic release expiration date: _____/_____ (expires on date displayed)

Located in a Coast Guard approved location?: Y N

NOAA Registration valid? Y N

Exp. date: _____ (expires on date displayed)

Registered to this vessel (name of vessel displayed): Y N

Alphanumeric code on decal matches code on EPIRB: Y N

Signal tested (or asked to see station log in wheelhouse for most recent test. Signal should be tested monthly): Y N

Fire Extinguishers: p. 19

Extinguisher(s) found in every main area/corridor? Y N

Extinguishers in "good and serviceable condition" (gauge in the green, low amounts of rust, canister in good condition, unobstructed, hoses attached, service tags available)? Y N

Throwable Flotation Devices: p. 8

Number of flotation devices appropriate for vessel size? Y N

of: Rings _____ Rings w/ line _____ Slings _____

Easily accessible?: Y N

Name of vessel displayed on each? Y N

Location(s): _____

Additional Safety Checks:

Factory hydraulic shut-off(s) - know location? Y N

Watertight doors - do they close properly? Y N

Hatches/passageways - are they unobstructed? Y N

Discussed safe places to work on deck and in factory with captain/crew? Y N

Discussed refrigerant leak procedures? Y N

Type of refrigerant used_____ Y N

Discussed reporting/identifying inoperative alarm/fire systems? Y N

Did you hear the general alarm? Y N

Safety Orientation: p. 29

Did you complete drills upon embarking? Y N

Did the vessel conduct a safety orientation? Y N

Did the vessel personnel use this safety checklist to complete the required vessel safety orientation? Y N

Who gave the orientation? _____
(Detail what was covered in the comment section)

Where will you go during emergencies:

_____

First Aid Materials: p. 24

Location(s):_____

Is there an individual trained in CPR/First Aid on board? Y N

Who?:_____

Radios: p. 26

How many SSB and VHF radios?: _____ / _____

Are emergency call instructions posted? Y N

Were procedures for making an emergency call discussed? Y N

Emergency Drills and Date(s) Conducted: p. 29

Fire_____

Abandon Ship _____

Man Overboard _____

Vessel Flooding/stabilization _____

General alarm activation _____

Donning immersion suits _____

Radio/visual distress signals _____

Were the drills hands-on involving actual gear? Y N

Did you participate in the drills? Y N

Observer Personal Protective Equipment:

Personal Locator Beacon? Y N

UIN:_____

NOAA Registration Decal Expiration Date:_____

Immersion Suit with Strobe Light and Battery? Y N

Serial #:_____

Personal Flotation Device with Strobe Light and Battery? Y N

Comments (All "N" responses require a comment):

_____

Observer Name: _____ Cruise #: _____

Observer Signature: _____ Date: _____

Captain Name: _____

Captain Signature (optional): _____ Date: _____

*Did the vessel request a copy of the Checklist? Y N *If so, were you able to supply a copy? Y N

Blue indicates "no go" items!

Bird Interaction, Activity and Species Form

Page _____ of _____

Cruise	Permit	Event #	Trip / Haul / Offload (Circle One)

Observer Name _____

Vessel Name _____

Interaction Description

Date ____/____/20____ Time _____

Bird Location [ ]

Fishery Location [ ]

Location During Trip or Offload

Latitude (N)			E/W	Longitude		
Deg	Min	Sec		Deg	Min	Sec

Weather Conditions During Interaction

Beaufort Sea Scale [ ] Weather [ ]

Interaction Description and Comments

Vessel Activity

- Traveling ◯
- Setting ◯
- Offloading ◯
- Sampling ◯
- Processing ◯
- Resting ◯
- Fishing ◯
- Retrieving ◯
- Not applicable ◯

Deterrent Type

Deterrent used? [ ]

- Weights ◯
- Other ◯
- 1 Streamer Line ◯
- 1 Bird Bag ◯
- Lining Tube ◯
- Discharge Offal ◯
- Unknown No. of Streamers. ◯
- 2 Bird Bags ◯
- Water Hose ◯
- 2 Streamer Lines ◯

Species Code | Species Name

Number of Birds [ ] Count Type [ ]

Good Look at Bird Y N N/A (Circle One) How Certain of ID Y N M (Circle One)

Interaction Description [ ] Interaction Outcome [ ]

Short-Tailed Albatross Only

Number of Adult Birds [ ] Number of Sub-Adults [ ]

Number of Immatures [ ] Number of Juveniles [ ]

Identifying Characteristics

Specimen? ◯

Species Code | Species Name

Number of Birds [ ] Count Type [ ]

Good Look at Bird Y N N/A (Circle One) How Certain of ID Y N M (Circle One)

Interaction Description [ ] Interaction Outcome [ ]

Short Tailed-Albatross Only

Number of Adult Birds [ ] Number of Sub-Adults [ ]

Number of Immatures [ ] Number of Juveniles [ ]

Identifying Characteristics

Specimen? ◯

Species Code | Species Name

Number of Birds [ ] Count Type [ ]

Good Look at Bird Y N N/A (Circle One) How Certain of ID Y N M (Circle One)

Interaction Description [ ] Interaction Outcome [ ]

Short Tailed-Albatross Only

Number of Adult Birds [ ] Number of Sub-Adults [ ]

Number of Immatures [ ] Number of Juveniles [ ]

Identifying Characteristics

Specimen? ◯

Species Code | Species Name

Number of Birds [ ] Count Type [ ]

Good Look at Bird Y N N/A (Circle One) How Certain of ID Y N M (Circle One)

Interaction Description [ ] Interaction Outcome [ ]

Short Tailed-Albatross Only

Number of Adult Birds [ ] Number of Sub-Adults [ ]

Number of Immatures [ ] Number of Juveniles [ ]

Identifying Characteristics

Specimen? ◯

IFQ Priority Species Tracking Form

Directions: Observer will place this form in the wheelhouse and document the **retained** weight and number of each species listed for each haul. Observers will document discrepancies between the vessel's weights and the observer's weights in the "Notes" section. Prior to disembarking, the observer will sum the weights and numbers by species and document this in the row labeled "Total", and sign the form.

Observer Name: _____ Vessel Name: _____ Vessel ID #: _____

Trip Departure Date: _____ Trip Return Date: _____ WCGOP Trip #*: _____

Fish Ticket #*: _____ Date Offload Began*: _____

* If available

Haul #	Bocaccio Rockfish		Canary Rockfish		Cowcod		Yelloweye Rockfish		Notes (Discrepancies, issues, etc.)
	Wt	#	Wt	#	Wt	#	Wt	#	
Total									

The observer will keep the WHITE copy. The YELLOW copy will be placed in a sealed envelope and left in the wheelhouse for the catch monitor. Vessels will receive the PINK copy of the form. For more information, including what to do if the vessel and observer disagree on estimates, review the "IFQ Priority Species Tracking Form" outreach material.

Observer's Signature: _____ Date: _____

Haul # ☐☐

CATCH FORM*

Date ☐☐☐☐☐☐ Trip Number ☐☐☐☐☐ Visual OTC _____

Catch #	R or D	Catch Category	Catch/Sample Weight	Volume	Density	Fish # Req. for WMs 8,9,19 & 14 (if actual)	# Hooks/Pots sampled by catch category	Wt Method	Catch Purity	Discard Reason	Comments
Keypunch Check											

*Combined form for all gear types

Combined Catch Form v.1 September 2013 OMB Control No. 0648-0593 expires 11/30/2015

				Latitude		Longitude		
Set #		Date	Time	Degrees	Minutes	Degrees	Minutes	Depth (fm)
	Start							
	End							
Additional Locations								

Gear Units Set: _____ Gear Units Sampled: _____ Gear Units Lost: _____

Tally Sample

Fit # / Cal. Wt. _____ Avg. Soak Time _____

Retained

Discarded

Species:		Species:		Species:		Species:		Species:	
Length	Bios / Freq.	Length	Bios / Freq.	Length	Bios / Freq.	Length	Bios / Freq.	Length	Bios / Freq.

Haul # | | |

FIXED GEAR DECK FORM

Date | | | | | | | Trip # | | | | | | Sample Weight KP _____

Catch #	Catch Category	Weight Method	Sample Method	R or D	KP Weight / KP Number	Species	**Sample Weight**	**Fish #**	Discard Reason	Sample Weight Calculations (check box if Bios) ✓
										☐
										☐
										☐
										☐
										☐
										☐
										☐
										☐
										☐
										☐
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										☐
										☐
										☐
										☐
										☐
										☐

Fixed Gear Weight Methods
13 – Tally Sample

Fixed Gear Sample Methods
4 - FG Sample
5 - FG(Verified Fish Ticket)
6 - FG(Unverified Fish Ticket)

Reasons for Discard
11-Incidental/Accidental 12-Drop off 13-Market
14-Other 15-Predation 16-Regulation 17-Safety
18-Market (Dockside) 19-Utilized on board

Release Methods for RF (Nearshore Fisheries Only)
TO-Tossed over **MV**-Mostly Vented **DC**-Mostly released at depth by cage **DW**-Mostly released at depth weighted line **DO**-Mostly released at depth other method **OM**-Other release method used **NC**-Not Collected

OMB Control No. 0648-0593
Expires 11-30-2015

Haul # | | |

				Latitude		Longitude		
Set #		Date	Time	Degrees	Minutes	Degrees	Minutes	Depth (fm)
	Start							
	End							
Additional Locations								

Gear Units Set: _____ Gear Units Sampled: _____ Gear Units Lost: _____

Tally Sample

Avg. Soak Time: _____

Fit # / Cal. Wt. _____

Retained **Discarded**

Pink Shrimp Lights BRD Characterization Form

Observer: _____ Trip Number: _____

Submit form to your debriefer with the associated trip data for all Pink Shrimp trawl trips.

Additional form is required any time changes are made to the Bycatch Reduction Device (BRD) that affect 1 or more * fields.

Lights present? Yes ☐ No ☐ **If yes:** Used on **all** hauls? Yes ☐ No ☐

If not used on all hauls, record the haul number(s) lights were utilized:_____

***Number of lights per net:** Single-rigged _____ Double-rigged: port net_____ starboard net_____

Count and record the number of lights used on each net.
If double-rigged nets are used, count and record number of lights separately for each net.

***Light Type:** Single color ☐ Multi-color ☐ Color changing ☐ (multiple colors that change)

***Light color(s):** _____ (list all colors that were on during fishing)

***Light Pattern:** Static ☐ (continuously lit) Strobe ☐ (flashing)

***Light manufacturer:** _____

***Light Model:** _____ (if known)

Notes: *Record any information not captured in the fields above pertaining to the use of BRD lights.*

_____

_____

_____

_____

_____

_____

Haul # | | |

SPECIES COMPOSITION FORM

Date | | | | | | | Trip # | | | | | | Fit # _____ Cal. Wt. _____

Trawl Biosampling List
1 2 3

Catch #	Catch Category	Sample Method	KP Weight / KP Number	Species	**Species Code**	**Sample Weight**	**Fish #**	Discard Reason	Release method	Basket Weight	#	Basket Weight	#

Trawl Sample Methods
1 – Whole haul
2 – Single basket
3 – Multiple basket

Fixed Gear Sample Methods
4 - FG Sample
5 - FG(Verified Fish Ticket)
6 - FG(Unverified Fish Ticket)

Reasons for Discard
11-Incidental/Accidental 12-Drop off 13-Market
14-Other 15-Predation 16-Regulation 17-Safety
18-Market (Dockside) 19-Utilized on board

Release Methods for RF (Nearshore Fisheries Only)
TO-Tossed over **MV**-Mostly Vented **DC**-Mostly released at depth by cage **DW**-Mostly released at depth weighted line **DO**-Mostly released at depth other method **OM**-Other release method used **NC**-Not Collected

Species Composition Form
October 2013

OMB Control No. 0648-0593
Expires 11-30-2015

Species	Species Composition Measurements and Calculations

Trip Information

CS LE OA __EFP

Trip # ☐☐☐☐☐ USCG # ☐☐☐☐☐☐☐ or State Reg # ☐☐☐☐☐☐☐☐

Observer Name _____ Year 2 0 1 ☐

Vessel Name _____ Partial Trip ☐ (NCS only) Total # of Fishing Days (KNOWN) ☐

Fishery _____ Vessel Logbook Name _____

Permit/License # _____ Vessel Logbook Page # _____

_____

First Receiver (CS only) _____ Observer Logbook # _____

Skipper's Name _____ # of Crew _____ (including captain, not including observer)

Departure Date/Time ___/___/___ _____ Departure Port _____

Landing Date/Time ___/___/___ _____ Landing Port _____

Fish Ticket #	WOC	Date

Fish Ticket #	WOC	Date

Haul Information

Haul/ Set #	OTC Estimate	Weight Method	Gear Perf	Total Hooks/ Pots Set	# of Hooks/ Pots Lost	Seabird Avoidance (Gears 7, 9, 19, & 20)	Avg. Soak Time m = minutes, h =hours	Comments
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
							< 1m 1-5m 5-15m 15-30m 30-45m 45-60m 1-2h 2-6h 6-12h 12-24h 24-36h 36+h	
KP Checks					**Gear Perf**: 1-No Problem 2-Pot in Haul 3-Net Hung 4-Net Ripped 5-Net, Pot(s) or Other Gear Lost 7-Other 8-Retrieved Gear **Seabird Avoidance:** 0-None 3-Buoy Line 4-Weights 5-Night Setting (Exclusively) 6-Other 7-Single Streamer 8-Double Streamer			

OMB Control No. 0648-0593 expires 11-30-2015
October 2014
Trip Form v.2015

TRIP FORM - HAUL LOCATIONS

Trip Notes:

Haul/ Set #		Date		Time	Latitude		Longitude		Depth of Catch (fathoms)	Gear Type	Excluder Presence	Target Strategy
		Month	Day		Degrees	Minutes	Degrees	Minutes				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				
	Start					.		.				
	End					.		.				

Gear Type Codes:
1-Trawl; small footrope (<8 inches)
2-Trawl; large footrope (>8 inches)
3-Midwater trawl
4-Danish/Scottish Seine
5-Other trawl gear,
7-Vertical Hook and Line
8-Pole (Commercial)
9-Other Hook and Line
10-Fish Pot
12-Shrimp trawl single rigged
13-Shrimp trawl double rigged
14-All net gear except trawl
15-All Troll gear
16-All other Miscellaneous gear
17-OR set back flatfish net (pineapple net)
19-Longline (fixed hooks)
20-Longline (snap-on hooks)

Excluder Presence Codes:
1 - Present
2 - Absent
Leave field blank if not collected

DECK FORM

Date	Cruise	Permit	Haul No.	Offload No.

Page _____ of _____ for Vessel/Plant

Page _____ of _____ for Haul/Offload

Sample #:	Sub-Sample #:	Sample Size: Kgs Segments pots	# of Sampled Hooks:
Presorted ◯	Combined ◯	Unable to Follow Design ◯	No Fish in Sample ◯

Species	Sex	#	Weight	% ret.
------ KEYPUNCH ------	X			X

Length, viability, injury, specimen, tally data, measurements, bird observations, sample design, notes:

Tally K/P

Sample #:	Sub-Sample #:	Sample Size: Kgs Segments pots	# of Sampled Hooks:
Presorted ◯	Combined ◯	Unable to Follow Design ◯	No Fish in Sample ◯

Species	Sex	#	Weight	% ret.
------ KEYPUNCH ------	X			X

Length, viability, injury, specimen, tally data, measurements, bird observations, sample design, notes:

Tally K/P

Cruise	Permit

Marine Mammal Interaction and Specimen Form

Resubmission (Circle All Changes)

Page _____ of _____

Observer name _____ **Vessel name** _____

Trip Haul Offload (circle one)	Interaction Date		Species Common Name	Mammal code	Total number of animals observed	Number of animals in interaction	Did you observe mammal?	Interaction code	Condition Code	Deterrence code	Deterrence successful?	Food species	Location during Trip							Specimen Data				
													Latitude (N)			Longitude								
	Month	Day											Deg	min	sec	Deg	min	sec	E/W	Specimen number	Animal number	Specimen type	Sex	Value

Comments: (see manual for list of required information)

For condition code 3 was animal injured? Y○ N○ U○

Trip Haul Offload (circle one)	Interaction Date		Species Common Name	Mammal code	Total number of animals observed	Number of animals in interaction	Did you observe mammal?	Interaction code	Condition Code	Deterrence code	Deterrence successful?	Food species	Location during Trip							Specimen Data				
													Latitude (N)			Longitude								
	Month	Day											Deg	min	sec	Deg	min	sec	E/W	Specimen number	Animal number	Specimen type	Sex	Value

Comments: (see manual for list of required information)

For condition code 3 was animal injured? Y○ N○ U○

Form 11US

MARINE MAMMAL SIGHTING

NOAA/NMFS/AFSC/NMML
Platforms of Opportunity
7600 Sand Point Way NE
Seattle, WA 98115

Observer(s) _____ Vessel _____

year | month | day | local time (24 hr. clock) : :

latitude ° ' N/S N

longitude 1 ° ' E/W

sighting conditions: ☐ xlnt ☐ good ☐ fair ☐ poor

Beaufort ☐ +/- water temp ☐ °C

species (common and/or scientific name) **Please fill out a form for each species**

confidence: ☐ sure ☐ likely ☐ unsure

sighting cue

closest approach (meters) | number sighted (best) | number (minimum) | number (maximum)

For Office Use Only

observer

platform | vis. | species | conf.

sighting cue | photos | roll | frames

behaviors, cues and interactions

behaviors, cues and interactions | length multi

Narrative

Make identifications only on specific features seen. Mention them here. Include body features, markings and coloration, associated organisms, elaborate on behaviors, etc. The most valuable sightings contain a good amount of detailed information.

Body Length Estimate

- ☐ < 3 m (< 10')
- ☐ 3–8 m (10–25')
- ☐ 8–16 m (25–50')
- ☐ 16–26 m (50–80')
- ☐ >26 m (>80')

Sketches

When possible, make a sketch noting pigmentation, anatomical features, scarring, posture, anatomical anomalies, group positioning, etc.

Some common behaviors
(circle these or add your own in narrative section)

Small cetaceans

Bow riding
Leaping entirely out of water
Porpoising (swimming fast, body out of the water)
Rooster-tailing (usually a Dall's porpoise cue)
Slow rolling

Large cetaceans

Blow visible from a distance
Breaching
Flipper slapping
Group feeding
Lob-tailing
Spy-hopping
Tail raised on dive
Side wake riding
Stern wake riding

Pinnipeds

Jug handle (flippers in air)
Porpoising (swimming fast, at least partially out of the water)
Rafting
Spooked from haulout
Vocalizing

Fishing Interactions ?

Use form 10US

Photos/Video (optional)

☐ photographs
☐ video

roll/tape # _____

frame(s) _____

☐ **Check here if there was more than one species of marine mammal present at this sighting.**

cruise number and vessel code

Form 11US: ver. IX.98: Balla, Harkness, Hill, Folkens, Lowell, Mizroch

See silhouettes on other side

Hook and Line Fleet Characterization

Vessel Name: _____ USCG #: | | | | | | | State Reg #: _____

Vessel Characteristics

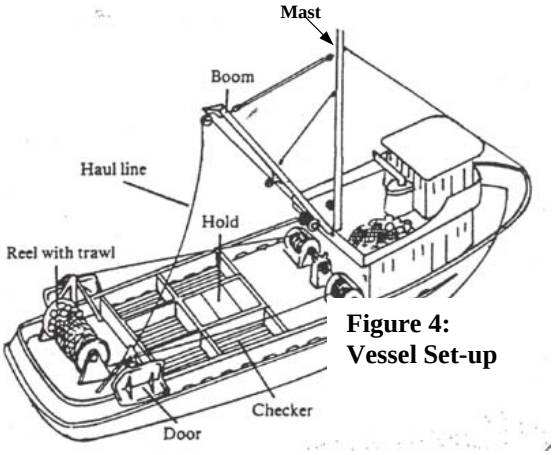


Figure 4: Vessel Set-up

1. **Does the vessel have a mast or boom? (**See Figure 4)

   Mast Boom Both Neither

2. **Is the vessel's propeller single or double screw?**

   Single Double

3. **What direction does the propeller turn?** As viewed from aft of stern

   Clockwise Counter-Clockwise Opposite (If 2 props)

4. **Where is the longline deployed (set from)?**

   Midline of Stern Port side of Stern Starboard side of Stern

   Port side of Vessel Starboard side of Vessel

5. **Measure the height of the setting point to the water (cm)** _____ cm

6. **Is the product delivered whole or head and gutted?** Whole Head and Gutted Both

7. **Does the vessel discharge offal?** Offal is defined as any type of processing waste, including fish guts and bait.

   Bait only Fish parts only Bait and fish parts No *If no, skip questions 8 and 9*

8. **Is the offal discharged on the opposite or same side of the hauling area?** If **both**, what percentage (best guess) on each side?

   Same Opposite Both Same _____% Opposite _____%

9. **Is offal discharged only during hauling, only during setting, or both?**

   Hauling Setting Both

Gear Characteristics (Longline Gear ONLY)

1. **Does the vessel hand bait the gear or use an auto-baiter?** Hand Bait Autobaiter

2. **Who is the manufacturer of the longline gear?** _____

3. **What type of longline gear does the vessel use?**

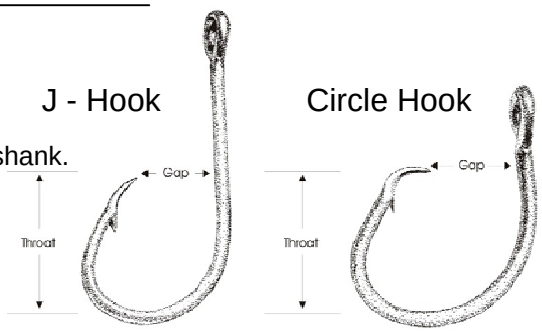
   4 strand silverline 3 strand nylon 3 strand poly Other _____

4. **What is the diameter of the longline gear (mm)?** _____ mm

5. **Is the vessel using circle or J hooks? (circle one)**

   Circle J

Circle hook - A non-offset hook with the point turned perpendicularly back to the shank.
J Hook - Barbed point is almost parallel to the shank of the hook.



6. **What size are the hooks?** _____

7. **What color are the gangions?** _____

Graphic provided by Joan Forsberg, IPHC, Seattle, WA

FG Fleet Characterization form v.2 Jan 2010 OMB Control No. 0648-0593 expires 9-30-2012

Gear Characteristics Continued (Longline Gear ONLY)

Please note: If vessel does not want you to touch their gear, leave this section blank.

8. Select 5 gangions from all the gear on the vessel. Measure the length of each gangion in mm, from where it's attached to the groundline to where it attaches to the hook. Then, measure the distance between where the gangion attaches on the groundline to where the next gangion attaches on the groundline.

Gangion Length:	____ mm	____ mm	____ mm	____ mm	____ mm
Distance between gangions	____ mm	____ mm	____ mm	____ mm	____ mm

SECTIONS BELOW DESCRIBE SEABIRD DETERRENT DEVICES. ONLY COMPLETE THE SECTION THAT DESCRIBES THE TYPE OF DETERRENT USED ON THE VESSEL.

Streamer Line Characteristics

1. How many streamer lines were used? One Two

2. Where were the streamer lines deployed relative to sinking hooks?

Windward Leeward Over the hooks

3. Was there a towed object on the end of the streamer line? Yes No

If YES, what was the object? _____

4. Do the streamers extend to the water surface in the absence of wind? Yes No

5. How many streamers are on each line? _____

6. What color and material are the streamers? _____

7. What is the distance between streamers, in meters? _____

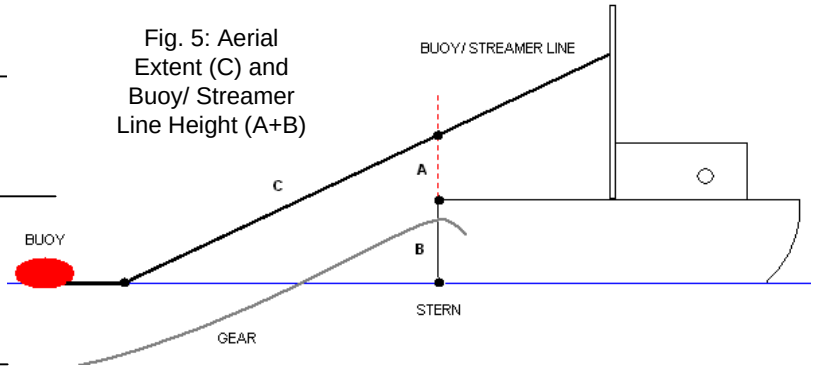
8. What is the distance from the stern to the first streamer, in meters? _____

9. What are the lengths of A, B, & C (Fig. 5) in meters?

A _____

B _____ C _____

Fig. 5: Aerial Extent (C) and Buoy/ Streamer Line Height (A+B)



Buoy Line Characteristics

1. Where were the buoy lines deployed relative to sinking hooks? Windward Leeward Over the hooks

2. What size and kind of buoy was used? _____

3. What are the lengths of A, B, & C (Fig. 5) in meters? A _____ B _____ C _____

Weight Characteristics

1. How much weight is added and where is it placed?

Night Setting (Exclusively)

1. Does the vessel set gear exclusively at night? Yes No

FG Fleet Characterization form v.2 Jan 2010 OMB Control No. 0648-0593 expires 9-30-2012

Cruise	Permit	Year

Observer Haul Form

Page _____ of _____

Full Name of Catcher Boat	ADF&G #

Observer Name _____ **Vessel Name** _____

Fold to here

Resubmission
(Circle All Changes)

Haul No.	Haul Sampled By (Cruise No.)	RST On Haul? (y= On, n= Off, x= N/A)	RBT On Break? (y= On Break, n= No Break)	Sample Design	Sample Unit Type	% Monitored for Marine Mammals	Vessels Total Catch Estimate (mt)	Estimated Discard Weight (kg)	Trawl Vessels: Observers Catch Estimate (kg)	B, C, or W	Density (kg/m³)	Volumetric Estimate (m³)	Haulback Bird Obs. Code	Short Wired? (Y/N)	Catcherboat's ADF&G # (Motherships Only)	Longline and Pot Vessels: Hook Coll. #	# of Segments in Set (Longline Only)	Total Pots (or Hooks) in Set (required for pot vessel only)	Flow Scale Weight (MT)	Bird Deterrence Code
							.				.	.					.		.	
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Comments:

PHLB Viability Log

Trip Number | | | | | |

Haul #	Sea Temp (^{0}F)	Air Temp (^{0}F)	Length	Viability	Time On Deck 00:00:00	Haul #	Sea Temp (^{0}F)	Air Temp (^{0}F)	Length	Viability	Time On Deck 00:00:00

Record Sea Temp during haul back (wheelhouse). Start stopwatch and record Air Temp when catch is dumped on deck. Record Time On Deck when each viability is taken. Use WCGOP Viability codes. Record Sea/Air Temp to nearest tenth of a degree (e.g., 60.7). Submit form(s) with trip data. Trawl fisheries only.

Haul #	Sea Temp (^{0}F)	Air Temp (^{0}F)	Length	Viability	Time On Deck 00:00:00	Haul #	Sea Temp (^{0}F)	Air Temp (^{0}F)	Length	Viability	Time On Deck 00:00:00

North Pacific Groundfish Observer Program
Seabird Specimen Collection Form

Observer Name: _____ Cruise Number: _____

Vessel Name: _____ Vessel Permit: _____

Date of Capture: _____ Lat / Long:_____

Seabird Identification:_____

Band or Tag Information? Yes No
(Record the number, material, color and which leg(s))

Comments:

Ver. '09

Haul # | | |

TRAWL DECK FORM

Date | | | | | | | Trip # | | | | | | Fit # / Cal. Wt. _____

Trawl Biosampling List
1 2 3

Catch #	Catch Category	Weight Method	Sample Method	R or D	KP Weight / KP Number	Species	**Catch Weight**	**Fish #**	Discard Reason	Basket Weights, Bios (check box) & Purity (if needed) ✓
										☐
										☐
										☐
										☐
										☐
										☐
										☐
										☐
										☐
										☐
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										☐
										☐

Trawl Weight Methods
1-Actual 2-Bin Volume 3-BWD 6-Other 7-Vessel est. 8-Extrapolation
9-PHLB L/W Conversion 14- Visual Experience 15-Visual Spatial
19-PHLB L/W Extrapolation

Trawl Sample Methods
1 – Whole haul
2 – Single basket
3 – Multiple basket

Reasons for Discard
11-Incidental/Accidental 12-Drop off 13-Market
14-Other 15-Predation 16-Regulation 17-Safety
18-Market (Dockside) 19-Utilized on board

OMB Control No. 0648-0593
Expires 11-30-2015

Haul # | | Visual OTC: Catch Weight KP:

Visual Estimates and Calculations

Catch Cat. / Purity / R4D (#) @ lbs. – WM Example: PSSK / P / 13 2 @ 500 lbs. - WM14

Vessel Estimates of Retained Catch

Catch #	Catch Category	Catch Weight	Catch Purity	Catch #	Catch Category	Catch Weight	Catch Purity	Catch #	Catch Category	Catch Weight	Catch Purity

Cruise	Permit	Year

Trip Data Form

Page _____ of _____ for vessel

Observer name _____

Vessel name _____

Resubmission
(Circle All Changes)

Fold to Here

Trip No.	Crew Size	Fish in hold at start?	Port of Trip Start	Trip Start Position							Start Date		Time of trip start	Port of Trip End	Trip End Position							End Date		Time of Trip End	Did fishing occur?	Bait Used? (fixed gear only)	Time Lost at Sea (Hours)					
				Latitude (N)			E or W	Longitude (100)			Month	Day			Latitude (N)			E or W	Longitude (100)			Month	Day				Mechanical problems	Weather related problems	Crew related issues	USCG / Enforcement related stoppage	Marine Mammal interaction/predation	Other (Include notes)
				Deg.	Min.	Sec.		Deg.	Min.	Sec.					Deg.	Min.	Sec.		Deg.	Min.	Sec.											

Comments:

Vessel Haul Form

Page _____ of _____

Cruise	Permit	Year	Gear type	Pur. Code

Observer Name _____

Vessel Name _____

Resubmission
(Circle All Changes)

Fold to here

Trip No.	Haul No.	IFQ? Y/N	CDQ No.	Vessel Type	Gear Performance	Location Code	Deployment Information										Average Bottom Depth	Average Gear Depth	M or F	Retrieval Information									
							Month	Day	Time	Latitude (N)			E or W	Longitude						Month	Day	Time	Latitude (N)			E or W	Longitude		
										Deg.	Min.	Sec.		Deg. (100)	Min.	Sec.							Deg.	Min.	Sec.		Deg. (100)	Min.	Sec.

Comments:

PLACEMENT CHECKLIST

Trip Number: **Observer:** **Vessel LOA:** **ft**

Vessel Name: **Permit Number:** **Call sign:**

Placement Meeting

Date: Time:

Captain Phone Number

Owner/Agent:

Others:

Vessel Specification

Communication Equipment: SSB / VHF/ DSC / Sat

Is DSC registered: Y / N , Linked to GPS: Y / N

(comment if non-operational)

Water Supply: B / T / H2O Maker	Head: Y / N
Tank Volume:	Shower: Y / N
Number of Bunks:	Reasonable Privacy: Y / N

Fishing Trip Information

Trip Length: Trip Type: D / S

Number of Sets:

Number of Crew:

Vessel Safety Checklist

Distress Signals Exp. Dates

6 X Hand

3 X Parachute

3 X Smoke

Number of Charged Fire Extinguishers:

Number of correctly installed Ring Life Buoys:

Number of PFDs:

# of immersion suits (required above 32 N):

Emergency Procedures Posted: Y / N

First Aid Kit: Y / N

First Aid and CPR Certified: Y / N

# of certified drill instructors :

Survival Craft

Number of Persons: Correct installation: Y/ N

Manufacture Date:

Inspection Exp:

Hydrostatic Exp:

Emergency Position Indicating Radio Beacon

Battery test: P / F Correct installation: Y/N

Battery Exp: Hydrostatic Date:

UIN:

CG Inspection Number:

CG Inspection Exp:

Placement Meeting Participants

De-hooking equipment:

- [ ] Long-handled de-hooker
- [ ] Long-handled line cutter
- [ ] Short-handled de-hooker
- [ ] Mouth Gags
- [ ] Bolt Cutters
- [ ] Pole Gaff
- [ ] Dip Net
- [ ] Tire
- [ ] Mackerel type bait (Shallow Set Only)
- [ ] Blue Dye Tubs x_____ (Shallow Set Only)

Observer Gear

Bag #: ____

Sat. phone #:

Comments: Note safety deficiencies, including those that do not prevent observers placement.

List aid provided to vessel:

Highligthed information effects observer deployment

For tallies, circle total

For multiple Exp dates record shortest

If vessel has Safety Orientation Log, have observer sign

V.03.2015

OMB Control No. 0648-0593

exp. 11/30/2015

Port Coordinator Departure Checklist

Trip no: _____ Observer _____

- [ ] Select Vessel
- [ ] If shallow-set trip, send LLTPS to Kevin Busscher
- [ ] Assign Trip Number
- [ ] Setup Placement Meeting

Travel Pouch Papers

- [ ] Y / N
- [ ] Company phone protocols

Placement

- [ ] Check out/ Replenish gear
- [ ] EPIRB test
- [ ] Survival suit Practice _____
- [ ] Test fit DNA corer to sampling pole
- [ ] Observer departs
- [ ] Update Longline Trip Log

Place/ No Place list

	Place	No-place
Communication gear		
Functioning VHF&SSB/ or SAT	x	
Signals		
Quantity smoke		x
Quantity hand		x
Quantity rocket		x
Dates on all		x
Fire Extinguishers		x
Quantity		x
Charge gauge		x
Service tag/documents		x
Ring Buoys		
Quantity		x
Serviceability		x
Mounting (not tied down)		x
1 w/ 90' rope		x
PFD/Immersion suits		
Quantity		x
light/sound devices	x	
Serviceability	x	
First aid/CPR		
1 1st aid	x	
1 CPR	x	
1st aid manual w/ first aid kit (stocked)	x	
Station bill		
posted and filled out		x
Drills/Orientation		
Monthly drill	x	
Safety orientation		x

	Place	No-place
Liferaft		
Capacity		x
Service		x
Hydrostatic date		x
Hydrostatic installation		x
Raft installation		x
EPIRB		
Testing		x
Battery date		x
Registration	x	
Installation		x
Hydrostatic release date		x
CFVSE Decal		x

January 1 – March 31

Highly Migratory Species Observer Notification Form

This form is provided for your response. Please provide the information requested below and return by mail or e-mail (popobserver@noaa.gov) at least **5 days prior** to your estimated departure. If the vessel is not fishing or is involved in another fishery during the selection period, please indicate this under Vessel Fishing Status.

Captain's Name: _____ Vessel Name: _____

Documentation/Vessel Number: _____ Overall Length: _____(ft)

Crew Size: _____ (include skipper) Bunk Capacity: _____Life Raft Capacity: _____

Contact Person/Telephone Number(s): _____

Communication Equipment (please check)	**Commercial Fishing Vessel Safety Examination Decal**
Cellular phone**:**	Serial Number**:**
VHF**:**	Date of Expiration**: _____/_____ Month/Year**
Single Side Band**:**	
Call sign:	

Vessel Fishing Status:

Port of Departure:

Dock Facility: _____

Street: _____

City: _____ State: _____

Telephone Number: ( ) _____

Departure Date: _____ Departure Time: _____ (AM or PM)

Dock Facility: _____

Expected Landing Port:

Street: _____

City: _____ State: _____

Telephone Number: ( ) _____

Anticipated Landing Date: _____

I certify under penalty of perjury under the laws of the United States of America that the information given on this form is true and correct, and that I have full authority to execute this form.

Signature _____ *Date* _____

For the Pelagic Observer Program, please return by mail to SEFSC Pelagic Observer Program, 75 Virginia Beach Dr. Miami, FL 33149 or e-mail (popobserver@ noaa.gov). For questions call 800-858-0624.

For the Shark Observer Program, please return by mail to SEFSC Shark Bottom Longline Observer Program, 3500 Delwood Beach Rd, Panama City, FL 32408-7403 or fax to (850) 235-3559. For questions call (850) 234-6541.

PAPERWORK REDUCTION ACT STATEMENT: Collection of information through the observerprogram provides data for stock assessments and estimates of bycatch. Public reporting burdenfor completing the vessel information form above is estimated at 2 minutes per response. Sendcomments regarding this burden estimate or any other aspect of this collection of information,including suggestions for reducing the burden to: National Marine Fisheries Service, F/SF1,1315 East West Highway, Silver Spring, MD 20910. Providing the requested information ismandatory for managing HMS fisheries under the Magnuson-Stevens Fishery Conservation andManagement Act (16 U.S.C. 1801 et seq.) In accordance with NOAA Administrative Order 216-100,it is agency policy not to release confidential information, other than in aggregate form.Notwithstanding any other provision of the law, no person is required to respond to, nor shallany person be subject to a penalty for failure to comply with a collection of informationsubject to the requirements of the Paperwork Reduction Act, unless that collection ofinformation displays a currently valid OMB Control Number. This is an approved informationcollection under OMB Control No.: 0648-0593 and expires November 30, 2015.

Reef Fish - Observer FAX Notification Form

This form is provided for your response. Please complete and return this form at least 48 hours prior to your estimated departure. The information can be **mailed to: NOAA/NMFS,** Galveston Laboratory, 4700 Avenue U, Galveston, TX 77551 **or Faxed to (409-766-3489)**; **ATTN: MIKE HARRELSON, PAT CRYER, JEFF PULVER and/or MATT DUFFY.** If the vessel is not fishing or is involved in another fishery during the selection period, please state in the comment section of this form which fishery and gear used (include contact number).

Captain's Name: _____ Vessel Name: _____

Documentation/Vessel Number: _____ Overall Length: _____ (ft)

Crew Size: _____ (include skipper) Bunk Capacity: _____ Life Raft Capacity: _____

Contact Person/Telephone Number(s): _____

Communication Equipment (please list)	**Commercial Fishing Vessel Safety Examination Decal**
Cellular / SAT phone**:**	Serial Number**:**
VHF**:**	Date of issuance _____/_____ **Month** **Year**
Single Side Band**:**	
Call sign:	

Vessel Fishing Status:

Port of Departure:

Dock Facility: _____

Street: _____

City: _____ State: _____ Phone Number: ( ) _____-_____

Departure Date: ___/___/___ Time: ___:___ (AM or PM) Anticipated Landing Date: ___/___/___

Expected Landing Port: (if different from port of departure)

Dock Facility: _____

Street: _____

City: _____State: _____ Phone Number: ( ) _____-_____

Primary Language: (if other than English) _____

Comments: _____

_____

_____

PAPERWORK REDUCTION ACT STATEMENT: Collection of information through the observer program provides data for stock assessments and estimates of bycatch. Public reporting burden for completing the vessel information form above is estimated at 2 minutes per response. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: National Marine Fisheries Service, F/SF1, 1315East West Highway, Silver Spring, MD 20910. Providing the requested information is mandatory fisheries under the Magnuson-Stevens Fishery Conservation and Management Act (16U.S.C. 1801 et seq.) In accordance with NOAA Administrative Order 216-100, it is agency policy not to release confidential information, other than in aggregate form. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB#0648-0593 and expires Nov 30, 2015.

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, FL 33149

Date: DATE XX, 2012

Vessel Owner
Street Address
City, State Zip

Dear Permit Holder:

This letter is to inform you that your vessel, **Vessel Name, Doc#**, has been selected to carry an observer for the MONTH through MONTH YEAR, Commercial Shrimp season. Once you have completed a minimum of 18 sea days you are no longer required to carry an observer during the MONTH through MONTH selection period.

NOAA's authority to require observer coverage is found in the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.), the Endangered Species Act (16 U.S.C. 1531 et seq.), and the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) and their respective implementing regulations.

Upon receipt of this letter, you are required to contact the observer coordinator within 24 hours to make arrangements to carry an observer. **Even if you are not planning to shrimp this season, or have sold your vessel, you are still required to contact the observer coordinator.**

Primary Contacts:
Mike Harrelson, Observer Coordinator
Pat Cryer, Observer Coordinator
Jeff Pulver, Observer Coordinator
Matt Duffy, Assistant Observer Coordinator
Voice: (409) 766-3525
National Marine Fisheries Service
Galveston Laboratory
4700 Avenue U
Galveston, TX 77551
FAX: (409) 766-3489

Secondary Contact:
Elizabeth Scott-Denton, Program Manager
National Marine Fisheries Service
Southeast Fisheries Science Center
Galveston Laboratory
4700 Avenue U
Galveston, TX 77551
Voice: (409) 766-3571
FAX: (409) 766-3508

After the initial contact with an observer coordinator, as the owner or operator of a vessel that is selected for observer coverage, under MSFCMA § 303(b) (8), you must notify the National Marine Fisheries Service (NMFS) **before commencing any fishing trip that may result in the harvest of any shrimp species**. You are required to notify the observer coordinator by fax (attached form) or phone at least **48** hours prior to **each** fishing trip.

Vessels are selected randomly from a pool of vessels that (1) have a current federal shrimp permit, and (2) historically reported shrimp catch in a particular area, depth and season.

Please note that vessels that have, or will be, participating in bycatch reduction device (BRD) development and research are not exempted from mandatory shrimp coverage. **All selected vessels must contact the observer coordinator.**

Once a NMFS-certified observer is placed aboard your vessel, you are required to:

1. Provide the observer with accommodations and food equivalent to that provided to the crew (you will be reimbursed for reasonable food costs);

2. Allow the observer access to and use of the vessel's communication equipment and personnel for transmitting and receiving messages related to the observer's duties;

3. Allow the observer access to and use of the vessel's navigation equipment, charts, and crew to determine the vessel's position;

4. As provided by 50 C.F.R. 229.7(b), allow the observer free and unobstructed access to all fish, marine mammals, and sea turtles aboard the vessel for purposes of collecting measurements, weights, and biological samples. This will also include access to the vessel's bridge, working decks, holding bins, weight scales, holds, and any other space used to hold, process, weigh, or store fish;

5. Allow the observer to inspect and copy the vessel's log, communications logs, and any records associated with the catch and distribution of fish for that trip; and

6. Have or obtain a Commercial Fishing Vessel Safety Examination decal prior to the selection period. **Failure to obtain a safety decal is not justification for fishing without an observer, and may result in enforcement action**. A list of phone numbers for approved Commercial Fishing Vessel Examiners is included at the end of this letter. The safety decal must clearly state the number of people that will be onboard, including the observer and the areas and waters in which the vessel will be fishing. All safety equipment must be up to date including the EPIRB battery, life raft, and flares. Life raft capacity must be large enough for all persons on board, including all crew plus the observer.

Your cooperation with the above requirements is appreciated. We will make every effort to minimize any disruption of the normal activities of your vessel and crew. The observer is onboard to collect data only; for safety and liability reasons, the observer will not take part in any fishing operations.

Thank you for your cooperation, without which collection of this critical information would not be possible.

Sincerely,

Bonnie Ponwith, Ph.D.
Director, Southeast Fisheries Science Center

Enclosures

PAPERWORK REDUCTION ACT STATEMENT: Information collected through the observer program will be used to: (1) monitor catch and bycatch; (2) understand the population status and trends of fish stocks and protected species, as well as the interactions between them; (3) determine the quantity and distribution of net benefits derived from living marine resources; (4) predict the biological, ecological, and economic impacts of existing management actions and proposed management options; and (5) ensure that the observer programs can safely and efficiently collect the information required for the previous four uses. In particular, the observer program provides information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. Most of the information collected by observers is obtained through “direct observation by an employee or agent of the sponsoring agency or through non-standardized oral communication in connection with such direct observations". Under the Paperwork Reduction Act (PRA) regulations at 5 C.F.R. 1320.3(h) (3), facts or opinions obtained through such observations and communications are not considered to be "information" subject to the PRA. The public reporting burden for responding to the questions that observers ask and that are subject to the PRA is estimated to average 65 minutes per trip, including the time for hearing and understanding the questions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: National Marine Fisheries Service, Shrimp and Reef Fish Observer Programs, 4700 Avenue U, Galveston, Texas 77551. Providing the requested information is mandatory under regulations at 50 C.F.R. 600.746 for the safety questions and at 50 C.F.R. 222.401, 50 C.F.R. 229.7, and 50 C.F.R. 622.8 for all other questions. All information collected by observers will be kept confidential as required under Section 402(b) of the MSA (18 U.S.C. 1881a (b)) and regulations at 50 C.F.R. Part 600, Subpart E. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
3500 Delwood Beach Rd
Panama City, FL 32408

Vessel Name, Vessel Number
Owner Name
Address

Date

Dear Permit Holder:

This letter is to inform you that your vessel, **Vessel Name, Vessel Number**, has been selected to carry an observer between **Date and Date** if fishing using bottom longline or other hook and line gear pursuant to 50 CFR Part 635.7 (c). Upon receipt of this letter, you are required to contact the observer coordinator to make arrangements to carry an observer. Please provide the following information: 1) Departure information (port, dock, expected fishing dates); and 2) Date of issuance (month and year) of Commercial Fishing Vessel Safety Examination Decal.

Please understand that you are required upon receipt of this letter to contact the observer program regardless of target, whether you intend to fish or if have sold your vessel:

Michael Enzenauer, Observer Coordinator
National Marine Fisheries Service
Southeast Fisheries Science Center
3500 Delwood Beach Rd
Panama City, FL 32408-7403
Phone: (850) 234-6541 ext. 260
Cell: (850) 348-3176
Fax: (850) 235-3559

or

Bethany Deacy, Assistant Coordinator
National Marine Fisheries Service
Southeast Fisheries Science Center
3500 Delwood Beach Rd
Panama City, FL 32408-7403
Phone: (850) 234-6541 ext. 201
Fax: (850) 235-3559

As the owner or operator of a vessel that is selected for observer coverage, under 50 CFR Part 635.7 (c), you must notify the National Marine Fisheries Service (NMFS) **before commencing any fishing trip, regardless of the species you are targeting, at least 48 hours prior to each trip.**

Vessels are selected randomly from a pool of vessels that (1) have a current directed shark permit, (2) reported fishing with bottom longline gear in 2014, and (3) have not been selected concurrently for each of the past three selection periods. Please note that vessels that have been excused from participating by the observer coordinator in previous years or seasons are **not automatically excused** from participating in the coming season.

All selected vessels must contact the observer coordinator.

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
3500 Delwood Beach Rd
Panama City, FL 32408

Date

«VES», «VESSEL_ID»
«AddressBlock»

Dear Permit Holder:

This letter is to inform you that your vessel, **«VES»**, **«VESSEL_ID»** is required to carry an observer **between date, and date**, if you fish using gillnet gear at any time during this period.

NOAA's authority to require observer coverage is found in the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.), the Endangered Species Act (16 U.S.C. 1531 et seq.), and the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) and their respective implementing regulations.

Even if you are not planning to fish this season, or sold your vessel, you should still contact one of the observer coordinators listed below immediately upon receipt of this letter:

Alyssa Mathers
Southeast Fisheries Science Center
3500 Delwood Beach Rd.
Panama City, FL 32408
Office: 850-234-6541 ext. 226
FAX: 850-235-3559

or

Beth Deacy
Southeast Fisheries Science Center
3500 Delwood Beach Rd
Panama City, FL 32408
Office: 850-234-6541 ext. 201

We plan on observing a **minimum** of 3 trips during this selection period. Although we don't anticipate putting an observer onboard for every trip during the selection period, **you must still notify the National Marine Fisheries Service (NMFS) at least 24 hours before commencing any fishing trip during the selection period** with departure information (port, dock, expected dates of trip); and date of issue (month and year) of a Commercial Fishing Vessel Safety Examination Decal that certifies compliance of safe vessel provisions. You will be notified at that time if an observer will be assigned to that particular trip.

Once a NMFS-certified observer is placed aboard your vessel, you are required to:

1. Provide the observer with accommodations and food equivalent to that provided to the crew (you will be reimbursed for reasonable food costs);
2. Allow the observer access to and use of the vessel's communication equipment and personnel for transmitting and receiving messages related to the observer's duties;
3. Allow the observer access to and use of the vessel's navigation equipment, charts, and crew to determine the vessel's position;
4. As provided by 50 CFR 229.7 (b), allow the observer free and unobstructed access to all fish, marine mammals, and sea turtles aboard the vessel for purposes of collecting measurements, weights, and biological samples. This will also include access to the vessel's bridge, working decks, holding bins, weight scales, holds, and any other space used to hold, process, weigh, or store fish;
5. Allow the observer to inspect and copy the vessel's log, communications logs, and any records associated with the catch and distribution of fish for that trip; and,
6. Have or obtain a Commercial Fishing Vessel Examination decal prior to the selection period. **Failure to obtain a safety decal is not justification for fishing without an observer, and may result in enforcement action**. A list of phone numbers for approved Commercial Fishing Vessel Examiners is included at the end of this letter. All safety equipment must be up to date including the EPIRB battery, life raft, and flares. Life raft capacity must be large enough for all persons on board, including all crew plus the observer.

Please be aware that should an incidental take of a marine mammal or sea turtle occur during a trip with an observer onboard your vessel, the observer may be required to contact shore based personnel associated with the Protected Resources Stranding Network for specific instructions.

The observer is onboard to collect data only; for safety and liability reasons, the observer cannot take part in any fishing operations.

We appreciate your cooperation with the above requirements; for our part, we will make every effort to minimize any disruption of the normal activities of your vessel and crew.

Once again, thank you for your cooperation, without which collection of this critical information would not be possible.

Sincerely,

Guy Davenport
Director, Panama City Laboratory

Enclosures

PAPERWORK REDUCTION ACT STATEMENT: Information collected through the observer program will be used to: (1) monitor catch and bycatch; (2) understand the population status and trends of fish stocks and protected species, as well as the interactions between them; (3) determine the quantity and distribution of net benefits derived from living marine resources; (4) predict the biological, ecological, and economic impacts of existing management actions and proposed management options; and (5) ensure that the observer programs can safely and efficiently collect the information required for the previous four uses. In particular, the observer program provides information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. Most of the information collected by observers is obtained through “direct observation by an employee or agent of the sponsoring agency or through non-standardized oral communication in connection with such direct observations". Under the Paperwork Reduction Act (PRA) regulations at 5 C.F.R. 1320.3(h)(3), facts or opinions obtained through such observations and communications are not considered to be "information" subject to the PRA. The public reporting burden for responding to the questions that observers ask and that are subject to the PRA is estimated to average 40 minutes per trip, including the time for hearing and understanding the questions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: National Marine Fisheries Service, F/SF1, 1315 East West Highway, Silver Spring, MD 20910. Providing the requested information is mandatory under regulations at 50 C.F.R. 600.746 for the safety questions and at 50 C.F.R. Part 622.8, 50 C.F.R. 229.7, and 50 C.F.R. 222.401 for the other questions. All information collected by observers will be kept confidential as required under Section 402(b) of the MSA (18 U.S.C. 1881a(b)) and regulations at 50 C.F.R. Part 600, Subpart E. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

OMB Control No. 0648-0593 Expiration Date: 11/30/2015

Southeast Fisheries Observer Programs - Panama City

Pre-Trip Safety Check

OBS TRIP ID_____ DATE _____

VESSEL NAME _____ VESSEL #_____

Life Saving Equipment (circle **Y** for yes or **N** for no)

CGVSE

Safety Examination Decal? **Y / N**

Decal #_____

Date of Expiration: ___ / ____

Vessel Distance Rating: ____ NM

EPIRB

EPIRB present? **Y / N** EPIRB Category: **I / II**

Stowed in a float-free location? **Y / N**

EPIRB Registration Expiration Date: ___/_____ Registered To: _____

Hydrostatic Release Exp. Date: ___ / _____ / **NA** Battery Expiration Date: __ / ____

FLARES

3 of any flare required for operations <3nm offshore

3 Parachute, 6 Hand & 3 Smoke required for operations >3nm offshore

Record flare expiration dates:

Hand: ___ / ____	Hand: ___ / ____	Smoke: ___ / ____	Parachute: ___ / ____
Hand: ___ / ____	Hand: ___ / ____	Smoke: ___ / ____	Parachute: ___ / ____
Hand: ___ / ____	Hand: ___ / ____	Smoke: ___ / ____	Parachute: ___ / ____

PFDs AND IMMERSION SUITS (not including observer equipment)

Personal Floatation Device for each **POB**? **Y / N** **# of PFDs ____**

Immersion suit for each **POB***? **Y / N** **# of Immersion Suits ____**

*required in federal waters above 32 N latitude

FIRE FIGHTING EQUIPMENT

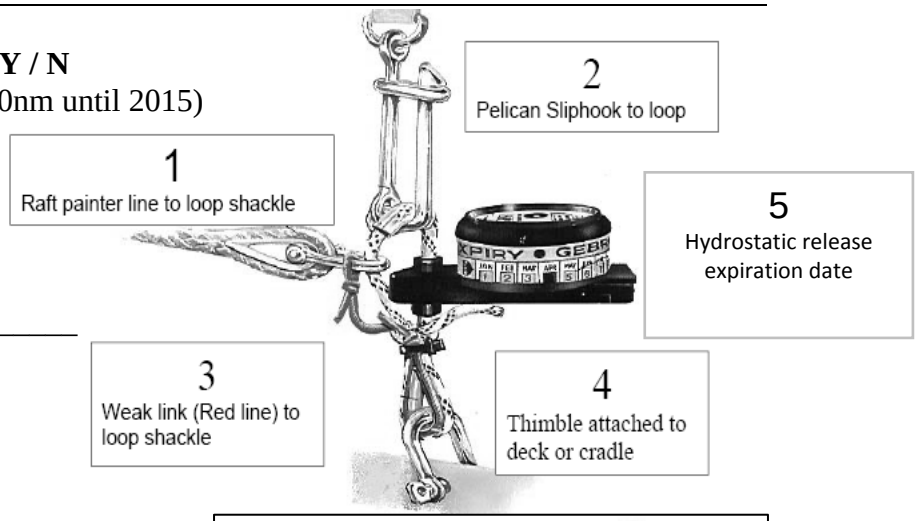
Vessels <26 ft require 1 B-I unless equipped with an outboard in certain conditions
Vessels >26 ft but <40 ft require 2 B-I or 1 B-II
Vessels >40 ft but <65 ft require 3 B-I or 1 B-II & 1 B-I

	Location	Type	Service Date
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____

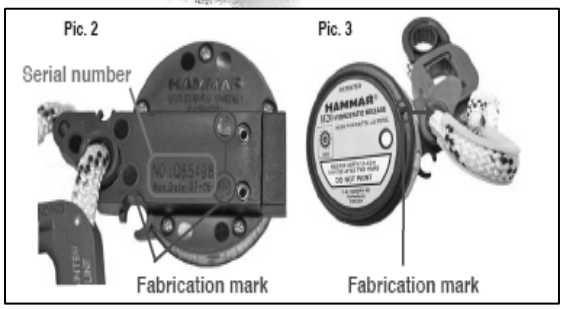
STATION BILLS posted? Y / N **ONBOARD DRILLS logged? Y / N**

LIFE RAFTS AND RINGS
Orange ring buoy with line attached? **Y / N**
Rigid life float? **Y / N** (>12nm but <20nm until 2015)

Inflatable life raft? **Y / N**
Capacity for all **POB**? **Y / N**
Life raft Capacity _____
Raft Repack Date ___ / _____
Hydrostatic Release Exp. Date: ___ / _____
Life raft configured correctly*? **Y / N**
*Please take picture of configuration



5 Fabrication Marks Present? **Y / N**
Upper Fabrication mark towards rope? **Y / N**



Please provide signatures to verify that a safety check was conducted and that the information above is accurate.

Observer: _____ Date: ____/_____/_____

Owner/Operator: _____ Date: ____/_____/_____

SAFETY CHECKOFF FORM

Observer Name _____ Trip Number _____

Vessel Name _____ Vessel Doc Number _____

Safety Check list - ("NO GO" Deficiencies Highlighted)

USCG Safety Exam Decal # _____ Expiration Date: ____/____ (Month/Year) Distance Rating: _____

Life Saving Equipment

Life Raft Type: _____ Expiration Date: ____/____ (Month/Year) Capacity? _____

Life Raft Hydrostatic Release Expiration Date: ____/____ (Month/Year) Total # of People Onboard: _____ (This number is including the Observer, Can not exceed capacity)

Life Raft Hydro Setup Correct: Y or N

EPIRB Location: _____ EPIRB Battery Expiration Date: ____/____ (Month/Year)

EPIRB Hydrostatic Release Expiration Date: ____/____ (Month/Year) EPIRB Registration: ____/____/____ (Month/Day/Year)

Personal Flotation Device for each person on board (POB)? Y or N Location(s): _____

Immersion Suit for each POB? Y or N (only required above 32'00 N latitude)

Orange Ring Buoy(s) with Line attached? Y or N Location(s): _____

Distress Flares? Location(s): _____

Expiration Date for each distress flare.

Parachute _____ (Month/Year)	Hand _____ (Month/Year)	Hand _____ (Month/Year)	Smoke _____ (Month/Year)
Parachute _____ (Month/Year)	Hand _____ (Month/Year)	Hand _____ (Month/Year)	Smoke _____ (Month/Year)
Parachute _____ (Month/Year)	Hand _____ (Month/Year)	Hand _____ (Month/Year)	Smoke _____ (Month/Year)

Fire Fighting Equipment Fire Extinguishers Charged? Y or N

Location 1: _____ Location 3: _____

Location 2: _____ Location 4: _____

Communication Equipment Vessel Call Letters: _____

Single Side Band _____ Satellite Phone # (if applicable) _____

VHF _____ Vessel Cell Phone # (if applicable) _____

Other First Aid Kit? _____ Location(s): _____

Ditch Bag? _____ Location(s): _____

Vessel Safety Orientation (circle Y or N)

General Alarm Tested? Y or N High Water Alarm Tested? Y or N

Engine on/off, steering, gear selection, etc.? Y or N Entrapment: exit routes? Y or N

Hazardous: hatched, winches, machinery, lines, slippery areas, stability concerns etc.? Y or N

SAFETY CHECK OFF FORM
STATION BILL

Trip # _____

	Person Overboard Signal:	**Fire** Signal:	**Flooding** Signal:	**Abandon Ship** Signal:
Position	**Station/Bring/Duty**	**Station/Bring/Duty**	**Station/Bring/Duty**	**Station/Bring/Duty**
Captain				
Crew				
Crew				
Crew				
Observer				
Date Drill Performed				

Detailed Description of Vessel and Comments: _____

_____

_____

Fishing Vessel USCG Safety Requirements

for the WARM WATERS of the Gulf of Mexico and South Atlantic

These safety requirements are determined by the fishing location

Fishing Location	**Inside the Boundary Line Within 3 Nautical Miles**	**Within 12 NM of Coastline (Boundary Line)**	**12 to 20 miles of Coastline**	**Between 20 & 50 miles**	**Over 50 Nautical Miles**
Survival Craft Equipment	No Survival Craft Required	No Survival Craft Required	Float free Life Float with light and line	Inflatable Life Raft with SOLAS B pack or Coastal Service Pack	Inflatable Life Raft with SOLAS A pack or Ocean Service Pack
EPIRBs	Not Required	Required	Required	Required	Required
Distress Signals	3 Red Flares **OR** 3 other flares with a night signal	3 - 6 - 3 (Parachute - Hand - Smoke)	3 - 6 - 3 (Parachute - Hand - Smoke)	3 - 6 - 3 (Parachute - Hand - Smoke)	3 - 6 - 3 (Parachute - Hand - Smoke)

*RED flares include parachute and hand flares which can be seen both day and night.

These safety requirements are determined by the vessel size

Vessel Size	**Vessels < 26 feet long**	**Vessels 26 to 40 feet long**	**Vessels < 65 feet long**	**Vessels ≥ 65 feet long**
Life Rings	1 Buoyant Cushion OR 1 Orange Life Ring	1 Orange Life Ring with 60 feet of line	1 Orange Life Ring with 60 feet of line	3 Orange Life Rings 1 with 90 feet of line
Fire Extinguishers	at least 1	1 to 2	2 to 3	2 in the Bridge, 1 in the Galley AND 2 in the Engine Room

* make sure fire extinguishers are charged and strategically placed around vessel (galley & engine room & near exits)

To be completed by captain:

Sampling protocol has been explained by observer and is understood. Yes ____ No ____

Wheel watch while underway requirement has been explained by observer and is understood. Yes ____ No ____

Observer Signature and Date: _____ / / _____

Captain Signature and Date: _____ / / _____

Fisherman Feedback Form

The information on this form will be used by the NOAA Fisheries Panama City Observer Programs to evaluate how well the observers are performing their duties and to serve as a line of communication between the fishermen and the Observer Program.

Observers are asked to leave a copy of this comment card with the vessel after the completion of a trip. Please fill out this form after each trip that you have been covered by an observer from the Panama City Observer Program. This form can be filled out by the captain or owner of the vessel.

Please provide us with some feedback or request more information about the observer program by calling, emailing, or sending this form back to:

Michael Enzenauer, Observer Coordinator
NOAA Fisheries
3500 Delwood Beach Rd
Panama City, FL 32408-7403
Phone: (850) 234-6541 ext. 260; Fax: (850) 235-3559
Michael.Enzenauer@noaa.gov

Help develop a program that will work better for you. We appreciate your feedback.

Thank you,
Michael Enzenauer and Alyssa Mathers, Observer Coordinators, Panama City Observer Programs

---

Vessel Name _____ **Captain or Owner Name** _____

Landing Date (mm/dd/yy) _____ **Port** (City, State) _____

Please check the Yes or No box for each question:	**Yes**	**No**
1) Where the logistics in setting up the trip acceptable?	☐	☐
2) Was the observer on time and prepared for the trip?	☐	☐
3) Did the observer review the safety checklist with you?	☐	☐
4) Was the observer courteous and polite and get along with the crew?	☐	☐
5) Did the observer record the positions (lat/lon) for all the hauls?	☐	☐
6) Did the observer explain their sampling requirements and protocols?	☐	☐
7) Did the observer take length measurements of fish caught?	☐	☐
8) Did the observer take catch information from the work deck?	☐	☐
9) Did the observer identify fish species correctly?	☐	☐

10) Did you have any other concerns regarding the observer or observing procedures, or safety issues during the trip? ☐ ☐

If yes, please explain in comments below:

_____
_____
_____
_____

Would you like more information from the observer program?

☐ Copy of this trips logs
☐ Vessel Reimbursement Form with Instructions
☐ More information about observers and observer programs
☐ Copy of current fishing regulations
☐ List of Coast Guard vessel inspectors by area
☐ Copy of current selection letter

If you requested information above, please indicate your preferred method of delivery and leave the appropriate contact information:

☐ Phone _____
☐ Fax _____
☐ Email _____
☐ Mail _____

To verify that this form was filled out by the appropriate captain/owner, please sign the line below.

Captain or Owner Signature: _____

Observer Evaluation

The SEFSC Galveston Laboratory will be placing an observer aboard your vessel for observer coverage. In an attempt to monitor the quality of observers we send on commercial vessels, we would appreciate it if once the trip is completed you would take the time to fill out this questionnaire. We wish to ensure that the observers conduct themselves professionally and safely during deployment. Please fill in the information below and return to: **NOAA/NMFS**, **Reef and Shrimp Observer Program, 4700 Avenue U, Galveston, Texas 77551.** Your information is important in helping us improve the observer program. If you are the owner and were not present during the trip, please consult with your captain.

Vessel name: _____ Vessel Doc. #: _____

Your name: **_____ Observer name**: **_____**

Your status (check one): Owner_____ Captain _____ Other _____

Please provide responses by checking yes or no in the space provided. Space has been provided on the back of the form if you wish to include detailed comments about the observer.

1. Was the observer on time and prepared for the trip? Yes ___ No ___

2. Did you and the observer discuss vessel safety procedures prior to departure? Yes ___ No ___

3. Did the observer explain their sampling requirements and duties prior to departure? Yes ___ No ___

4. Was the observer professional, courteous and polite? Yes ___ No ___

5. Did the observer appear to conduct the duties they were responsible for during the trip?
   Yes ___ No ___

6. Was sampling conducted in a timely manner as to not substantially impact your normal operations?
   Yes ___ No ___

7. Did observer help maintain cleanliness standards in accordance with the vessels normal policy in the following areas? **Work** (Yes ___ No ___); **Bunk** (Yes ___ No ___); **Galley** (Yes ___ No ___)

If you have any other concerns regarding, safety, the observer, or observer procedures during the trip please explain in the additional comment section provided on the back of form.

Additional comments: _____

_____

_____

PAPERWORK REDUCTION ACT STATEMENT: The information provided on this form will be used by the National Marine Fisheries Service (NMFS) to improve observer training under section 403(b) of the Magnuson-Stevens Act (16 U.S.C. 1801, et seq.), which will assist NMFS to collect information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. The public reporting burden for this form is estimated to average 15 minutes, including the time for completing, reviewing, and transmitting the information on the form. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: National Marine Fisheries Service, Shrimp and Reef Fish Observer Programs, 4700 Avenue U, Galveston, Texas 77551. Providing the requested information is voluntary. All identifying data submitted will be handled as confidential material in accordance with NOAA Administrative Order 216-100, Protection of Confidential Fishery Statistics. Other information collected on this form may be subject to public release under various statutes. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

November 2014 OMB Control #0648-0593. Expires 11/30/2015.

Observer Evaluation

The SEFSC Miami Laboratory recently placed an observer aboard your vessel for observer coverage. In an attempt to monitor the quality of observers we send on commercial vessels, we would appreciate it if you would take the time to fill out this questionnaire. We wish to insure that the observers conduct themselves professionally, are safe, and get along with the crew during a voyage. Please fill in the information below and return to: **Pelagic Observer Program, 75 Virginia Beach Drive, Miami, FL 33149**. Your information is important to us in order to run a better observer program. If you are the owner and were not present during the trip, please consult with your captain.

Observer name:_____ **Vessel assigned**:_____

Dates of trip: _____

Please provide yes or no responses. You can provide more detailed comments about the observer on the back if you wish.

1. Did the observer delay your departure time? _____

2. Was the observer's conduct while aboard your vessel professional? _____

3. Was the observer easy to work with? _____

4. Did you notice any problems between the observer and the crew? _____

5. Did the observer get his work done in a timely manner as to not impact your normal operations significantly? _____

6. Did you and the observer discuss vessel safety procedures? _____

7. Was the observer seen doing anything that seemed unsafe? _____

8. Did the observer seem to experience seasickness? _____

9. Did the observer help keep clean the galley area _____; bunk area _____;
   Help with dishes _____?

Evaluation filled out by: Owner / Captain (circle one)

Additional comments on the questions please place on the back of form.

Additional comments:

PAPERWORK REDUCTION ACT STATEMENT: The information provided on this form will be used by the National Marine Fisheries Service (NMFS) to improve observer training under section 403(b) of the Magnuson-Stevens Act (16 U.S.C. 1801, et seq.), which will assist NMFS to collect information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. The public reporting burden for this form is estimated to average 15 minutes per response, including the time for completing, reviewing, and transmitting the information on the form. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: National Marine Fisheries Service, F/SF1, National Observer Program, 1315 East West Highway, Silver Spring, MD 20910. Providing the requested information is voluntary. All identifying data submitted will be handled as confidential material in accordance with NOAA Administrative Order 216-100, Protection of Confidential Fishery Statistics. Other information collected on this form may be subject to public release under various statutes. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 09/30/2012.

OMB Control No. 0648-0593

VESSEL REIMBURSEMENT FORM

Expiration Date: 11/30/2015

OBSERVER TRIP ID	OBSERVER NAME	VESSEL NAME
DATES OF TRIP	**MEAL EXPENSES**	**TOTAL COST**
	$25/DAY X	
CORPORATION / OWNER NAME	**EIN or SSN**	**MAILING ADDRESS AND PHONE #**
DATE	**SIGNATURE**	
OFFICE USE ONLY	**INVOICE CODE**	**TASK NUMBER**

PLEASE FILL OUT ALL BLANKS (EXCLUDING INVOICE CODE AND TASK NUMBER) AND MAIL TO:

Michael Enzenauer
NOAA Fisheries
3500 Delwood Beach Road
Panama City, FL 32408

PAPERWORK REDUCTION ACT STATEMENT: The information provided on this form will be used to reimburse you for specific expenses during the observed trip identified on the form. That trip was observed in order to collect information that is used in analyses that support the conservation and management of living marine resources and that are required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (EO 12866), and other applicable law. The public reporting burden for this form is estimated to average 10 minutes per response, including the time for completing, reviewing, and transmitting the information on the form. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: National Marine Fisheries Service, F/SF1, National Observer Program, 1315 East West Highway, Silver Spring, MD 20910. Providing the requested information is required to have the Central Administrative Support Center (CASC) and United States Treasury process and pay the reimbursement. The information on this form will be kept confidential as required under Section 402(b) of the MSA (18 U.S.C. 1881a(b)) and regulations at 50 C.F.R. Part 600, Subpart E. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. This is an approved information collection under OMB Control No. 0648-0593 through 11/30/2015.

PRE-TRIP VESSEL SAFETY CHECKLIST
NMFS Southwest Region Fisheries Observer Program

Observers must verify the presence of each item on the list when embarking a vessel. Please advise the Logistics Coordinator or Project Manager if a vessel does not provide these safety items. **DO NOT LEAVE ON A VESSEL YOU FEEL IS UNSAFE**

Trip Number: _____ Vessel Name: _____

Observer Name: _____ Total # People On Board: _____

Signature: _____ Date: _____

USCG Commercial Fishing Vessel Safety Examination Decal

Distance Rating (NM) _____

Safety Decal Number _____

Expiration Date _____

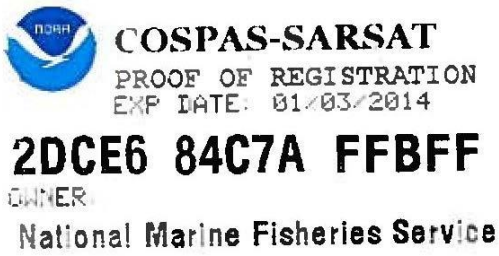
EPIRB

Hydrostatic Release Expiration _____

Battery Expiration _____

NOAA Registration Expiration _____

Registered to _____



Immersion Suits (required north of 32° N latitude)

Enough for all people on board (Y/N) ____

OMB Control No. 0648-0593, expires 11-30-2015

Survival Craft (check type)

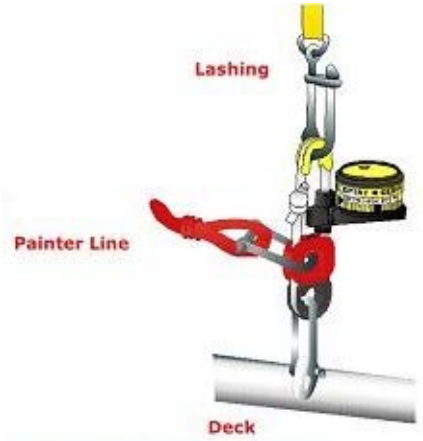
____ Inflatable Liferaft ____ Inflatable Buoyant Apparatus ____ Buoyant Apparatus

Capacity _____

Service Expiration Date _____

Hydrostatic Release Expiration _____

Installed As Shown? (Y/N) _____



Flares ____ 3 Parachute ____ 6 Handheld ____ 3 Smoke
(minimum required = 3/6/3)

Life Rings (check if present)

____ 1 Ring Life Buoy (vessels 26 feet to less than 65 feet)

____ 3 Ring Life Buoys (vessels 65 feet or greater)

Fire Extinguishers

Location 1 _____ Charged (Y/N) ____

Location 2 _____ Charged (Y/N) ____

Location 3 _____ Charged (Y/N) ____

First Aid Equipment Location _____

Radios (check all that apply) ____ SSB ____ VHF

GPS/Plotter (check if present) ____

NOTES

OMB Control No. 0648-0593, expires 11-30-2015

Fish and Invertebrate Measurement Data

TRIP NUMBER

		-			-				

SET NUMBER

	Species Name	Sp. Code	LENGTH (CM)	SEX	DISP. CODE	NOTES, PHOTO FRAME & CAMERA *
1						
2						
3						
4						
5						
6						
7						
a						
9						
10						
I I						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Disposition Codes

1 - kept, not damaged
2 - kept, damaged
3 - returned dead. not damaged
4 - returned dead, damaged
5 - returned alive
6. returned Alive, tagged
7. fined, shark only
8. dispatched, shark only
9. returned unknown

Sex Codes

M - male
F - female
U - unknown

	Species Name	Sp. Code	LENGTH (CM)	SEX	DISP. CODE	NOTES, PHOTO FRAME & CAMERA *
1						
2						
3						
4						
5						
6						
7						
a						
9						
10						
I I						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Disposition Codes

1 - kept, not damaged
2 - kept, damaged
3 - returned dead. not damaged
4 - returned dead, damaged
5 - returned alive
6. returned Alive, tagged
7. fined, shark only
8. dispatched, shark only
9. returned unknown

Sex Codes

M - male
F - female
U - unknown

Shark/Billfish Life History Data

TRIP NUMBER

		-			-				

SET NUMBER

Shark Species	Code	Sex	Lengths (cm)				Collection		Maturity Y/N					
									Males			Females		
		M / F	Total	**Fork**	Dors1 -Dors2	**Clasper**	Y / N	Specimen Number	Claspers Calcified	Claspers Rotate Forward	Seminal Fluid Present	Developing Eggs in Ovary	Enlarged Uterus	Eggs, Capsules or Fetus in Uterus

Billfish	Code	**Half Girth**	Fork Length	**Eye to Fork**	Cleith. to Fork	Collect Y/N	Specimen Number

Comments:

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

Seabird Mitigation

During Set

Mitigation Techniques Used ✓

Number of floats observed during set

Set At Night ?	☐	Bait Blue-dyed ?	☐
Towed Buoy Used ?	☐	Branch Line Weighted ?	☐
Tori Line Used ?	☐	* Strategic Offal Discard ?	☐
Line Shooter Used ?	☐	Bait Thawed ?	☐
Water Sprayed on Sea Surface ?	☐	Set Underwater ?	☐
Swim Bladder Deflated ?	☐	Bait Cast Outside Wake ?	☐
Other Deterrent ?	☐	Gear Set From Side ?	☐

* A blank here indicates the offal was not discarded stratigically.

During Set Seabird Mitigation Comments

During Haul

Mitigation Techniques Used ✓

Hauled At Night ?	☐	Bait Blue-dyed ?	☐
Towed Buoy Used ?	☐	Branch Line Weighted?	☐
Tori Line Used ?	☐	* Strategic Offal Discard ?	☐
		* Strategic Bait Discard ?	☐
Water Sprayed on Sea Surface ?	☐		
Other Deterrent ?	☐		

* A blank here indicates the offal or spent bait was discarded on the hauling side or kept on board for the duration of the haul.

During Haul Seabird Mitigation Comments

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

Seabird Biological Data Form

Species Code

Most common species:

DIM	Laysan Albatross
DNG	Blackfoot Albatross
DAL	Short-tail Albatross
DSP	Unidentified Alb.
AOT	Other Albatross

Photo? ✓
Specimen? ✓
Sketch? ✓
Tag? ✓
Comment? ✓ (Enter comments on back of this form.)

Catch Form Page No.

Catch Form Line No.

Capture

Date/Time: Day | Month | Year 2 0 | Hour | Minute

Latitude: Deg. | Decimal Min. . | N/S

Longitude: Deg. | Decimal Min. . | E/W

Landed ? ✓

Tags Present?
Y Yes
N No
U Unk.

Release

Date/Time: Day | Month | Year 2 0 | Hour | Minute

Latitude: Deg. | Decimal Min. . | N/S

Longitude: Deg. | Decimal Min. . | E/W

Disposition 0

01 Previously dead
02 Relsd. unharmed
03 Relsd. injured
04 Killed accidentally
05 Escaped
06 Treated as catch
07 Other
08 Unknown

Hooking/Entanglement

Hooked ?
Y Yes
N No
U Unknown

Entangled ?

Hook Location 0

Entangle Location 0

01 Ingested (in esophagus)
02 Head/Beak
03 Wing
04 Body
05 Unknown
06 Tail
07 Leg/Foot

How Gear Removed

00 Unknown
01 Fell from gear, point unknown
02 Fell from gear, while in water.
03 Fell from gear, once out of water.
04 Fell from gear, by force of roller.
05 Removal req. cutting gear/animal
06 Removal with no cutting.
07 Foul hooked, cut from gear.
08 Foul hooked, removed from gear
10 Bird caught-gangion on line
11 Bird caught-gangion not on line
99 Other

Remaining Gear
X None
H Hook
L Line
B Both Hook and Line

Describe hook or line and length left on animal:

Morphology

Bill Color 0
01 Dark gray-black
02 Buff-cream/pink-gray
03 Bright pink

Mantle Color 0
01 Dark gray-black
02 Solid brown
03 White/light back

Head Color 0
01 Dark gray
02 White with dark lores
03 White

Tip of bill is a different color from the rest of the bill. ✓

Light Device

Complete only if light devices were used and the light device type has been indicated on the gear configuration form.

Color

01 Blue	06 Yellow	11 Red
02 Green	07 Magenta	12 Orange
03 Black	08 Mixed	13 Silver/Metal
04 Pink	09 Other	
05 White	10 Clear	

Proximity 0

00 On this branch line
01 Light is 1 branch line away
02 Light is 2 branch lines away
03 Light is 3 branch lines away
04 None in vicinity

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Page No.

Catch Form Page No.

Catch Form Line No.

Seabird Biological Data Form Comments

Comments:

Injuries Description:

Identifying Characteristics:

Observer ID

Haul Date: Day | Month | Year 2 0

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

This Catch Page No.

Catch Event Log

Log comments for specific Catch Log records on the back of this form.

Page No.	Line No.	Species Common Name	Species Code	Float No.	Hook No.	Caught Condition Code (A, D, I, U)	Kept/Return Code (K / A, D, F, I, U)	Damaged Code	Gender Code (M, F, U)	Length 1 Code	Length 1 Measurement	Length 2 Code	Length 2 Measurement	Length 3 Code	Length 3 Measurement	Length 4 Code	Length 4 Measurement	Tag(s)? ✓	Specimen(s)? ✓	Photo(s)? ✓	Sketch(es)? ✓	Comment(s)? ✓
	1																	☐	☐	☐	☐	☐
	2																	☐	☐	☐	☐	☐
	3																	☐	☐	☐	☐	☐
	4																	☐	☐	☐	☐	☐
	5																	☐	☐	☐	☐	☐
	6																	☐	☐	☐	☐	☐
	7																	☐	☐	☐	☐	☐
	8																	☐	☐	☐	☐	☐
	9																	☐	☐	☐	☐	☐
	10																	☐	☐	☐	☐	☐
	11																	☐	☐	☐	☐	☐
	12																	☐	☐	☐	☐	☐
	13																	☐	☐	☐	☐	☐
	14																	☐	☐	☐	☐	☐
	15																	☐	☐	☐	☐	☐

Most Common Fish

Code	*Common Name*
916	Bigeye Tuna
167	Blue Shark
002	Skipjack Tuna
001	Yellowfin Tuna
005	Albacore
094	ShortBill Spearfish
092	Striped Marlin
909	Longnose Lancetfish
914	Dolphinfish
908	Sickle Pomfret
295	Snake Mackerel
013	Escolar
057	Wahoo
467	Opah
147	Bigeye Thresher Shark
091	Swordfish

Most Common Protected Species

Code	*Common Name*
dNG	Black-Footed Albatross
dIM	Laysan Albatross
aVE	Birds, Unidentified
CC	Loggerhead Sea Turtle
LV	Olive Ridley Sea Turtle
DC	Leatherback Sea Turtle
CM	Green Sea Turtle
UH	Unid. Hard Shell Sea Turtles
PC	False Killer Whale
GG	Risso's Dolphin
GM	Shortfinned Pilot Whale
UW	Unid. Cetacean
TT	Bottlenose Dolphin
MN	Humpback Whale

Code	*Damage*
BD	Bird Damage
CC	Cookie Cutter damage
CO	Other Damage, see comments
MM	Marine mammal damage
SB	Shark damage to body
SH	Shark damage - Head on hook
ST	Shark damage to tail
SQ	Squid damage
UN	Undetermined source of damage
UO	Unobserved
ND	Observation shows No Damage

Note: Code CO must have comments but others may need comments also.

Measurement Codes

AL Approximate Fork Length (ft)
FL Fork Length (cm)
TL Total Length (cm)
EF Eye to Fork (cm)
CK Cleithrum to Keel (cm)
DD D1 - D2 (cm)
CL Clasper Inner Length (cm)
PC Precaudal Length (cm)
HG Half Girth

Measurement Protocols

Tunas, Opahs, Pomfrets: FL
Sharks: TL, FL, DD, CL
Billfish: EF, CK, HG

Caught Condition Codes

A Caught Alive
D Caught Dead
I Caught Injured
U Caught Condition Unknown

Kept/Return Codes

K Kept
A Returned alive
D Returned dead
F Returned Finned
I Returned Injured
U Returned, Unknown condition

Gender Codes

M Male
F Female
U Unknown

A blank Gender field indicates Unknown.

form v. CL.04.07

Observer ID

Haul Date: Day | Month | Year 2 0

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form — Trip No. | Set No.

This Catch Page No.

Catch Event Log

Log comments for specific Catch Log records on the back of this form.

Page No.	Line No.	Species Common Name	Species Code	Float No.	Hook No.	Caught Condition Code (A, D, I, U)	Kept/Return Code (K / A, D, F, I, U)	Damaged Code	Gender Code (M, F, U)	Code	Measurement (Length 1)	Code	Measurement (Length 2)	Code	Measurement (Length 3)	Code	Measurement (Length 4)	Tag(s)? ✓	Specimen(s)? ✓	Photo(s)? ✓	Sketch(es)? ✓	Comment(s)? ✓
	1																	☐	☐	☐	☐	☐
	2																	☐	☐	☐	☐	☐
	3																	☐	☐	☐	☐	☐
	4																	☐	☐	☐	☐	☐
	5																	☐	☐	☐	☐	☐
	6																	☐	☐	☐	☐	☐
	7																	☐	☐	☐	☐	☐
	8																	☐	☐	☐	☐	☐
	9																	☐	☐	☐	☐	☐
	10																	☐	☐	☐	☐	☐
	11																	☐	☐	☐	☐	☐
	12																	☐	☐	☐	☐	☐
	13																	☐	☐	☐	☐	☐
	14																	☐	☐	☐	☐	☐
	15																	☐	☐	☐	☐	☐

Pg.	Ln.	Catch Record Comments (from either the front or back of this form, indicate appropriate catch record page and line number for each comment)

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

Gear Configuration

Hooks/Floats

No. Floats

Hook Type Code

01 Tuna	03 Offset Tuna	05 Circle
02 J-Hook	04 Offset J-hook	06 Other

Hook Size

Hooks Per Float

No. Hooks Set

Fishing Techniques

Reported Target Depth m

Target Species Code

Name:

Bait Code

01 Large Squid	05 Mixed
02 Small Squid	06 Other
03 Saury (Sanma)	07 Sardine
04 Mackerel (Saba)	

Light Devices

Type Code

00 None	02 Glow Bead
01 Light Stick	03 Other

No. Devices

Color Code

01 Blue	06 Yellow	11 Red
02 Green	07 Magenta	12 Orange
03 Black	08 Mixed	13 Silver/Metal
04 Pink	09 Other	
05 White	10 Clear	

Main Line

Material Code

01 Mono	03 Other
02 Multi	

Diameter mm

Reported Length nm

Reported Test lbs

No. Strands

Color Code

01 Blue	06 Yellow	11 Red
02 Green	07 Magenta	12 Orange
03 Black	08 Mixed	13 Silver/Metal
04 Pink	09 Other	
05 White	10 Clear	

Float Line

Material Code

01 Mono	03 Other
02 Multi	

Diameter mm

Measured Length m

Branch Line

Material Code

01 Mono	03 Other
02 Multi	

Diameter mm

Measured Length m

Reported Test lbs

No. Strands

Color Code

01 Blue	06 Yellow	11 Red
02 Green	07 Magenta	12 Orange
03 Black	08 Mixed	13 Silver/Metal
04 Pink	09 Other	
05 White	10 Clear	

Leader

Material Code

01 Mono	03 Other
02 Wire	

Diameter mm

Measured Length m

Reported Test lbs

Weight Size g

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Set No.

Gear Configuration Comments

Comments

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

Marine Mammal Biological Data Form

Species Code

Most Common Mammals
PC False Killer Whale
GG Risso's Dolphin
GM Shortfinned Pilot Whale
UW Whales/Dolphins/Porpoises
TT Bottlenose Dolphin
MN Humpback Whale

Photo? ☐ ✓
Specimen? ☐ ✓
Sketch? ☐ ✓
Tag? ☐ ✓
Comment? ☐ ✓ (Enter comments on back of this form.)

Catch Form Page No.

Catch Form Line No.

Capture

Date/Time — Day | Month | Year (2 0) | Hour | Minute

Latitude — Deg. | Decimal Min. . | N/S

Longitude — Deg. | Decimal Min. . | E/W

Landed ☐ ✓

Tags Present? ☐
Y Yes
N No
U Unk.

Release

Date/Time — Day | Month | Year (2 0) | Hour | Minute

Disposition Code (0)
01 Previously dead
02 Relsd. unharmed
03 Relsd. injured
04 Died
05 Escaped
06 Treated as catch
07 Other/Unknown

Latitude — Deg. | Decimal Min. . | N/S

Longitude — Deg. | Decimal Min. . | E/W

Tags Removed? ☐ ✓

Tags Applied? ☐ ✓

Hooking/Entanglement

Hooked ? ☐
Y Yes
N No
U Unknown

Entangled ? ☐

Hook Location (0)

Entangle Location (0)

01 Ingested (in esophagus)
02 Head/Beak/Mouth
03 Wing/Front Flipper
04 Body/Shell
05 Unknown
06 Tail
07 Leg/Foot/Rear Flipper

Gear Removal ☐
00 Unknown
01 Fell from gear, point unknown
02 Fell from gear while in water.
03 Fell from gear once out of water.
04 Fell from gear by force of roller.
05 Removal req. cutting gear/animal
06 Removal with no cutting.
99 Other

Remaining Gear ☐
X None
H Hook
L Line
B Both Hook and Line

Describe hook or line and length left on animal:

_____

_____

_____

Female

Lactating? ☐ ✓

Fetus Gender ☐
M Male
F Female

Fetus Length . cm

Curvilinear? ☐ ✓

Measurements

Round to the nearest whole cm.

Length cm

Curvilinear? ☐ ✓

Girth cm

Flipper Length cm

Light Device

Complete only if light devices were used and the light device type has been indicated on the gear configuration form.

Color Code

01 Blue
02 Green
03 Black
04 Pink
05 White
06 Yellow
07 Magenta
08 Mixed
09 Other
10 Clear
11 Red
12 Orange
13 Silver/Metal

Proximity Code (0)
00 On this branch line
01 Light is 1 branch line away
02 Light is 2 branch lines away
03 Light is 3 branch lines away
04 None in vicinity

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Page No.

Catch Form Page No.

Catch Form Line No.

Marine Mammal Biological Data Form Comments

Comments:

Injuries Description:

Identifying Characteristics:

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

This Photo Page No.

Photo Log

Form Types:

TS	Trip Spec
SH	Set/Haul
CL	Catch
PS	Prot.Sp.
BM	Bird Mitg
GC	Gear Cfg
TU	Turtle
BI	Bird
MM	Mammal

Page No.	Line No.	Date dd/mon/yyyy	Set No.	Association: Form Type	Association: Page No.	Association: Line No.	Camera No.	Frame No.	Photo Description

form v. PH.04.06

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Page No.

Photo Log Comments

Line	(Precede each comment with the appropriate line number. Use as many lines as needed.) Comments (cont. from front of this form)

form v. PH.04.06.Back

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Protected Species Page No.

Protected Species Event Log

Write ***PSI comments*** and ***PSI Identifying Characteristics*** for specific Protected Species Event Log records in the Comments Log.

Page No.	Line No.	Event No.	Event Date/Time: Day	Month	Year	Hour	Minute	Group/Individual ID	Event Type Code	Vess. Activity Code	Set No.	Sighting Method	Latitude: Degree	Minute	Direction N/S	Longitude: Degree	Minute	Direction E/W	Weather Code	Species English Name Abbr.	Species Code	Behavior Code	Condition Code	Species Count: Low Estimate	Best Estimate	High Estimate	✓ Sketch Drawn ?	✓ Photo Taken ?	✓ Comment Written?	Association: Form Code	Page No.	Line No.
	1													.			.										☐	☐	☐			
	2													.			.										☐	☐	☐			
	3													.			.										☐	☐	☐			
	4													.			.										☐	☐	☐			
	5													.			.										☐	☐	☐			
	6													.			.										☐	☐	☐			
	7													.			.										☐	☐	☐			
	8													.			.										☐	☐	☐			
	9													.			.										☐	☐	☐			
	10													.			.										☐	☐	☐			

Event Type Codes

B Behavior
A Approach
C Contact
S Scan Count
X Event Ended

Vessel Activity Codes

01 Gear Retrieval
02 Gear Set
03 Gear Drift/Float
04 Pre-Set Preparation
05 Post Haul Clean-up
06 Running
07 Other

Weather Codes

00 Not determined
01 Clear
02 Partly cloudy
03 Layers of clouds
04 Drizzle
05 Showers
06 Rain
07 Thunderstorms
08 Rain and fog
09 Fog/thick haze
10 Snow, rain/snow mix
99 Other

Most Common Protected Species

Code	*English Name*	*Abbr.*
dNG	Black-Footed Albatross	
dIM	Laysan Albatross	
aVE	Birds	
CC	Loggerhead Sea Turtle	
LV	Olive Ridley Sea Turtle	
DC	Leatherback Sea Turtle	
CM	Green Sea Turtle	
UH	Hard Shell Sea Turtles	
PC	False Killer Whale	
GG	Risso's Dolphin	
GM	Shortfinned Pilot Whale	
UW	Whales/Dolphins/Porpoises	
TT	Bottlenose Dolphin	
MN	Humpback Whale	

Behavior Codes

01 Physical contact w/gear
02 Attempt, no contact
03 Near gear, within 50 m
04 Near gear, 51 to 150 m
05 Feeding on catch
06 Porpoising
07 Bow riding
08 Breaching
09 Swimming at surface
10 Milling
11 Motionless at surface
12 Vessel avoidance
13 Vessel attraction
99 Other

Condition Codes

01 Unknown
02 Alive, not injured
03 Injured
04 Killed
05 Dead, fresh
06 Decomposed

Sighting Method Codes

00 Not determined
01 Sighted with naked eye
02 Sighted with binoculars
03 Sighted by capt./crew, then Observer
04 Sighted by capt. or crew only
09 Other

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form
Trip No.
Page No.

Protected Species Comments

Line	Comments (Precede each comment with the appropriate line number. Use as many lines as needed.)

form v. PS.04.10.Back

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

Logbook Page No.

Set and Haul Information

Begin Set

End No. 1

Date/Time: Day | Month | Year (2 0) | Hour | Minute

Latitude: Deg. | Decimal Min. . | N/S

Longitude: Deg. | Decimal Min. . | E/W

Weather Code

Beaufort Scale

Sea Surface Temperature . Degrees F.

End Set

End No. 2

Date/Time: Day | Month | Year (2 0) | Hour | Minute

Latitude: Deg. | Decimal Min. . | N/S

Longitude: Deg. | Decimal Min. . | E/W

Weather Code

Beaufort Scale

Sea Surface Temperature . Degrees F.

Begin Haul

Date/Time: Day | Month | Year (2 0) | Hour | Minute

Latitude: Deg. | Decimal Min. . | N/S

Longitude: Deg. | Decimal Min. . | E/W

Weather Code

Beaufort Scale

Sea Surface Temperature . Degrees F.

End Haul

Date/Time: Day | Month | Year (2 0) | Hour | Minute

Latitude: Deg. | Decimal Min. . | N/S

Longitude: Deg. | Decimal Min. . | E/W

Weather Code

Beaufort Scale

Sea Surface Temperature . Degrees F.

Weather Codes

00	Not determined
01	Clear
02	Partly cloudy
03	Layers of clouds
04	Drizzle
05	Showers
06	Rain
07	Thunderstorms
08	Rain and fog
09	Fog/thick haze
10	Snow, rain/snow mix
99	Other

Beaufort Scale

00	Surface like a mirror	0 ft
01	Ripples like scales, no foam	.25 ft
02	Sm. wavelets, glassy crests	.50 ft
03	Lg wavelets, some whitecaps	2 ft
04	Sm, waves, numerous whitecaps	4 ft
05	Mod. waves, some spray	6 ft
06	Lg. waves, more spray	10 ft
07	Sea heaps up, spray & foam	14 ft
08	Mod. waves, foam in streaks	18 ft
09	High waves, rolling, reduced vis.	23 ft
10	Very high waves, hanging crests, heavy rolling	29 ft

Set/Haul Events

Haul Back Dir. Code: 0

01 Begin Set
02 End Set
03 Other

Line Parted? ☐ ✓

No. Sections Retrieved

Protected Species Interactions

During Set? ☐ ✓

During Haul? ☐ ✓

Comments

form ver. SH.04.11

Observer ID

Date/Time Day Month Year 2 0

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Assn. Form Code

Page No.

Line No.

Sketch

Sketch Caption/Short Description:

Long Description:

form v. SK.04.06

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Assn. Form Code

Page No.

Line No.

Sketch Comments

Comments (cont. from the from of this form)

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

This Specimen Log Page No.

Specimen Log

Date dd/mon/yyyy	This Page No.	This Line No.	Set No.	Form Type (Association)	Page No. (Association)	Line No. (Association)	Specimen Type Code	Specimen Type English Name	Comments	Collection Purpose	Specimen Delivered To...
		1		CL							
		2		CL							
		3		CL							
		4		CL							
		5		CL							
		6		CL							
		7		CL							
		8		CL							
		9		CL							
		10		CL							
		11		CL							
		12		CL							
		13		CL							
		14		CL							
		15		CL							
		16		CL							
		17		CL							
		18		CL							
		19		CL							
		20		CL							
		21		CL							
		22		CL							
		23		CL							

Form Types:

TS Trip Spec
SH Set/Haul
CL Catch
PS Prot. Sp.
BM Bird Mitg
GC Gear Cfg
TU Turtle
BI Bird
MM Mammal

Specimen Type Codes:

W Whole Animal
O Otolith
G Gonad
R Ray
F Full Stomach
D DNA plug
Z Other

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Page No.

Specimen Log Comments

Line	(Precede each comment with the appropriate line number. Use as many lines as needed.) Comments

form v. SP.04.06.Back

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

Catch Form Page No.

Catch Form Line No.

Date/Time Day Month Year 2 0

Tag Event

Comments:

Species Code

Tag Event Type

AP Tag Applied
RC Tag Recaptured
RM Tag Removed

Tag Number

Tag Type 0

01 Spaghetti
02 Archival
03 Leg band
04 Flipper
05 PSAT

Tag Location 0

Turtles:
01 Front Left Flipper
02 Front Right Flipper
03 Rear Left Flipper
04 Rear Right Flipper
Birds:
05 Left Leg
06 Right Leg
Fish:
07 Left dorsum
08 Right dorsum
09 Left belly
10 Right belly
11 Other

Tag Material 0

01 Plastic
02 Metal

Tag Color

01 Blue
02 Green
03 Black
04 Pink
05 White
06 Yellow
07 Magenta
08 Mixed
09 Other
10 Clear
11 Red
12 Orange
13 Silver/Metal

Tag Contact Information:

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Set No.

Catch Form Page No.

Catch Form Line No.

Tag Event Comments

Comments (cont. from the front of this form)	Tag Contact Information (cont. from the front of this form)

Observer ID

Declared Trip Type

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

L M . . . .

Observer Manual Version ID

Trip Specifications

Vessel Documentation No.

Vessel Name

Vessel Length

Operator Name

First Name and Middle Initial

Last Name

Trip Times and Port Stops

Trip Start

Departure Date/Time

Day Month Year Hour Minute

Departure Port

Intermediate Port Stops

Stop No.	Stopped Day	Stopped Month	Stopped Year	Stopped Hour	Stopped Minute	Resumed Day	Resumed Month	Resumed Year	Resumed Hour	Resumed Minute	Stop Port
			20					20			
			20					20			
			20					20			
			20					20			
			20					20			

Trip End

Day Month Year Hour Minute

Arrival Date/Time

Arrival Port

Comments

form ver. TS.04.11

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Trip Specifications Comments

Comments (cont. from the from of this form)

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

Trip No.

Set No.

Sea Turtle Biological Data Form

Species Code

CC	Loggerhead
CM	Green
DC	Leatherback
EI	Hawksbill
LV	Olive Ridley
UH	Unid. Hard Shell
UT	Unidentified

Photo? ☐ ✓

Specimen? ☐ ✓

Sketch? ☐ ✓

Tag? ☐ ✓

Comment? ☐ ✓ (Enter comments on back of this form.)

Catch Form Page No.

Catch Form Line No.

Capture

Date/Time — Day | Month | Year (2 0) | Hour | Minute

Latitude — Deg. | Decimal Min. | N/S

Longitude — Deg. | Decimal Min. | E/W

Landed ☐ ✓

Tags Present? ☐

Y	Yes
N	No
U	Unk.

Release

Date/Time — Day | Month | Year (2 0) | Hour | Minute

Latitude — Deg. | Decimal Min. | N/S

Longitude — Deg. | Decimal Min. | E/W

Tags Removed? ☐ ✓

Tags Applied? ☐ ✓

Disposition Code (0)

01	Previously dead
02	Relsd. unharmed
03	Relsd. injured
04	Died
05	Escaped
06	Treated as catch
07	Other/Unknown

Hooking/Entanglement

Hooked ? ☐

Entangled ? ☐

Y	Yes
N	No
U	Unknown

Hook Location (0)

Entangle Location (0)

01	Ingested (in esophagus)
02	Head/Beak/Mouth
03	Wing/Front Flipper
04	Body/Shell
05	Unknown
06	Tail
07	Leg/Foot/Rear Flipper

Gear Removal

00	Unknown
01	Fell from gear, point unknown
02	Fell from gear while in water.
03	Fell from gear once out of water.
04	Fell from gear by force of roller.
05	Removal req. cutting gear/animal
06	Removal with no cutting.
99	Other

Remaining Gear

X	None
H	Hook
L	Line
B	Both Hook and Line

Describe hook or line and length left on animal:

Morphology

Skin Covered Carapace? ☐
(N implies carapace is covered w/ scutes.)

Overlapping Scutes? ☐

Inframarginal scutes with pores? ☐

One pair of prefrontal scales? ☐
(N implies more than one pair.)

Y	Yes
N	No
U	Unknown

Carapace Scute Counts

(Enter the no. of scutes in the boxes.)

No. of Left Costal Scutes

No. of Right Costal Scutes

No. of Vertebral Scutes

No. of Inframarginal Scutes

Dorsal Coloration (0)

01	Orange/Red
02	Grayish
03	Other, give color below

Other dorsal color:

Measurements

Round to the nearest half cm.

Carapace Length (curved) cm

Carapace Width (curved) cm

Plastron Length cm

Tail Length cm

Carapace Length (straight) cm

Carapace Width (straight) cm

Light Device

Complete only if light devices were used and the light device type has been indicated on the gear configuration form.

Color Code

01	Blue	06	Yellow	11	Red
02	Green	07	Magenta	12	Orange
03	Black	08	Mixed	13	Silver/Metal
04	Pink	09	Other		
05	White	10	Clear		

Proximity Code (0)

00	On this branch line
01	Light is 1 branch line away
02	Light is 2 branch lines away
03	Light is 3 branch lines away
04	None in vicinity

Observer ID

DOC/NOAA Fisheries
Pacific Islands Region
Longline Observer Program

From front of this form

Trip No.

Page No.

Catch Form Page No.

Catch Form Line No.

Sea Turtle Biological Data Form Comments

Comments:

Injuries Description:

Identifying Characteristics:

Why do we collect economic data? Because the National Marine Fisheries Service is required to conduct economic analyses.

HAWAII OBSERVER PROGRAM LONGLINE TRIP EXPENDITURE FORM

(Ask information on the way home)

1. TRIP INFORMATION

TRIP NUMBER: L L

DATE OF DEPARTURE: DAY ___ MONTH ___ YEAR 2 0

DATE OF RETURN: DAY ___ MONTH ___ YEAR 2 0

VESSEL NAME:

TRIP TYPE (Check one): ☐ SWORDFISH ☐ TUNA

2. FUEL

PRICE PER GALLON: $.

GALLONS USED: ,

TOTAL COST OF FUEL: $, .

3. ENGINE OIL

UNIT (Check one)	PRICE PER UNIT		QUANTITY USED	
☐ Gallon	.	Per gal		Gallons
☐ Bag/Bucket (5 gallons)	.	Per bag		Bags
☐ Drum (55 Gallons)	.	Per drum		Drums

TOTAL COST OF OIL: $.

4. BAIT

TYPE 1 (Check one):

☐	Squid	☐	Mackerel
☐	Sardine	☐	Anchovy
☐	Sanma	☐	

PRICE PER BOX: $. BOXES USED: ___ TOTAL COST: $, .

TYPE 2 (Check one):

☐	Squid	☐	Mackerel
☐	Sardine	☐	Anchovy
☐	Sanma	☐	

PRICE PER BOX: $. BOXES USED: ___ TOTAL COST: $, .

5. ICE (Check one): ☐ ICE MAKER ☐ NO ICE MAKER

UNIT (Check one)

☐	Blocks
☐	Tons
☐	Lbs

PRICE PER UNIT: $. UNITS USED: ___ TOTAL COST OF ICE: $, .

6. FISHING GEAR COSTS (amount spent to re-supply vessel for this trip [e.g. hooks, line, floats, raingear])

$, .

7. PROVISIONS COSTS (amount spent to re-supply vessel for this trip [e.g. groceries, bottled water, cigarettes])

$, .

DON'T FORGET TO FILL OUT THE BACKSIDE!

Revised 1/01/11

OMB Control No. 0648-0593 exp. 11/30/2015

Why do we collect economic data? Because the National Marine Fisheries Service is required to conduct economic analyses.

HAWAII OBSERVER PROGRAM LONGLINE TRIP EXPENDITURE FORM

(Ask information on the way home)

8. TRIP COMMUNICATIONS COST (amount spent for this trip [e.g., satellite phone and/or data calls, email])

$ ☐ , ☐ ☐ ☐ .

9. COST OF LIGHTSTICKS (for swordfish trips only)

PRICE PER CASE (500 LIGHTSTICKS)

$ ☐ ☐ ☐ .

CASES USED

☐ ☐ ☐ .

TOTAL STICK COST

$ ☐ , ☐ ☐ ☐ .

10. TOTAL ESTIMATED TRIP COSTS (Ask, Don't Add!)

$ ☐ ☐ , ☐ ☐ ☐ .

11. CAPTAIN OF THIS TRIP (Check one)

☐ Owner Operated ☐ Hired Captain

12. CREW INFORMATION

Number of crew (DO NOT Include captain)

☐ ☐

Number of foreign crew

☐ ☐

13. STATUS OF ECONOMIC DATA COLLECTION (For observer / debriefer only)

A. Observer Section

Observer number: _____

Captain or trip operator phone number: ( ) _____

B. Debriefer Section

Check only one box:

☐ Data from Captain

☐ Observed data at sea

☐ In office

Debriefer initials: _____

If no data from Captain, please provide REASON:

Revised 1/01/11

OMB Control No. 0648-0593 exp. 11/30/2015

국립 해양 수산 서비스에서는 경제분석을 하기위해 아래와같은 정보들을 수집하고있습니다.

HAWAII LONGLINE 프로그램 여행 지출양식

문의사항은 귀환시 물어보십시오 Ask information on the way home

1. TRIP INFORMATION 항해정보

항해번호 L L

출발일자 ___ 일 ___ 월 2 0 ___ 년

귀환일자 ___ 일 ___ 월 2 0 ___ 년

어선 이름:

항해타입 (하나만 체크): ☐ SWORDFISH 황새치 ☐ TUNA 다랑어

2. FUEL 연료

갤론당 연료가격 $ ___ . ___

사용한 연료 양 (단위 갤론) ___ , ___

총 연료비용 $ ___ , ___ . ___

3. ENGINE OIL 엔진 오일

단위 (아래중 하나만 체크	단위 당 가격	사용된 양	
☐ 갤런	___ . ___	단위 여자 ___	갤런 수
☐ 봉지/양동이 (5 갤런)	___ . ___	당 가방 ___	봉지 수
☐ 통 (55 갤런)	___ . ___	당 드럼 ___	통 수

총 오일 비용 $ ___ . ___

4. BAIT 미끼

타입 1 (하나만 체크)

☐	Squid 오징어	☐	Mackerel 고등어
☐	Sardine 정어리	☐	Anchovy 멸치
☐	Sanma 꽁치	☐	

박스 당 가격 $ ___ . ___

사용 박스 수 ___

총 비용 $ ___ , ___ . ___

타입2 (하나만 체크)

☐	Squid 오징어	☐	Mackerel 고등어
☐	Sardine 정어리	☐	Anchovy 멸치
☐	Sanma 꽁치	☐	

박스 당 가격 $ ___ . ___

사용 박스 수 ___

총 비용 $ ___ , ___ . ___

5. ICE 얼음 (하나만 체크):

☐ 얼음제조기있음 ICE MAKER ☐ 얼음제조기없음 NO ICE MAKER

단위 (확인 1)

☐	Blocks
☐	Tons
☐	Lbs

단위당 가격 $ ___ . ___

사용된 양 ___

사용된 양 ___

총 비용 $ ___ , ___ . ___

6. FISHING GEAR COSTS (Hooks, line, floats, raingear, etc.) 낚시 장비 비 용

(예: 낚시바늘, 구명장비, 줄, 우비 등)

$ ___ , ___ . ___

7. PROVISIONS COSTS (Groceries, bottled water, cigarettes, etc.) 식량 구입 비용

(예: 식료품, 생수, 담배등)

$ ___ , ___ . ___

안 뒷면에 기입하는 것을 잊지 마십시오!

Revised 1/01/2011

OMB Control No. 0648-0593 exp. 11/30/2015

국립 해양 수산 서비스에서는 경제분석을 하기위해 아래와같은 정보들을 수집하고있습니다

HAWAII LONGLINE 옵서버 프로그램 여행을 지출 양식

Ask information on the way home (뒷면을 꼭 기재해 주십시요)

8. 통신비용 TRIP COMMUNICATIONS COST (전화비, 이메일등)

$ ☐ , ☐☐☐ .

9. 야광 스틱 가격 COST OF LIGHTSTICKS (SWORDFISH TRIPS ONLY)

한 캐이스당 가격 500 LIGHTSTICKS

$ ☐☐☐ .

사용된 캐이스 수

☐☐☐ .

총 야광스틱 비용

$ ☐ , ☐☐☐ .

10. 총 항해비용 (총 합하기전 질문사항이 있을 경우 문의해야함) TOTAL ESTIMATED TRIP COSTS (Ask, Don't Add!)

$ ☐☐ , ☐☐☐ .

11. 항해 운행자 OPERATOR OF THIS TRIP 선장 (Check One)

☐ 선 주 Owner ☐ 채용된 캡틴 Hired Captain

12. CREW INFORMATION

☐☐ 선장외 모든 선원 수 Number of Crew (DO NOT include Captain)

☐☐ 외국인 선원 Number of Foreign Crew

13. 경제 데이터 수집 상태 STATUS OF ECONOMIC DATA COLLECTION (For observer / debriefer)디브리퍼 확인서

A. Observer Section

Observer # _____

(번이 책크되지 않았을 경우, 캡틴의 전화번호를 기재하십시요) Captain or trip operator phone number:

( ) _____

B. Debriefer Section

☐ 켑틴이 작성함 (Data from Captain)

☐ 행해중 폼 작성함 (Observed data at sea)

☐ 사무실 에서 폼작성 (In office)

Debriefer initials_____

이나 3번에 체크되있을경우, 아래박스에 이유를 기재하십시요

REASON (if first box not checked)

Chương trình quan sát/Mẫu số liệu kinh tế
Tại sao thu thập số liệu kinh tế? -- "Bởi vì NMFS yêu cầu phân tích thực trạng kinh tế."

HAWAII CHI PHÍ CHO CHUYẾN ĐÁNH CÁ CÂU DÀI

(Hỏi trên đường về và xin lưu ý không bỏ xót câu hỏi nào)

1. THÔNG TIN VỀ CHUYẾN ĐÁNH CÁ TRIP INFORMATION

TRIP NUMBER: L L

NGÀY KHỞI HÀNH: Ngày ___ Tháng ___ Năm 2 0

NGÀY TRỞ VỀ: Ngày ___ Tháng ___ Năm 2 0

Tên Thuyền:

Loại cá (đánh dấu vào 1 hộp): ☐ Cá Kiếm ☐ Cá Tuna

2. NHIÊN LIỆU (DẦU DIESEL) FUEL

GIÁ 1 GA LÔNG: $ ___ . ___

SỐ GA LÔNG ĐÃ DÙNG: ___ , ___

TỔNG SỐ CHI PHÍ CHO NHIÊN LIỆU: $ ___ , ___ . ___

3. DẦU NHỚT ENGINE OIL

ĐƠN VỊ (Đánh dấu vào 1 hộp)		GIÁ 1 ĐƠN VỊ	SỐ ĐƠN VỊ ĐÃ SỬ DỤNG		
☐	1 Gallon	___ . ___	mỗi ga		Ga Lông
☐	5 Gallons (1 bag/bucket)	___ . ___	mỗ Xô		Xô
☐	55 Gallons (1 drum)	___ . ___	mỗi Thùng phi		Thùng phi

TỔNG CHI PHÍ: $ ___ . ___

4. MỒI CÂU BAIT

LOẠI THỨ NHẤT (Đánh dấu vào 1 loại):

☐	Mực	☐	Mackerel
☐	Sardine	☐	Anchovy
☐	Sanma	☐	

GIÁ MỘT THÙNG: $ ___ . ___

SỐ THÙNG ĐÃ DÙNG: ___

TỔNG CHI PHÍ: $ ___ , ___ . ___

LOẠI THỨ NHẤT (Đánh dấu vào 1 loại):

☐	Squid	☐	Mackerel
☐	Sardine	☐	Anchovy
☐	Sanma	☐	

GIÁ MỘT THÙNG: $ ___

SỐ THÙNG ĐÃ DÙNG: ___

TỔNG CHI PHÍ: $ ___ , ___ . ___

5. NƯỚC ĐÁ ICE (Đánh dấu vào 1 hộp)

☐ CÓ MÁY LÀM ĐÁ ☐ KHÔNG CÓ MÁY LÀM ĐÁ

ĐƠN VỊ (Đánh dấu vào 1 hộp)

☐	Blocks
☐	Tons
☐	Lbs

GIÁ 1 ĐƠN VỊ: $ ___ . ___

SỐ THÙNG ĐÃ DÙNG: ___

TỔNG CHI PHÍ: $ ___ , ___ . ___

6. CHI PHÍ PHỤ LIỆU ĐÁNH CÁ (Chi phí thay thế neo, dây câu, phao, áo mưa, v.v.) FISHING GEAR COSTS

$ ___ , ___ . ___

7. CHI PHÍ ĂN UỐNG, THUỐC LÁ PROVISIONS COSTS

(số tiền bỏ ra để tái tàu cung cấp cho chuyến đi này, ví dụ như, cửa hàng tạp hóa, đóng chai nước, thuốc lá)

$ ___ , ___ . ___

KHÔNG QUÊN TO FILL OUT THE Mặt sau!

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OMB Control No. 0648-0593 exp. 11/30/2015

HAWAII CHI PHÍ CHO CHUYẾN ĐÁNH CÁ CÂU DÀI

(Hỏi trên đường về và xin lưu ý không bỏ xót câu hỏi nào)

8. CHI PHÍ CHO THÔNG TIN LIÊN LẠC (Điện thoại qua vệ tinh, thư điện tử, v.v....trong chuyến đánh cá) COMMUNICATIONS

$ ☐ , ☐ ☐ ☐ . ☐

9. CHI PHÍ ĐÈN ĐÁNH CÁ LIGHTSTICKS

Câu 9 chỉ hỏi riêng cho tàu đánh CÁ KIẾM

Gía một hộp (500 cây dền)	Số hộp đã dung	Tổng chi phí
$ ☐ ☐ ☐ . ☐	☐ ☐ ☐ . ☐	$ ☐ , ☐ ☐ ☐ . ☐

10. TỔNG DỰ TRÙ CHI PHÍ CHO CHUYẾN ĐÁNH CÁ (Hỏi trực tiếp chứ không tự cộng lấy) TOTAL ESTIMATED TRIP COSTS

$ ☐ ☐ , ☐ ☐ ☐ . ☐

11.NGƯỜI ĐIỀU KHIỂN CHUYẾN ĐÁNH CÁ NÀY CAPTAIN OF THIS TRIP

☐ Chủ tàu ☐ Thuê thuyền trưởng

12. CREW INFORMATION (Số thủy thủ trên tàu)

☐ ☐ TỔNG SỐ THUYỀN VIÊN (Không bao gồm thuyền trưởng) DO NOT INCLUDE CAPTAIN

☐ ☐ SỐ THUYỀN VIÊN NGƯỜI NƯỚC NGOÀI

13. TÌNH TRẠNG của KINH TẾ dữ liệu sưu tập STATUS OF ECONOMIC DATA COLLECTION
PHẦN NÀY chỉ CHO người tra hỏi | Observer / Debriefer only:

A. Observer Section

Observer số (number): _____

Viết số điện thoại của người thuyền trưởng , nếu hộp đầu trên nhất không có đánh dấu (Captain's phone #):
( ) _____

B. Debriefer Section Debriefer tắt (initials):_____

Check only one box:

☐ Dữ liệu theo người thuyền trưởng
(Data from captain)

☐ Dữ liệu quan sát trên biển
(Observed data at sea)

☐ Trong văn phòng
(In office)

(REASON)

Nếu một trong hai hộp cuối cùng có đánh dấu, xin vui lòng viết lý do dưới đây (viết trong hộp dưới đây:

Observer Performance Evaluation

In an attempt to monitor the quality of observers we deploy on commercial fishing vessels, we would appreciate it if you would complete this questionnaire at the conclusion of your observed trip. The purpose of the questionnaire is to ensure that the observers conduct themselves professionally and safely during their deployment on your vessel. Please fill in the information below and return it to the port coordinator. The information you provide is important in helping us to collect quality data that is being used for stock assessments and fishing regulations. If you are the owner of the vessel and were not present during the trip, please consult with your captain.

Vessel Name: _____ Your Name: _____

Observer Name: _____ Today's Date: _____

Your Status (check one): Captain ____ Owner ____ Other _____

Please check yes or no for each question. Additional comments can be entered on the back of this form if necessary.

Was the observer on time and prepared for the trip? Yes ☐ No ☐

Was the observer professional, courteous, and polite? Yes ☐ No ☐
If NO, please explain on the back of this form.

Did the observer do anything you thought was unsafe? Yes ☐ No ☐
If YES, please explain on the back of this form.

Did the observer monitor one hour of every set? Yes ☐ No ☐

Was the observer on deck for the entire time while hauling gear? Yes ☐ No ☐
If NO, how many sets or how much time did they miss?

Did the observer interfere with fishing operations? Yes ☐ No ☐
If YES, please explain on the back of this form.

Did the observer make any unreasonable requests? Yes ☐ No ☐
(shark handling, fish sampling, food selection, etc.)
If YES, please explain on the back of this form.

Did the observer measure fish with the meter stick? Yes ☐ No ☐

Did the observer help with cleaning (dishes, the galley, their bunk, etc)? Yes ☐ No ☐
If NO, were they asked to help? Yes ☐ No ☐

Version.11.2012

OMB control#:0648-0593
Exp. 11/30/2015

Summary of Statistical Methods Used by Observer Programs

Program	Coverage, sample size, or precision target	Mandatory	Sampling Frame	Vessel Selection Method
Alaska Fisheries Science Center, North Pacific Groundfish and Halibut Observer Program (NPGHOP). **50 CFR 679 Subpart E** Catch and bycatch in all North Pacific groundfish and halibut fisheries is monitored inseason to support quota management. The groundfish fleet is divided into four sectors by vessel size and processing mode (Catcher Processors (CPs) or Catcher Vessels (CVs delivering to processing plants), each with different requirements for observer coverage.				
NPGHOP, Zero Selection sector Catcher Vessels <40 ft	0%	N	None Vessels < 40 ft not included in sampling frame for logistical reasons.	No vessel selection No list of vessels or permits but information about landings from tickets.
NPGHOP, Partial Coverage Sector Small vessel trip-selection: This pool is comprised of catcher vessels that are fishing hook-and-line or pot gear and are greater than or equal to 40 ft Length Overall (LOA), but less than 57.5 ft LOA	Anticipated selection probabilities = 12% 1 observer per trip	Y	Vessels greater than or equal to 40ft but less than 57.5ft LOA.	NMFS will use an internet based program called the Observer Declare and Deploy System (http://odds.afsc.noaa.gov) to randomly select vessels and assign observers to vessels. NMFS will grant conditional releases in the small vessel category under two scenarios: 1) vessels with insufficient life-raft capacity to accommodate an observer, or 2) vessels that are not released due to insufficient life-raft capacity shall be released from observer coverage on their third trip if it is consecutive to two previously observed trips (i.e., two trips in a row were

NPGHOP Partial Coverage Sector Large vessel trip-selection: This pool comprises three classes of vessels: 1) all catcher vessels fishing trawl gear, 2) catcher vessels fishing hook-and-line or pot gear that are also greater than or equal to 57.5 ft LOA, and 3) catcher-processor vessels exempted from full coverage requirements. Trawl vessels that fish for Pacific cod in the BSAI will be given the opportunity to opt-in to full observer coverage and carry an observer at all times when fishing in the BSAI Trawl vessels participating in the GOA Rockfish Fishery switch over to the 100% full coverage sector.	Anticipated selection probabilities = 24% 1 observer per trip	Y	Vessels greater than or equal to 57.5ft	NMFS will use an internet based program called the Observer Declare and Deploy System (http://odds.afsc.noaa.gov) to randomly select vessels and to assign observers to vessels NMFS will grant conditional releases in the small vessel category under two scenarios: 1) vessels with insufficient life-raft capacity to accommodate an observer, or 2) vessels that are not released due to insufficient life-raft capacity shall be released from observer coverage on their third trip if it is consecutive to two previously observed trips (i.e., two trips in a row were observed, resulting in the third trip being
NPGHOP, 100% Sector Fleet: Vessels LOA ≥ 125 ft; 79 bottom trawl catcher vessels; 55 longline vessels; variable trip length	100% 1 observer per trip	Y	NPGHOP vessels in the sector listed	Census
NPGHOP, 200% Sector Fleet: Vessels LOA ≥ 125 ft; 26-32 C/P bottom trawl and longline vessels; ~12 C/P vessels in the Atka mackerel fishery; 2 week + trip length	100%, 2 observers per trip	Y	NPGHOP vessels in the sector listed	Census

Alaska Regional Office, Alaska Marine Mammal Observer Program (AMMOP) 50 CFR 229.7				
AMMOP	5%	Y	Permit holders by stratified area	Randomly generated list

=

Program	**Coverage, sample size, or precision target**	**Mandatory**	**Sampling Frame**	**Vessel Selection method**
Northwest Fisheries Science Center, West Coast Groundfish Observer Program (WCGOP) 50 CFR 660, Subpart C				
WCGOP Groundfish Catch Share – IFQ program Fleet: 138 permits; 107 deemed active; groundfish bottom trawl; shoreside pelagic hake trawl, at-sea mothership catcher vessel pelagic hake trawl, and groundfish fixed gear vessels (longline and fish pots); 15 bottom trawl and fixed gear vessels in EM EFP, and 22 mid-water whiting vessels in EM EFP	100% observer coverage. For vessels participating under Electronic Monitoring (EM) Exempted Fishing Permits (EFP), target coverage is 25% for non-whiting vessels. No observer coverage on whiting vessels with EM.	Y	All vessels participating in the fishery.	Census
WCGOP - Limited-Entry Sablefish-Endorsed Fixed Gear Fleet: 164 active permits; vessels can have > 1 permit; longline and fish pots	40% of Federal permits with landings from each port group are selected for coverage. Selection cycle is defined as one calendar year. Fishery operates from April-October.	Y	All active permits based on Federal permit list and previous year's landings	Stratified random sampling without replacement; Port-groups form strata
At-Sea Hake Observer Program (ASHOP) Fleet: 9 catcher-processor and 7 mothership limited entry permits; Pelagic trawl for Pacific hake	100% observer coverage, 2 observers per vessel	Y	All active catcher-processors and motherships based on Federal permit list.	Census

Program	Coverage, sample size, or precision target	Mandatory	Sampling Frame	Vessel Selection method
West Coast Regional Office 50 CFR 660 Subpart K (660.712 and 713)				
California/Oregon Drift Gillnet Fishery Fleet: 20 active vessels; 7-10 day trips	~30% of sets	Y	Fleet listed; based on State permits	Vessels are selected at time of trip notification, dependent on their recent coverage and observer availability.
West Coast Longline Fleet: up to 6 vessels; 20-40 day trips	20-100%	Y	All Active Vessels	20-100% depending on number of active vessels.

Pacific Islands Regional Office 50 CFR 665 Subparts B and C				
American Samoa Longline 26 Longline vessels; average trip length 40 days	20% (tuna)	Y	Fleet listed; Based on Federal permits	15% vessel selection, combined with separate 5% daily vessel selection to obtain 20% coverage level
Hawaii Longline Fleet: 123 tuna, 32 swordfish; 28 tuna and swordfish; pelagic line; 15-25 day trips (tuna); 25-35 day trips (swordfish)	100% (swordfish)	Y	Fleet listed; based on Federal permits	Census
	~20% (tuna)	Y	Fleet listed; based on Federal permits	15% vessel selection, combined with separate 5% daily vessel selection to obtain 20% coverage level

Program	Coverage, sample size, or precision target	Mandatory	Sampling Frame	Vessel Selection method
Northeast Fisheries Science Center 50 CFR Part 648.11				
Northeast Multispecies Groundfish Fleet: >2,274 vessels; multiple gears: gillnets (anchored, drift, float, sink), trawl (mid-water, bottom, purse seine), longline; 1-7 day trips typically; Federal and state permits	Target 30% coefficient variation (CV) for bycatch estimates of protected species; Special Access Areas Standardized Bycatch Reporting Method-ology (SBRM) Omnibus Amendment allocation	Y	Fleet lists based on Federal permits (vessels with multi-species permits)	Quarterly stratified random sample; SBRM fleet sectors form strata
Northeast Sector Managed Groundfish Fleet: >2,274 vessels; multiple gears: gillnets (anchored, drift, float, sink), trawl (mid-water, bottom, purse seine), longline; 1-7 day trips typically; Federal and state permits	Target 30% CV for bycatch estimates of protected species; Coverage 24% of trips	Y	Fleet lists based on Federal permits	Quarterly stratified random sample; SBRM fleet sectors form strata
Mid Atlantic Fisheries Fleet: >1,112 vessels; multiple gears: gillnets (anchored, drift, float, sink), trawl (mid-water, bottom, purse seine); 1-4 day trips typically; Federal and state permits	Coverage typically < 5% SBRM Omnibus Amendment allocation	Y	Fleet lists based on Federal permits (New York – North Carolina)	Quarterly stratified random sample for a portion of the fleet; SBRM fleet sectors form strata
Atlantic Sea Scallop Dredge Fishery Fleet: >745 vessels with GC and LA permits; multiple gears: primarily scallop dredge, some trawl; 1-12 day trips typically; VMS requirement; Federal permit	*Mid Atlantic Access Area at 14% for Limited Access (LA) and 9% for Limited Access General Category (LAGC) *Open areas are 11% for both LA and LAGC	Y	Pre-trip notification required	Stratified random sample

Program	Coverage, sample size, or precision target	Mandatory	Sampling Frame	Vessel Selection method
Southeast Fisheries Science Center: Shrimp, reef fish, coastal gillnet: 50 CFR 622, 27, .52, .178, .204, .300. Shark bottomfish longline and pelagic longline: 50 CFR 635.7				
Shrimp Trawl Fleet: ~1,984 Federally permitted vessels; LOA ~ 75 ft; ~ 18 day trips Gulf of Mexico target 80% of total sea days; year-around; ~6 day trips on the east coast target 20% of total sea days.	~2% coverage, Target sample of 1,500 sea-days variable depending on funding.	Y	Federally-Permitted Vessels	Stratified random sample by effort, area, season, depth strata based on Gulf Shrimp System (trip tickets)
Reef Fish Fleet: ~877 Federally permitted vessels; gear types include bottom longline, electric reel (bandit) and handlines	~5% coverage, sea days variable depending on funding	Y	Federally-Permitted Vessels	Stratified random sample by region gear, and season based on previous year's effort from coastal logbooks
Southeast Coastal Gillnet Fleet:50-60 vessels; multiple gill net types	100% coverage (Nov 15 - Apr 1) for drift and strike boats targeting shark; Otherwise target of 30% Relative Standard Error (RSE) for turtle or mammal interaction estimates.	Y	Fleet	Census; stratified random sample
Atlantic and Gulf of Mexico Shark Bottom Longline Fishery Fleet:207 permitted vessels; LOA < 50 ft; 500-1,500 hooks per line	100 % in shark research fishery 4-6% for non-shark research fishery	Y	Fleet listed as determined by Federal permits from the previous year.	Stratified random sample by area and season based on previous year's vessel activity
Pelagic Longline Fleet: 80-100 active vessel w/ swordfish, tuna, and shark permits; 3-14 day trips 150-200 mi off-shore typical; some 20-40 day trips 200-1,000 mi from port	8% of sets target, ~6% mean actual coverage	Y	Fleet listed as determined by Federal permits from the previous year.	Stratified random sample by statistical area and quarter based on previous years activity

2015 Annual Deployment Plan for Observers in the Groundfish and Halibut Fisheries off Alaska

December 2014

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1. Executive Summary

This 2015 Annual Deployment Plan (ADP) documents how the National Marine Fisheries Service (NMFS) intends to assign fishery observers to vessels fishing in the North Pacific during the calendar year 2015. This ADP only applies to vessels that qualify for partial observer coverage. Vessels that qualify for full observer coverage are not included in the ADP.

- NMFS will use the trip-selection method (i.e., the trip-selection pool) to assign observers to vessels in 2015. Using the trip-selection method will correct sampling frame problems that NMFS identified with the vessel-selection method in the 2013 Annual Report.[1] Only single trips will be selected to reduce the impact on specific vessel operators and crew relative to 2013 and 2014.

- NMFS will deploy observers into two trip-selection pools for 2015:
  - *Small vessel trip-selection*: This pool is comprised of catcher vessels that are fishing hook-and-line or pot gear and are greater than or equal to 40 ft, but less than 57.5 ft in LOA. The vessels in this pool were in the "vessel-selection" pool in the 2013 and 2014 ADPs.
  - *Large vessel trip-selection*: This pool comprises three classes of vessels: 1) all catcher vessels fishing trawl gear, 2) catcher vessels fishing hook-and-line or pot gear that are also greater than or equal to 57.5 ft LOA, and 3) catcher-processor vessels exempted from full coverage requirements. This pool was termed the "trip-selection" pool in the 2013 and 2014 ADPs.

- Anticipated selection probabilities will be 12% for the small vessel trip-selection pool and 24% for the large vessel trip-selection pool. This represents an identical selection rate in the former vessel-selection pool and a 50% increase in the large vessel trip-selection pool relative to the coverage rates in 2014.

- NMFS does not plan to grant conditional releases in the large vessel trip-selection pool in 2015, which is consistent with Council and NMFS policy established in 2014.

- NMFS will grant conditional releases in the small vessel category under two scenarios: 1) vessels with insufficient life-raft capacity to accommodate an observer, or 2) vessels that are not released due to insufficient life-raft capacity shall be released from observer coverage on their third trip if it is consecutive to two previously observed trips (i.e., two trips in a row were observed, resulting in the third trip being released from coverage).

- This ADP reduces the impact of human observers on small boats in 2015 in two ways. First, the selection rate is lower for the small vessels relative to large vessels. This lower selection rate accommodates the fact that small vessels are more likely to be space constrained. Second, by assigning an observer on a trip-by-trip basis rather than for an extended duration, any given vessel has only a 12% chance of having an observer for a fishing trip. Small

[1] The 2013 Annual Report is available on the NMFS Alaska Region webpage at http://alaskafisheries.noaa.gov/sustainablefisheries/observers/annualrpt2013.pdf.

vessels that take a limited number of trips during the year will have a very low overall probability of taking a human observer. NMFS believes this approach exercises reasonable discretion to mitigate the impact of human observation on fishing operations and considers the well-being of the fishing crew while providing NMFS and the Council reliable observer information.

- Vessels selected by NMFS to participate in Electronic Monitoring (EM) Cooperative Research will be in the no selection pool (i.e., not subject to observer coverage) while participating in such research.

- NMFS will continue to collect genetic samples from salmon caught as bycatch in groundfish fisheries to support efforts to identify stock of origin. The same sampling protocol established in the 2014 ADP shall be used in 2015.

- Trawl vessels that fish for Pacific cod in the BSAI will be given the opportunity to opt-in to full observer coverage and carry an observer at all times when fishing in the BSAI using the same approach as 2014.

- NMFS will continue to communicate the details of the ADP to affected participants though letter, public meetings, and posting information on the internet. Outreach activities during 2014/2015 fall and winter will focus on vessels that are transitioning from vessel-selection to trip-selection.

2. Introduction

2.1 Purpose and authority

This 2015 Annual Deployment Plan (ADP) documents how the National Marine Fisheries Service (NMFS or Agency) intends to assign at-sea and shoreside observers to vessels and processing plants engaged in fishing operations in the North Pacific under the authority of the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI FMP), the Fishery Management Plan for Groundfish of the Gulf of Alaska (GOA FMP), and the Northern Pacific Halibut Act of 1982. Data collection by observers is currently the only reliable and verifiable method available for NMFS to gain fishery discard and biological information on fish, and data concerning seabird and marine mammal interactions with fisheries. Onboard observers also perform the critically important task of collecting biological data such as species composition, weights, and tissue samples that are important for stock assessment scientists and researchers. Much of this information is expeditiously available (e.g., daily or at the end of a trip, depending on the type of vessel) to ensure effective management.

Details on the authority and purpose of the ADP are found in the Final Rule for Amendment 86 to the BSAI FMP and Amendment 76 to the GOA FMP (77 FR 70062, November 21, 2012). This ADP follows section 313 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA, 16 U.S.C 1862), which authorizes the North Pacific Fishery Management Council (Council) to prepare a fisheries research plan that requires the deployment of observers into the North Pacific fisheries and establishes a system of fees. The ADP describes the science-driven method for observer deployment that enables observers to perform their duties, including species identification, quantification and disposition of catch, documenting interactions with marine mammals and seabirds, and collection of biological specimens to support research and assessment of biological resources in the North Pacific. This ADP specifically describes observer deployment for the partial coverage category (50 CFR 679.51(a)) in the halibut and groundfish fisheries in 2015.

2.2 Process and Schedule

NMFS and the Council created the ADP process to provide flexibility in the deployment of observers to gather reliable data for estimation of catch in the groundfish and halibut fisheries off Alaska. NMFS and the Council recognized that the amount of observer coverage available for any given year would be dependent on available revenue generated from fees on groundfish and halibut landings. Some aspects of observer deployment can be adjusted through the ADP, including the rates of coverage, the assignment of vessels to a specific partial coverage selection pool, or the allocation strategy used to deploy observers in the partial coverage category.

The ADP process ensures that the best available information is used to evaluate deployment, including scientific review and Council input, to annually determine deployment methods. On an annual basis, NMFS develops an ADP to describe how observers will be deployed for the upcoming calendar year and prepares an annual report that evaluates the performance of the prior year's ADP implementation. The schedule for the 2015 ADP is as follows:

- June 2014: NMFS presented the 2013 Annual Report to the Council and the public (NMFS 2014[a]). The 2013 Annual Report provided a comprehensive evaluation of observer activities, costs, sampling levels, important program and sampling-related issues that arose in 2013, enforcement activities, and potential changes for 2015. NMFS evaluated data collected to identify areas where improvements are needed to (1) collect the data necessary to manage the groundfish and halibut fisheries, (2) maintain the scientific goal of unbiased data collection, and (3) accomplish the most effective use of the funds collected through the observer fees. This review informed the Council and the public about how well various aspects of the program are working, and consequently lead to recommendations to adjust sampling methods and priorities for 2015.

- June –September 2014: Using information from the 2013 Annual Report and the Council recommendations on the 2013 Annual Report, NMFS prepared and released the Draft 2015 ADP (NMFS 2014[b]). The Council's Observer Advisory Committee (OAC) and Groundfish Plan Teams reviewed the 2015 ADP.

- October 2014: The Council and its Scientific and Statistical Committee (SSC) reviewed the Draft 2015 ADP and associated Plan Team and OAC recommendations.

- November - December 2014: Upon final analysis of the Council recommendations from its October 2014 meeting (Appendix B), NMFS finalized the 2015 ADP and released it to the public prior to the December 2014 Council meeting.

- June 2015: NMFS will present the Annual Report

- Fall 2015: NMFS will release the Draft 2016 ADP for review by the OAC, Groundfish Plan Teams, SSC, and Council.

- December 2015: NMFS will finalize the 2015 ADP and release it to the public prior to the December 2015 Council meeting.

The analysis and evaluation of the data collected by observers and the ADP development is an on-going process; in June 2016, NMFS will present the 2015 Annual Report that will form the basis for the 2016 ADP.

3. 2013 Annual Report Summary

In June 2014, NMFS released the 2013 Annual Report that provided an evaluation of the first full year of the restructured observer program (NMFS 2014[a]). The 2013 Annual Report provided analysis of observer deployment under the 2013 ADP (NMFS 2012), including an overview of the fees and budget associated with deployment, enforcement of the observer program regulations, a summary of public outreach events, and a scientific evaluation of observer deployment conducted by the Observer Science Committee (OSC, Faunce et al. 2014). This 2015 ADP builds upon NMFS recommendations in the 2013 Annual Report as well as review and recommendations of that report by the Council.

As part of the Annual Report, the OSC investigated the deployment methods used in 2013 and found the trip selection process to be working well, whereas the vessel selection process had several problems that reduced data quality (Faunce et al. 2014). In summary, several important issues regarding the vessel selection stratum were raised during review of the 2013 Annual Report:

(1) The sample frame in vessel selection was poorly defined. Vessels in the vessel selection pool were selected from a list of vessels that fished within a particular selection period during the year prior to deployment (i.e., 2012). Changes in fishing effort between 2013 and 2012 created an inaccurate list of vessels from which to sample, thereby introducing substantial data quality concerns into the sampling process.
(2) the conditional release policy for the vessel selection pool imparted bias into the observer data;
(3) the combination of a poorly defined list of vessels and the conditional release policy required NMFS to select enough vessels in each selection period to meet anticipated selection goals. These issues substantially decreased sampling efficiency that culminated with NMFS abandoning a random selection of vessels to achieve a desired level of coverage.

Based on these findings, NMFS recommended, and the Council supported changing the random selection unit from a vessel to a trip for vessels formerly in the vessel-selection pool (see Appendix A and Appendix B). Moving all vessels to the trip-selection pool is anticipated to correct the sampling frame problem while also reducing the burden on industry by shortening the period for which an observer is onboard a vessel. This approach is responsive to public comments that the selection of a vessel for a two-month period (under the vessel selection method) was overly burdensome and disruptive to the industry. In the previous approach, once a vessel in the vessel-selection pool was selected for coverage, it was essentially subject to 100 percent coverage for all trips during that two-month period. Vessels that made multiple trips during that two-month period were particularly impacted. In some cases, vessels were selected for multiple two-month periods, which exacerbated the logistical costs and impacts on vessel operators and crew.

Placing all partial coverage vessels in trip-selection in 2015 is anticipated to mitigate the impact of observation on small boats with operational and space constraints. First, the selection rate is lower for the small vessels relative to large vessels. This lower selection rate accommodates small vessels that are more likely to be space constrained then larger vessels. Second, by assigning an observer on a trip-by-trip basis rather than for an extended duration, any given vessel has a relatively low chance of having an observer for a fishing trip. Overall, this represents a very low probability of taking a human observer. Therefore, the small boats most impacted by having a person on-board have a limited chance of being selected, and once selected, the impact is for the duration of a fishing trip, instead of all trips during a two-month period. NMFS believes this approach exercises reasonable discretion to mitigate the impact of human observation on fishing operations, considers the well-being of the fishing crew and operational requirements, and provides NMFS and the Council information needed for management.

4. 2015 Deployment Methods

NMFS proposes to use the trip-selection method as the sole method of assigning observers to fishing events in 2015. Trip-selection refers to the selection of the fishing trip as the sampling unit, in recognition that this is the highest unit in the hierarchical sampling design of the North Pacific Observer Program. Trip-selection is facilitated through the Observer Declare and Deploy System (ODDS). Users are provided a username, password, and telephone number they can use to log anticipated fishing trips. Logged trips are individually and independently assigned a random number and the trip is assigned an observer if the number is below or equal to pre-determined selection rates.

4.1 At-Sea Selection Pools (strata)

For the purpose of observer deployment, the partial coverage deployment pools are defined as follows:

- *No selection*: The "no selection" pool is comprised of catcher vessels less than 40 ft length overall (LOA), or vessels fishing with jig gear, which includes handline, jig, troll, and dinglebar troll gear, or vessels that are conditionally released due to life raft capacity (see section 4.3). In addition, vessels selected by NMFS to participate in the EM Cooperative Research will be in the no selection pool while participating in such research (Appendix E). Note: Vessels participating in EM Cooperative Research will still be required to log trips in ODDS, but will be given a release in ODDS that will over-ride their selection probabilities.

- *Small vessel trip-selection*: This pool is comprised of catcher vessels that are fishing hook-and-line or pot gear and are greater than or equal to 40 ft, but less than 57.5 ft in LOA. The vessels in this pool were in the "vessel-selection" pool in the 2013 and 2014 ADPs.

- *Large vessel trip-selection*: This pool comprises three classes of vessels: 1) all catcher vessels fishing trawl gear, 2) catcher vessels fishing hook-and-line or pot gear that are also greater than or equal to 57.5 ft LOA, and 3) catcher-processor vessels exempted from full coverage requirements (50 CFR 679.51(a)(2)(iv)). This pool was termed the "trip-selection" pool in the 2013 and 2014 ADPs.

4.2 Projected At-Sea Deployment (sample size)

NMFS uses estimates of anticipated fishing effort and available sea-day budgets as the primary inputs into simulation models used to generate anticipated outcomes from different selection rates (Appendix C). The most recent complete full-year of fishing effort (2013) was used as a proxy for fishing effort in 2015.

The at-sea budget for the deployment of observers was set equal to that from the 2014 ADP: 5,518 days[2]. This value results from conversions of dollars to days derived from confidential contract information negotiated between NOAA's acquisition and grants office and the selected observer provider. NMFS anticipates the budget for 2015 deployment to be approximately $5.5M, of which $3.2M is projected revenue from the fee for the 2014 calendar year. The remaining funding includes fees carried over from 2014 and federal funds from NMFS. The projected fee proceeds for the 2014 fishing year are $1.1M less than the 2013 assessments. This is due to reductions in both the prices and total allowable catch of key species.

NMFS analyzed a suite of potential rate combinations between the two trip-selection strata that could be afforded in 2015 (Appendix C). However, since the Council's June 2014 motion (Appendix A) requested that NMFS maintain a higher observer coverage rate for all trawl vessels and fixed gear vessels ≥57.5 ft LOA, NMFS only considered those combinations where the selection rate was smaller for the small vessel trip-selection strata than the large vessel trip-selection strata. This priority is consistent with past Council recommendations and is intended to balance the need for information on prohibited species catch (PSC) on larger fixed gear and trawl vessels, while also providing at-sea discard and biological information from catch on smaller vessels. In addition, moving small vessels into the trip-selection stratum presents a variety of logistical and outreach challenges for the agency. These vessels were not required to log trips into ODDS in 2013 and 2014. Successful compliance with ODDS will be critical for defining the sampling frame and ensuring the integrity of the random selection process. In addition, once selected, NMFS and its observer contractors will need to deploy observers on vessels in accordance with their selected trip.

For 2015, NMFS will set selection rates in ODDS at 0.1200 (12%) for trips logged by vessels in the small vessel trip-selection stratum and 0.2376 (24%) for trips logged by vessels in the large vessel trip-selection stratum. This represents an identical selection rate in the former vessel-selection stratum and a 50% increase in the selection rate in the large vessel trip-selection pool relative to the coverage rate in 2014 for vessels in this stratum. The selection probabilities targeted (not realized) in whole percentages over the past three years are shown in Table 4-1.

Table 4-1. Selection probabilities for selection pools from 2013-2015.

Stratum	Small vessel trip-selection		Large vessel trip-selection	
ADP year	rate (%)	unit	rate (%)	unit
2013	11	vessel	11 - 15	trip
2014	12	vessel	16	trip
2015	**12**	**trip**	**24**	**trip**

NMFS examined the relative risk of obtaining no observer coverage within a NMFS Reporting Area for a gear type for the year using the proposed selection rates (Appendix C). The analysis

[2] In 2014, implementation of the new restructured program presented a high degree of uncertainty regarding the allocation of observer days across the year. To avoid a budget shortfall at the end of the year, NMFS buffered the available budget such that 4,718 days were available for coverage in 2014. After two year of experience under the new program, NMFS believes the buffer is not necessary for deployment in 2015 under this ADP.

demonstrates that more sampling is required in the small vessel strata versus the large vessel strata to achieve the same risk (e.g., median percentile). This result is due to the small vessel stratum having fewer and shorter trips than the large vessel stratum; therefore, scenarios with low effort are less likely to have coverage then scenarios with high effort. Although this outcome suggests an increase in the selection rate in the small vessel stratum is warranted, there are also other considerations that run counter to this outcome. With the change in selection unit (vessels to trips), smaller vessels must adapt to trip selection procedures that may have logistical and outreach challenges. A lower selection rate will mitigate the impacts of observers on smaller vessel operators and crew who are still adapting to onboard observers.

In its October 2014 motion (Appendix B), the Council reiterated its support of the agency recommendation to create the small vessel trip selection stratum and maintain the large vessel trip selection stratum as was done in both 2013 and 2014. The Council also supported using the deployment rates proposed by NMFS in the Draft 2015 ADP (NMFS 2014[b]): a 0.2376 selection rate for the large vessel stratum and a 0.1200 selection rate for the small vessel stratum. In addition, NMFS has scheduled outreach meetings in key communities to facilitate the transition from vessel to trip selection (Table 5-1). NMFS will continue to evaluate deployment rates and departures from the intended deployment plan in future Annual Reports (see Section 2.2).

4.3 Conditional Release Policy

Consistent with both the Council's recommendation in its October 2014 motion and NMFS's recommendation in the Draft 2015 ADP, NMFS does not plan to grant conditional releases in the large vessel trip-selection pool in 2015.

NMFS will grant conditional releases in the small vessel category under two scenarios: 1) vessels with insufficient life-raft capacity to accommodate an observer, or 2) vessels that are not released due to insufficient life-raft capacity shall be released from observer coverage on their third trip if it is consecutive to two previously observed trips (i.e., two trips in a row were observed, resulting in the third trip being released from coverage).

The 2013 Annual Report (NMFS 2014[a]) raised a number of concerns with conditional releases in the vessel selection stratum (i.e., the small vessel trip-selection stratum in this ADP). Following these concerns, and recognizing costs associated with obtaining a life raft of sufficient capacity, NMFS recommended in the Draft 2014 ADP against allowing conditional releases for reasons other than a life raft. However, in light of the issues associated with conditional releases, and to inform potential recommendations on a conditional release policy for the 2015 ADP, the Council requested in its June 2014 motion that NMFS evaluate whether a length > 40' LOA would better define the sample frame for the new small trip-selected vessels. NMFS evaluated the distribution of trips and vessels by size category, and whether there was a notable change in the probability of observing specific area and gear combinations (Appendix D). The analysis does not show clear support for a new upper bound of the no-selection strata based on vessel-length in consideration of alternative conditional release policies.

Consistent with both the Council's recommendation in its October 2014 motion and NMFS's recommendation in the Draft 2015 ADP, conditional releases in 2015 will be granted for vessels

in the small vessel trip-selection stratum that do not have sufficient life-raft capacity to accommodate an observer. The life-raft conditional release would only apply in cases where the vessel has a four-person life-raft with a four person crew. Vessels with a six-person life raft would not receive a conditional release because NMFS has evidence that very few trips by vessels in the 40 ft to 57.5 ft LOA category have taken more than five crew (about 1% of trips). In addition, vessels will be able log trips in advance and will know which trips are selected for coverage, and will therefore be able to plan. For example, a vessel could log 3 trips in advance and plan to take an IFQ client on non-selected trip if the extra person will put them at max capacity for their six-person life raft.

In order to implement releases for vessels that meet the criteria of a four-person life raft and four-person crew, vessel operators will need to submit a request for a conditional release based on the four-person life raft and four-person crew criteria in advance of fishing. NMFS will send a letter to all participants in the small vessel trip-selection pool and provide them an account in the ODDS with instructions on how to access the system, and how to submit the necessary information to petition for a conditional release for life raft capacity.

Any vessels that wish to be considered for a release based on life raft capacity are required to submit a request in the ODDS stating their life raft capacity, life raft serial number, and crew size. NMFS will require the information four weeks prior to the vessel starting fishing to provide sufficient time to evaluate the request and issue a release if warranted.

The scope of this conditional release policy is unknown at this time and was not factored into the rate determinations in Appendix C. It is possible that the ability to log multiple trips, combined with the known outcome of those trips could continue to create biases in the data. NMFS will provide information back to the Council on the scope and impact of these releases in subsequent Annual Reports.

In making its motion, the Council also recognized the potential burden of having to carry an observer on small vessels with limited bunk space. NMFS anticipates that moving from a vessel selection to a trip selection criterion, along with the 12% selection rate, will allow small vessels to anticipate bunk space issues and plan accordingly to accommodate an observer; however, planning may become more difficult for vessels with several consecutively selected trips. Following the Council's advice in its October 2014 motion (Appendix B), NMFS will release the third consecutively selected trip for a vessel in the small vessel stratum (i.e., three trips in a row have been selected for coverage). Regulations still require released vessels to log trips and comply with ODDs.

This policy represents a change from the 2014 ADP that provided conditional releases from observer coverage for vessel operators in the vessel-selection stratus who provided reasonable information that accommodating an observer would displace crew members or additional IFQ permit holders. The new release policy would narrow the scope of when a vessel operator could obtain a conditional release. However, the impact of observation on small boats with operational and space constraints will be mitigated in two ways: 1) the selection rate is lower for the small vessels, which are more likely to be space constrained, then for larger vessels; and 2) once selected, the impact is for the duration of a single fishing trip. NMFS believes this approach

exercises reasonable discretion to mitigate the impact of human observation on fishing operations, considers the well-being of the fishing crew while providing NMFS and the Council information needed for management.

4.4 Chinook Salmon Sampling

Genetic sampling of Chinook salmon in the GOA remains a priority for NMFS in 2015. This priority follows the implementation of Amendment 93 to the GOA FMP (77 FR 42629, July 20, 2012), which required all vessels fishing for pollock in the central and western GOA to retain salmon until delivery to a processing facility. The same sampling protocol established in the 2014 ADP (NMFS 2013) for Chinook salmon will remain in effect for 2015. Observers deployed on trawl trips that target pollock in the GOA will obtain genetic samples from all salmon bycatch in the offload.

Under Amendment 91 to the BSAI FMP, dockside observers obtain tissues from every salmon caught as bycatch within every delivery of the Bering Sea pollock fishery (77 FR 53026, August 30, 2010).All vessels in the Bering Sea pollock fishery are in the full coverage category.

Outside of the pollock fisheries, tissues will be obtained from all salmon found within observer at-sea samples of the total catch. These genetic samples are used by the Alaska Fishery Science Center to identify the stock of origin of Chinook salmon caught as bycatch in groundfish fisheries and are important for the management of Chinook PSC.

4.5 BSAI Full Coverage Compliance Agreement

Since 2013, NMFS has provided trawl vessels fishing for Pacific cod an option to carry an observer at all times when fishing in the BSAI. The additional coverage benefits the management of that fishery and reduces the population of trips in the partial coverage category, thus increasing the coverage rates for the trips remaining in partial coverage. In 2013, this fleet met their anticipated coverage rate of 100% (NMFS 2014). NMFS will provide additional information about this fleet in the 2014 Annual Report.

NMFS is extending the voluntary full coverage option through 2015, and recognizes this activity would be best addressed in the long-term through a regulatory change. Entities participating in the BSAI Pacific cod trawl fishery that want full coverage in 2015 must submit a signed compliance agreement to NMFS on or before December 1, 2014 (Appendix F). Vessels operating under a full coverage compliance agreement would pay partial coverage observer fees as required in regulation, but would also need to contract directly with observer providers and also directly pay for those observer costs. In addition, vessels operating under the full coverage compliance agreement must comply with the partial coverage regulations, including logging trips into ODDS.

5. Communication and Outreach

NMFS will continue to communicate the details of the ADP to affected participants though letter, public meetings, and posting information on the Internet. Information about the Observer

Program is available at:
http://www.alaskafisheries.noaa.gov/sustainablefisheries/observers/default.htm
and Frequently Asked Questions are available at:
http://www.alaskafisheries.noaa.gov/sustainablefisheries/observers/faq.htm
A series of Frequently Asked Questions regarding ODDS is available at:
https://chum.afsc.noaa.gov:7104/apex/wwv_flow_file_mgr.get_file?p_security_group_id=1437919156609270&p_flow_id=140&p_fname=ODDS%20FAQ.pdf

Outreach activities during 2014 fall and 2015 winter will focus on changes to the ADP (transition from vessel-selection to trip-selection). A letter was sent to vessel owners who will be newly entering into the trip-selection pool (vessels 40-57.5 ft LOA) in late October of 2014. The letter included an ODDS user name and password and instructions on how to log trips.

The public outreach meetings will also focus on ODDS and how to log trips and include an ODDS demonstration. NMFS' goal is to reach a broad range of communities while operating within budget constraints. Prior to Jan 1, outreach will focus on those areas with large participation in early Pacific cod fishery and then shift to a focus to communities in southeast Alaska prior to IFQ fishery in March (Table 5-1). Staff is also available to conduct additional meetings via teleconference and/or WebEx as requested pending staff availability and local interest, we would need a community partner to organize locations and equipment availability in the local port.

Table 5-1 Proposed public outreach meeting locations and schedule.

Location	Date
Seattle, Fish Expo	Nov 19-21
Homer	Dec 2, 2014
Kodiak	Dec 4, 2014
Petersburg	1st week of March, 2015
Sitka	1st week of March, 2015

6. References

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Appendix A. Council motion on the Annual Report and ADP

C-2 Observer Program Annual Report – Council motion
June 5, 2014

1. The Council requests NMFS and AFSC develop the draft 2015 ADP for Council review with the following considerations.

The Council supports NMFS recommendations to move participants in the vessel selection pool into the trip selection pool. The Council requests NMFS and AFSC analyze the 2013 vessel selection pool data, as well as likely changes in the burdens associated with carrying an observer on vessels in the trip selection pool, to determine whether a vessel length other than 40' better defines the new trip selection sample frame in the 2015 ADP, in order to remove provisions for conditional release. The Council requests this information in order to make recommendations to NMFS and AFSC as part of the draft 2015 ADP review. The Council is concerned with potential bias introduced in the partial coverage category through conditional releases.

2. The Council requests NMFS maintain a higher observer coverage rates for all trawl vessels and fixed gear vessels over 57.5' in the revised trip selection pool in order to expand coverage on PSC limited fisheries, consistent with past Council recommendations.

3. The Council requests NMFS take the following SSC and OAC recommendations into consideration in the development of the draft 2015 ADP and the 2014 Annual Report, as well as ongoing agency evaluations and improvements to the program.
   - Provide additional information on observer rates and coverage by gear type, in addition to numbers of trips and deployment.
   - Examine potential associations of PSC with trip attributes on observed vessels.
   - Continue the evaluation of PSC and bycatch estimation from observed vessels to the entire fishery.
   - In the annual report, include a section outlining changes made to the program that have been made in the current year's ADP.
   - Begin to address the question of how and when the program transitions to optimization of observer days according to particular fishery data and management needs.
   - Recommend the agency work with fishermen and processors in the development of a trip identifier.
   - Provide more detailed program cost information in order to assess inefficiencies in the program, especially in contrast to observer day costs in the full coverage category. In addition, evaluate ways to achieve cost efficiencies in the partial observer contract.
   - Include <40' vessels in electronic monitoring testing to the extent possible.

4. The Council appreciates the development of performance metrics and encourages NMFS to continue to develop tools to evaluate data quality and deployment performance.

5. The Council continues to support supplementary Federal funding for the Observer Program in order to provide bridge funding between calendar years and cover collected fees that have been set aside due to sequestration rules.

Appendix B. Council Motion on Draft 2015 Annual Deployment

C1 Observer ADP
Council Motion - FINAL
10/9/14

The Council approves the Annual Deployment Plan for 2015 with the following recommendations:

- Use trip selection strata to assign vessels in 2015.

- Using two selection strata for 2015: small vessel trip selection and large vessel trip selection.

- Use 12% selection probability for the small vessel trip selection stratum and 24% selection probability for the large vessel stratum.

- Allow conditional releases in 2015 for vessels in the small vessel trip selection stratum that: 1) do not have sufficient life raft capacity to accommodate an observer, and/or 2) to assist in addressing bunk space limited vessels, have been selected for two consecutive trips (e.g., the third consecutive trip is released).

- Vessels selected by NMFS to participate in EM Cooperative Research will be in the no selection pool while participating in such research.

- Trawl vessels that fish for Pacific cod in the BSAI will be given the opportunity to opt-in to full observer coverage and carry an observer at all times while fishing in the BSAI using the same approach as 2014.

- The Annual Report will include information to evaluate a sunset provision, including information on the potential for bias that could be introduced through life raft conditional release, the costs to an individual operator of upgrading to a larger life raft, and the enforcement disincentives from downgrading one's life raft.

Appendix C. Calculation of the Selection Rate for the 2015 Annual Deployment Plan

Introduction

Following the NMFS recommendation put forth in the 2013 Annual Report (NMFS, 2014), the Draft 2015 Annual Deployment Plan proposes that the method known as "trip-selection" be the sole method of assigning observers within the 'partial-coverage' category (i.e., the portion that is sampled) of the fleet. Trip-selection is accomplished through the Observer Declare and Deploy System (ODDS). Trip-selection members are sent a letter prior to the start of the calendar year with their username and password so that they may access the ODDS and log planned fishing trips. Each logged trip is assigned a random number of four digits as low as 0 and up to and including 1 (e.g., 0.0000, 0.1234, 1.0000, etc.). This random number is then evaluated against a pre-programmed selection rate. If the random number is below or equal to the selection rate the trip is selected for observation, otherwise it is not. For this reason, a selection rate is required prior to the start of the year for which trips are going to be logged.

In their June 5th 2014 Motion, the North Pacific Fishery Management Council stated their desire to retain separate rates for two categories of vessels: a lower selection rate for the vessels formerly in the "vessel-selection" stratum, and a higher selection rate for those vessels in the former "trip-selection stratum". Under the assumption that both of these groups of vessels will be assigned an observer using trip-selection, they are hereafter referred to as "little t" (t) and "big T" (T) respectively.

The purpose of this analysis is to describe the methods and results of the selection rate determination.

Methods and Results

Data developed by the staff of the Sustainable Fisheries Division of the Alaska Regional Office and the Fisheries Monitoring Division of the Alaska Fisheries Science Center for the 2013 Annual Report (NMFS, 2014) was used in this analysis. All analyses were performed using the R language for statistical computing (R Core Team, 2014) following the general procedures used previously in the 2013 and 2014 Annual Deployment Plans.

<u>Determining the afforded rate</u>

The selection rate that can be afforded in the coming year depends on several factors. These include the amount of fishing that is expected to occur and the available budget. The available budget for 2015 was set equal to that of 2014: 5518 days, as provided by the Fishery Monitoring Division of the AFSC. The most recent full year for which deployment and fishing effort (trips) data were available (2013) was used as a proxy for 2015 fishing effort.

A range of possible combinations of selection rates between t and T were explored. The sampling rate for the small vessel component of the fleet was held fixed and the number of observed days was computed. The number of days remaining after sampling the small vessel stratum was then allocated to sampling the large vessel stratum. This process was repeated in a simulation exercise.

In the first step of this exercise, the number of trips observed in the small vessel stratum (n_t) was determined by multiplying the total number of trips in t (Nt) by the initial (fixed) rate r_t. For each of 100 simulation trials, the total number of days observed (D_t) was computed as the sum of days on those observed trips (d_t), $D_t = \sum_{t=1}^{n_t} d_t$. The number of days available to sample the large vessel stratum, T (D_T) was then obtained by subtracting the days spent observing the smaller vessels from the total number of days budgeted, $D_T = 5518 - D_t$. The 100 values of D_t yielded 100 values of D_T.

In the second step of this exercise, trips in T were sequentially selected to be sampled and the cumulative sum of the number of days on those sampled trips (d_T) was subtracted from D_T until D_T remaining $\leq d_T$. The total number of trips sampled (n_T) divided by the total T trips yielded the rate obtained in the large vessel stratum (r_T). This process was repeated 10 times for each of the 100 (step 1) simulation trials, e.g. for each of the 100 D_T obtained above. This yielded 1000 r_T values for a given r_t value.

The above two-step simulation exercise was conducted for a range of initial small vessel rates (r_t) beginning with 0.12 and increasing at increments of 0.01 to a final value of 0.19. The median value for r_T that accompanied each increment of r_t was:

r_t	median r_T
0.12	0.236
0.13	0.232
0.14	0.227
0.15	0.221
0.16	0.216
0.17	0.210
0.18	0.205
0.19	0.200

From this suite of options, an r_t value of 0.12 was selected by NMFS for the Draft 2015 Annual Deployment Plan. This corresponds to an average selection of one trip every 8.3 trips logged. For reference, weighting all vessels equally, the average vessel-selection vessel in 2013 fished 5.8 trips spanning 25 days and carried an observer for 0.4 of those trips. The average rate of observed trips to total trips among individual vessels in this stratum was equivalent to one observed trip every 20 logged.

Using the selected r_t of 0.12, a second set of more refined simulations were performed. For each simulation trial, the process ODDS uses to select trips was simulated; each trip in t and T was assigned a four-digit random number, and was virtually selected for observer coverage if below 0.12 in t and below 0.236 in T. The number of days in each selected trip was summed across all selected trips to generate the total number of observed days (B) in both strata (small and large trips selection) for each simulation trial. The mean observed days over 10,000 simulation trials was computed. Because the mean number of observed days was not originally equal to the number of days budgeted, this final process was repeated using an adjusted r_T until this condition was true. The final rate for r_T was 0.2376. This corresponds to an average selection of one trip

every 4.2 trips logged. For reference, weighting all vessels equally, the average trip-selection vessel in 2013 fished 13 trips spanning 57 days and carried an observer for 1.9 of those trips. The average rate of observed trips to total trips among individual vessels in this stratum was equivalent to one observed trip every 7.6 trips logged. The mean value of *B* from simulations was 5,517 and the maximum value obtained was 6,127 days (Figure B-1, upper panel).

Risk of going over-budget

Contrary to the 2013 and 2014 Annual Deployment Plans, the simulations described here were not designed to sample at a rate such that 90% of the simulated *B* values were at or below budget. Instead, they are designed so that the median (50%) of the simulated *B* values are at or below budget. The percentage of simulated outcomes above a given budget was generated using a cumulative distribution function (Figure B-1, lower panel).

Evaluation of all possible rates

The selection rates for the 2015 Draft Annual Deployment Plan can be evaluated using performance metrics. The performance metric used here is the probability of failing to obtain any observed trips in a NMFS Area, and gear type, following the methods described in the 2013 Annual Report (NMFS, 2014; Faunce et al., 2014). Probabilities of failing to obtain an observed trip were obtained using the hypergeometric distribution for cells defined by gear type, NMFS Area, and strata (*T* and *t*). Greater sampling rates in *t* are required to achieve the same likelihood of failing to obtain any observed trips compared to *T* (Figure B-2). A summary of the data depicted in Figure B-2 for the proposed selection rates in each stratum are shown in the table below.

Metric	Stratum	
	t: former vessel-selection (12.00 % sample rate)	T: former trip-selection (23.76 % sample rate)
Probability of having no observed trips at the end of the year within NMFS Areas and Gear Type Cells*		
5% of the cells have probabilities less than...	0	0
25% of the cells have probabilities less than...	0	0
50% of the cells have probabilities less than...	0.002	0
75% of the cells have probabilities less than...	0.464	0.002
95% of the cells have probabilities less than...	0.774	0.439
100% of the cells have probabilities less than...	0.880	0.760

* values for T computed using a selection rate rounded to the nearest two digits (0.24).

Literature Cited

Faunce, C., J. Cahalan, J. Gasper, T. A'mar, S. Lowe, F. Wallace, and R. Webster. 2014. Deployment performance review of the 2013 North Pacific Groundfish and Halibut Observer Program. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-281, 74 p. http://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-281.pdf

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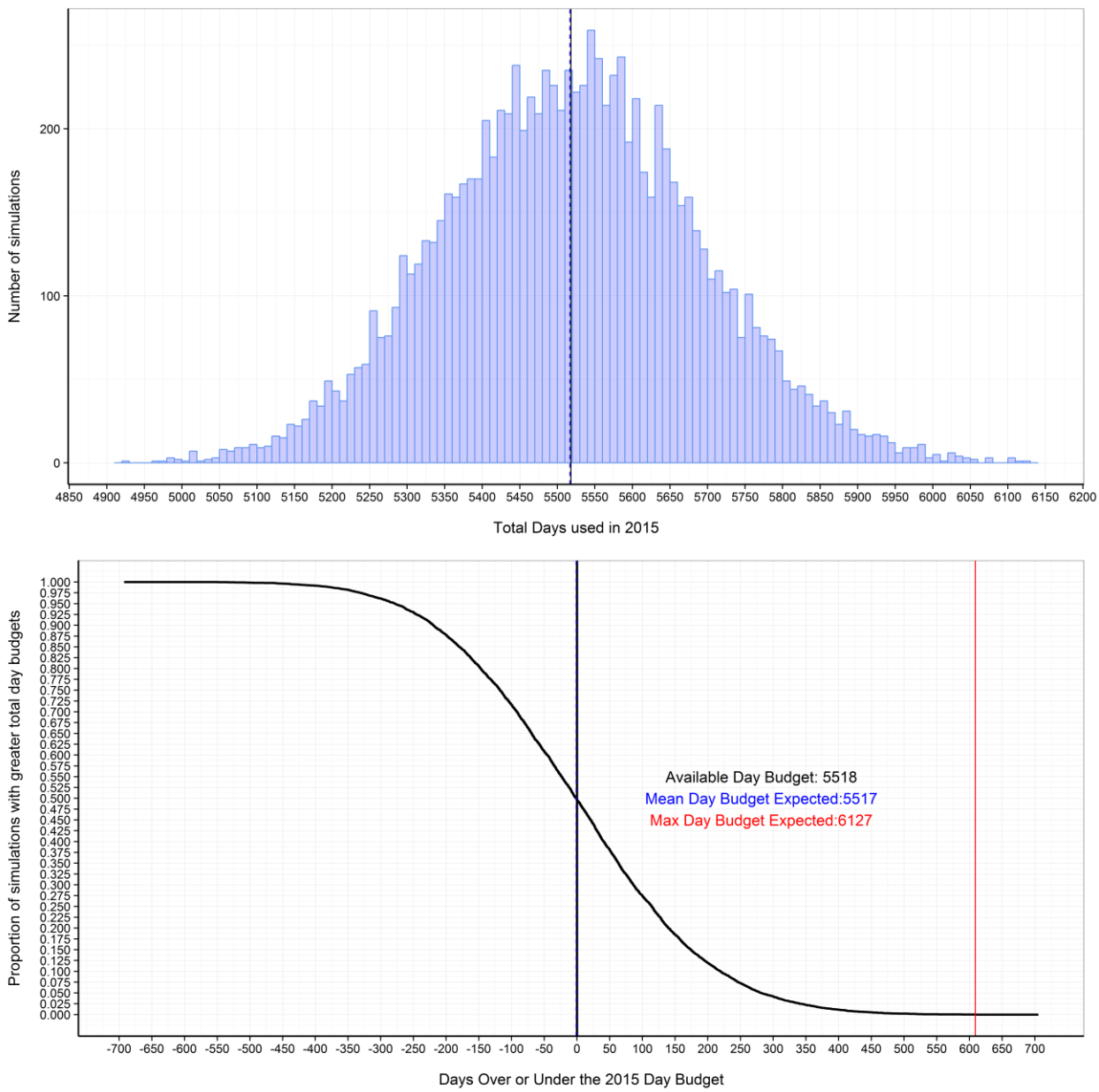

Figure B-1: Upper panel: Histogram distribution of the amount of observer days required to sample from a mixed population of t at 0.1200 (12%) and T at 0.2376 (23.76%) resulting from 10,000 simulations. The mean outcome is depicted in a blue vertical dotted line (5517 days) and the available 2015 day budget is depicted in a solid black line (5518 days). Lower panel: The percentage of 10,000 simulations with annual observer day budgets greater than the available budget of 5518 days. The horizontal x-axis has been adjusted to reflect the days in a given simulation relative to the available budget. The available budget and mean outcome are depicted as in the top panel, while the maximum outcome is depicted in the vertical red line to the right.

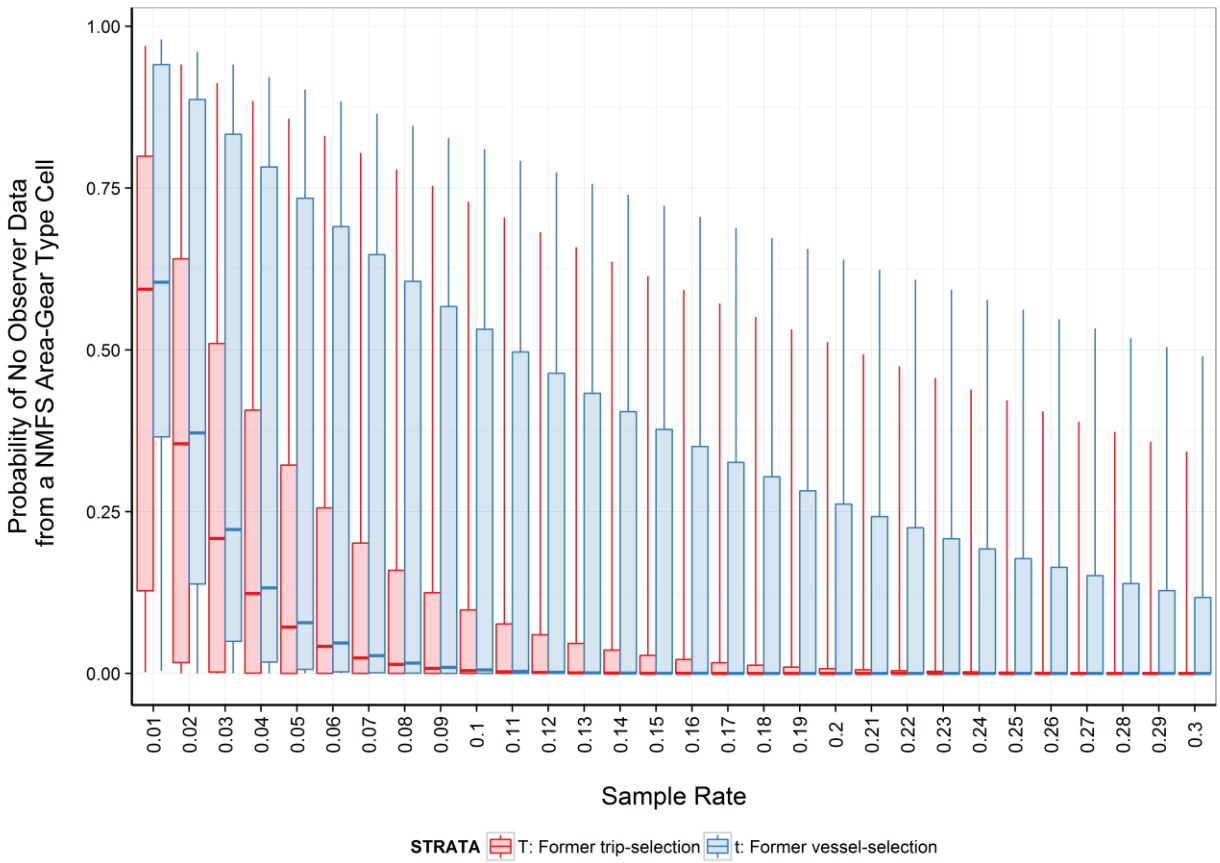

Figure B-2: Boxplot distribution of the probability of failing to obtain any observed trips within an estimation cell defined as NMFS area and gear type for the entire duration of 2015 within the t (blue) and T (red) strata as a function of changing selection probabilities (sample rate; r). Boxplot distributions have been modified to reflect 90% of the outcomes within whiskers, whereas the lower and upper boxes depict the 25th and 75th percentiles and horizontal lines depict median (50th percentile) values. Selection rates are depicted only up to 0.3 (30%) to improve readability.

Appendix D. Accommodating removal of conditional release provisions: how the 2013 vessel-selection stratum changes as smaller vessels are removed

Introduction

"Conditional release" is the term used to describe when a vessel has requested and is granted exceptions from the requirement to carry a NMFS-trained observer under Amendments 86 and 76 to the Fishery Management Plans of the Bering Sea and Aleutian Islands (BSAI) and the Gulf of Alaska respectively. NMFS conditional release policies have been the subject of considerable debate since the establishment of the vessel-selection stratum of the North Pacific Observer Program in 2013. This stratum for 2013 and 2014 is composed of pot or hook-and-line gear vessels sized between 40 and 57.5 feet in overall length. This stratum definition was largely derived from a model aimed at maximizing the differences in landing report catch weight by gear type and vessel-size (NPFMC *et al.*, 2010). Since requirements for fisheries observers prior to 2013 extended only to vessels > 60 feet in length, the vessel-selection stratum contains the majority of vessels that are new to observation in the North Pacific.

The Council recommended that NMFS grant conditional releases in 2013 and 2014 due to logistical, economic, and safety concerns on these vessels new to observers. Releases have been granted because there is not enough bunk space on the vessel to accommodate crew and an observer, if the housing of an observer results in displacement of a crew member or IFQ holder, or if taking an observer may require increased safety requirements such as a life raft of increased capacity.

Conditional releases were granted disproportionately among the two partial-coverage deployment strata in 2013. Releases from coverage were granted in less than 1% of logged trips within the trip-selection stratum whereas vessels selected for observer coverage in the vessel-selection stratum had half of their trips released from coverage (Tables 5 & 7, Faunce *et al.*, 2014). This pattern is expected to also be evident in 2014 since there was no change in the conditional release policies or deployment strata definitions from the prior year.

In the review of the 2013 observer program, NMFS and the Council's Scientific and Statistical Committee raised concerns about the impact of conditional releases on the quality and quantity of observer data. In the Annual Report NMFS made two relevant recommendations: 1) that vessels formerly in the vessel-selection stratum be moved into the trip-selection stratum and 2) that conditional releases are applied to all activities within a sampling unit (e.g., a two-month period for a selected vessel in 2013 and 2014) or are not granted at all (NMFS, 2014). In their June 5th 2014 Motion, the North Pacific Fishery Management Council requested an analysis that reads:

"The Council requests NMFS and AFSC analyze the 2013 vessel selection pool data, as well as likely changes in the burdens associated with carrying an observer on vessels in the trip selection pool, to determine whether a vessel length other than 40' better defines the new trip selection sample frame in the 2015 ADP, in order to remove provisions for conditional release. The Council requests this information in order to make recommendations to NMFS and AFSC as

part of the draft 2015 ADP review. The Council is concerned with potential bias introduced in the partial coverage category through conditional releases."

The following work addresses this motion.

Methods and Results

Although not explicitly stated, the Council motion implies an evaluation of the potential effects of removing vessels below a certain size from the requirements of human observation under the assumption that vessels above a certain size would not be given conditional release provisions. It is important to note that the removed vessels would then belong to the zero-coverage category of the North Pacific Observer Program. In order for the new vessel length to "better determine the new trip-selection stratum", the Council is signaling their desire to evaluate the metric that defines the breaks among strata from catch to conditional release provisions.

Since vessels below a certain size would be moved into zero-coverage, data-quality concerns are addressed here based on the amount of data remaining in the former vessel-selection stratum as vessels below a certain size are moved into the zero selection stratum. There are two reasons for this: 1) total catch estimates would continue to be generated by applying discard rates from observed vessels in this stratum to landed catch from all vessels in this stratum and the zero selection stratum, and 2) the analyses in Appendix C demonstrate that changes to the population size in the former vessel selection stratum will not significantly alter the selection rate in the former trip-selection stratum since the latter stratum is much larger than the former. In addition, an analysis of prior conditional releases by vessel size is required. A clear pattern by vessel size would support an alternative definition of the former vessel-selection stratum based on the rationale described above.

Data developed by the staff of the Sustainable Fisheries Division of the Alaska Regional Office and the Fisheries Monitoring Division of the Alaska Fisheries Science Center for the 2013 Annual Report (NMFS, 2014) was used in this analysis. All analyses were performed using the R language for statistical computing (R Core Team, 2014).

<u>Changes to the vessel-selection stratum as vessels below a certain length are removed</u>

The number of unique vessels in the 2013 vessel-selection stratum and the number of trips they fished was the focus of this data summary. The number of trips and vessels within this stratum were tallied according to vessel length in one-foot increments. In order to gain further insight into the effects of NMFS Area and Gear, the above process was then repeated for trips using these additional factors.

Trips appear evenly distributed among different vessels between 40 and 57 feet in length. The number of trips remaining in the stratum steadily declined as vessels of increasing size were removed (Figure C-1). The decline in total remaining trips in this stratum is largely due to the Gulf of Alaska hook-and-line sector, with greater losses in NMFS areas 630 (Central) and 650 (Southeast Outside) as vessels of increasing length are removed from the stratum (Figure C-2).

Similar to the patterns exhibited in trips, the number of vessels in each length increment appears to also be evenly distributed. The number of vessels remaining in the former stratum steadily declined as vessels of increasing size were removed (Figure C-3).

Review of past conditional releases by vessel size

Data on the number of vessels in this stratum that were selected to carry observers and those that were granted conditional releases were summarized by vessel length (Figure C-4). As already mentioned, the number of conditional releases granted in this stratum during 2013 was quite large. Over the span of the entire year, the ratio of released vessels to selected vessels was 0.52:1, meaning that over half of the selected vessels were granted a conditional release. There was no obvious pattern in the data related to vessel size. For example, vessels in every one-foot length increment were selected for coverage at some point of 2013, and at least one vessel belonging to all size increments was granted a conditional release with the exceptions of the 49, 53, and 55 foot increments. In addition, a smaller proportion of selected vessels at the smallest length class of vessels (40-41 feet) obtained a conditional release than substantially larger vessels (e.g. 50-52).

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NPFMC (North Pacific Fishery Management Council), NMFS, and AFSC (Alaska Fisheries Science Center). 2011. Appendix 9: Identification of stratum for the deployment of fishery observers aboard North Pacific groundfish catcher vessels. pgs A-45 to A-49 *In*: Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 86 to the Fishery Management Plan for Groundfish of the Bering sea/Aleutian Islands Management Area and Amendment 76 to the Fishery Management Plan for Groundfish of the Gulf of Alaska: Restructuring the Program for Observer Procurement and Deployment in the North Pacific. http://alaskafisheries.noaa.gov/analyses/observer/amd86_amd76_earirirfa0311.pdf

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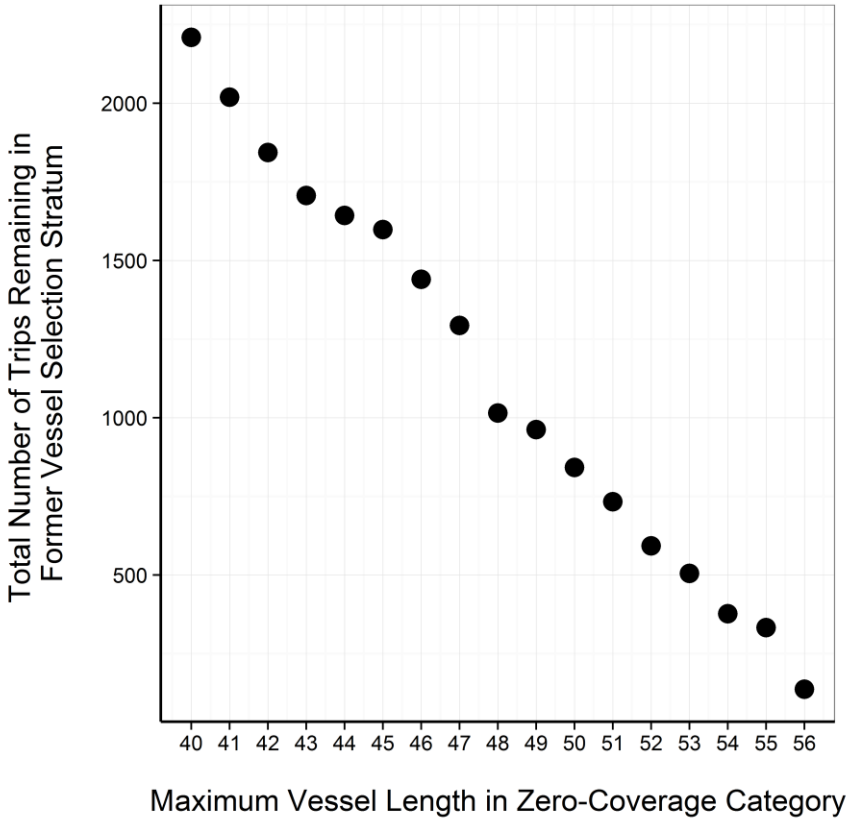

Figure C-1: The number of trips that remain in the former vessel-selection stratum when vessels of a given size or smaller are removed and placed into the zero-coverage category. For reference, 40 on the horizontal x-axis depicts the entire stratum, whereas there are no vessels remaining if all vessels less than 57' (denoted as 56' on x-axis) are removed.

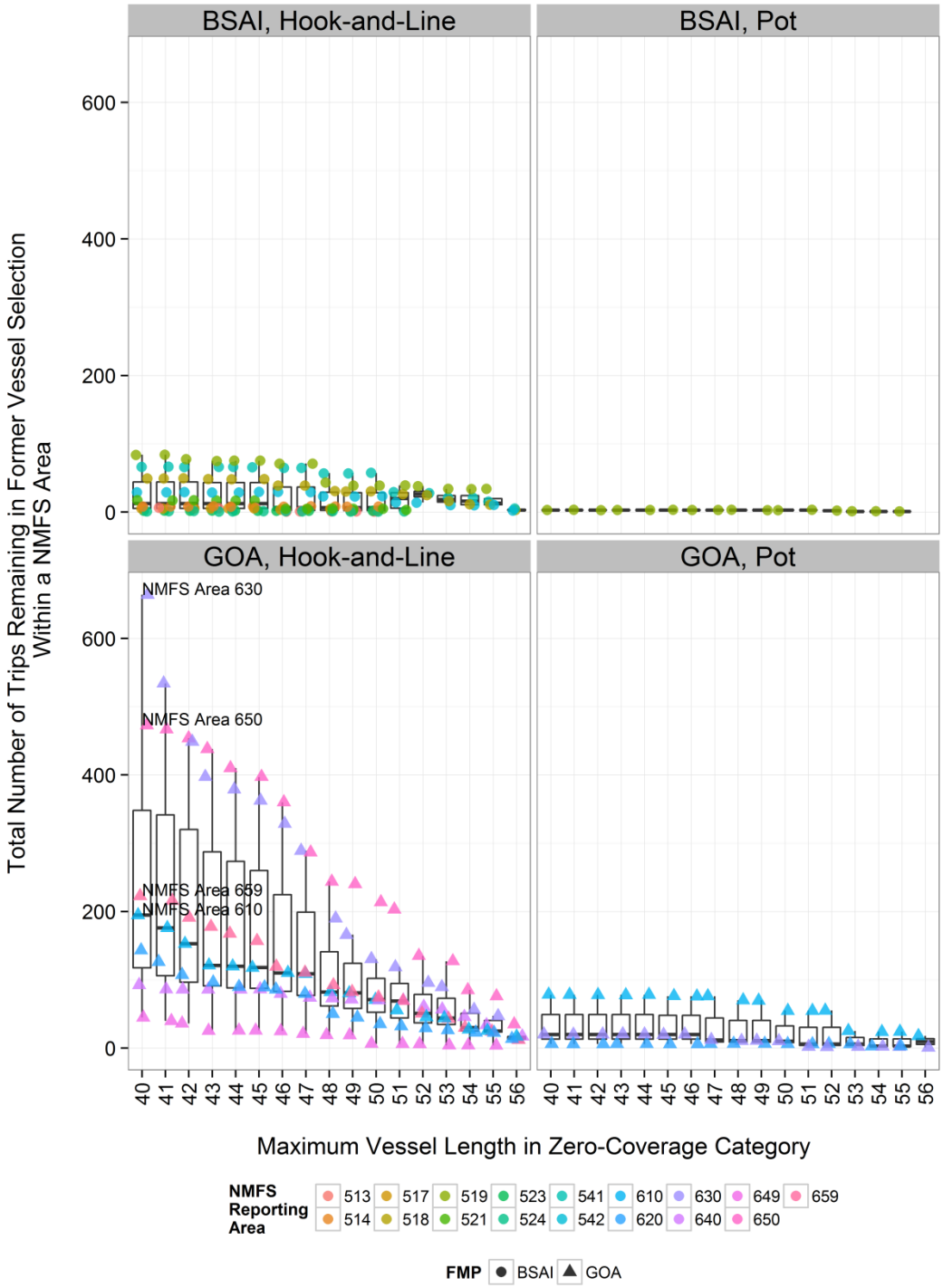

Figure C-2: Boxplot distribution of the decline in the number of trips that remain in the former vessel-selection stratum considering vessels of a given size or smaller are removed and placed into the zero-coverage category. Data are organized by gear-type and NMFS Reporting area. For reference, 40 on the horizontal x-axis depicts the entire stratum (i.e. the status quo in 2013 and 2014), whereas there are no vessels remaining if all vessels less than 57' (denoted as 56' on x-axis) are removed.

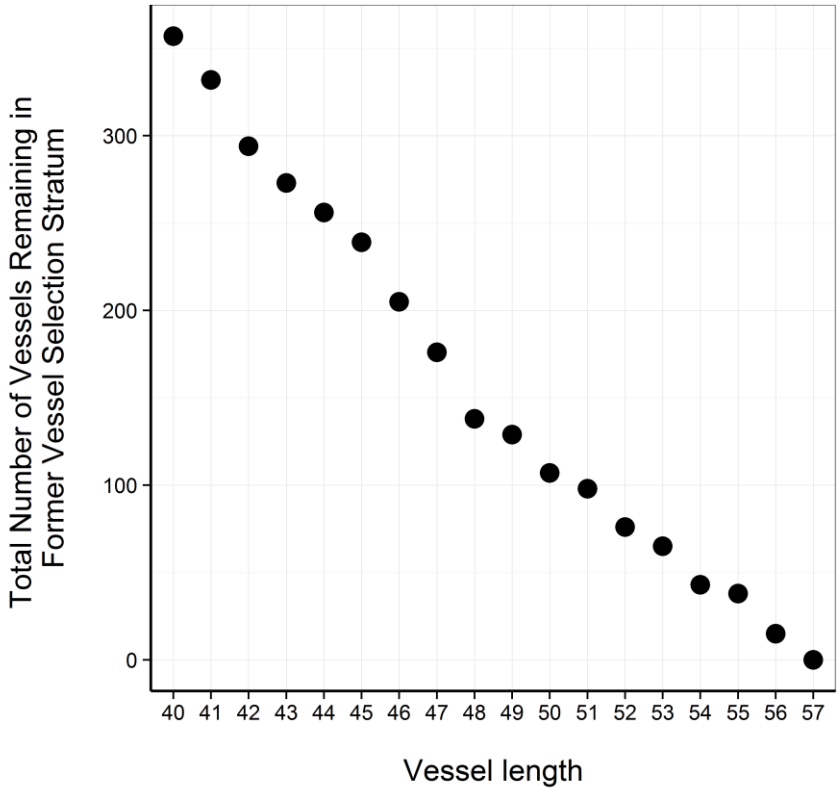

Figure C-3: The number of vessels in the former vessel-selection stratum that are above a given vessel length.

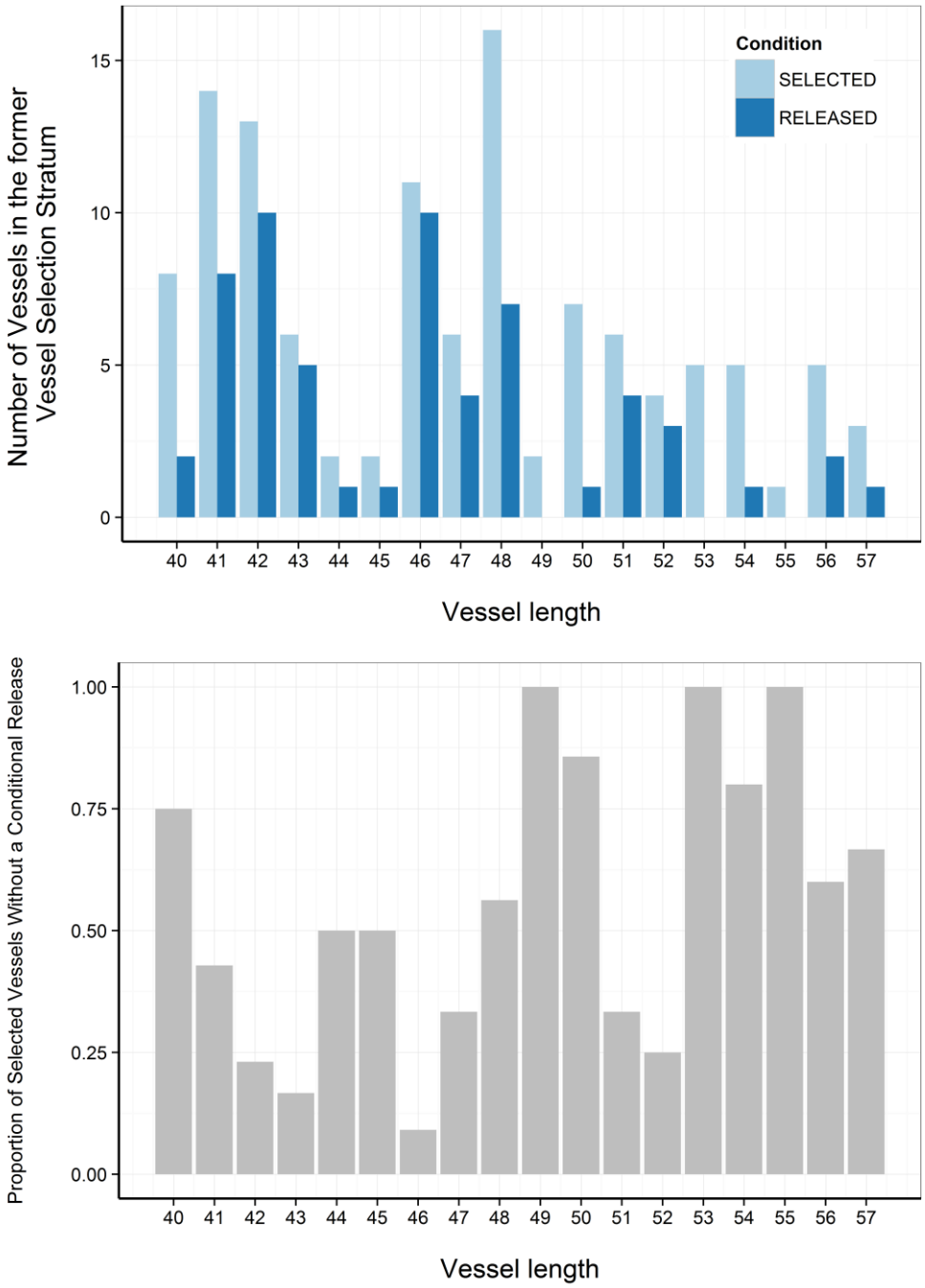

Figure C-4: Top panel: Number of vessels in the former vessel-selection stratum in one foot length categories that were selected for observer coverage and those that were given a conditional release. Bottom panel: The proportion of selected vessels in one foot length categories that were not given a conditional release.

Appendix E. Example letter requesting volunteers for Electronic Monitoring (EM) cooperative research

In 2014, the Council established a EM Workgroup as a Council committee, to allow industry, agency, and EM service providers a forum to cooperatively and collaboratively design, test, and develop EM systems that are consistent with Council goals and objectives to integrate EM into the Observer Program[3]. Multiple research tracks are being undertaken under the EM cooperative research plan in order to collect information that will help inform future Council alternatives for EM to enable catch estimation. As part this research, NMFS sent out the following letter offering release from observer coverage for volunteer vessels, while they are participating in the study. Using the priorities listed in the letter, 10 vessels were selected by NMFS to participate in the EM cooperative research.

----------EXAMPLE LETTER----------
Dear <operator name>

The North Pacific Groundfish and Halibut Observer Program is seeking volunteers to participate in a cooperative research project using electronic monitoring (EM) technology to collect data on board commercial fishing vessels. The goal of the research is to determine whether EM technologies can be used to complement or improve existing data collection programs and whether this can be achieved in a cost-effective and sustainable manner. The Observer Program is looking for approximately 10 volunteer vessels to participate in the program.

V**essels participating in this cooperative research by volunteering for EM systems in 2014 will be removed from the Observer Program's vessel selection pool process for the duration of the vessel's participation in the cooperative research**.

Priority will be given to vessels that meet the following criteria:

- Are currently in the vessel selection coverage category of the observer program;
- Were previously released from coverage in 2013 or 2014;
- Are 40-57.5 feet in length fishing IFQ quota.

Please note that while these are our priorities, we will consider any fixed gear vessel whose owner expresses an interesting in helping us on this EM development project.

EM systems will be installed in Homer, Kodiak, Petersburg, or Sitka, AK. Once the vessel's participation has ended, these systems will be removed at one of these ports. Vessels that are selected will have the option to carry an electronic logbook (e-log). E-logs are available to be deployed on any longline or pot vessels that are interested. NOAA enforcement allows use of the e-log for the International Pacific Halibut Commission (IPHC) regulation requirements. A paper printout from the e-log can be provided to the port sampler in-season or sent to the IPHC after the fishing season.

[3] More information about the EM Workgroup is available on the Council's website: http://www.npfmc.org/observer-program/

It is also anticipated that a Request for Proposals (RFP) will be released later in the year for approximately 5-10 vessels to participate in a second phase of cooperative research in which vessels will be paid to carry both an EM system and an observer. We are offering financial compensation for this aspect of the cooperative research as it will likely require more effort on the part of the participating vessels. This phase of the research will be open to all vessels in partial coverage using fixed gear. We are in the planning phase of this RFP process and more details will follow.

If you would like to participate in this EM cooperative research in Alaska, please contact Elizabeth Chilton at 206 526-4197 or via e-mail at elizabeth.chilton@noaa.gov by May 30th, 2014. We look forward to working with you in this cooperative research endeavor as it will likely influence the future of fisheries monitoring in Alaska.

Appendix F. Full Coverage Compliance Agreement Letter for the BSAI Pacific Cod Fleet

EXAMPLE LETTER REQUESTING FULL COVERAGE IN BSAI PACIFIC COD FISHERY

(Include your return mailing address)

(Date your letter)

James W. Balsiger
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99801

Dear Dr. Balsiger:

We are writing to request that the National Marine Fisheries Service assign the attached list of vessels with 100% observer coverage for 2015 any time these boats are fishing in the Bearing Sea Aleutian Islands (BSAI) in 2015. This will enable trawl catcher vessels in the BSAI Pacific cod fishery to take observer coverage in addition to that required for the partial observer coverage category.

We understand that we will be required to comply with all applicable regulations, including logging all fishing trips that are not AFA pollock prior to the start of a trip. Trips will be logged in the Observer Declare and Deploy System (ODDS).

Once the trips are logged, we understand that we will procure an observer through one of the five certified observer providers and pay for this observer coverage directly to the observer providers. In addition, we understand that the observer fee liability under §679.55 would continue to apply.

We agree to, and understand, the following:

1. individuals taken over and above existing observer coverage requirements are observers as defined at §679.2;
2. vessel owners and operators will comply with the prohibitions protecting observers that are at §679.7(g) and will meet the vessel responsibilities described at §679.51(e);
3. vessel owners and operators are subject to general requirements applicable to observers described at §600.746;
4. vessel owners or operators must log all fishing trips and follow applicable regulations when they are in the partial coverage category; and
5. landings will be subject to the observer fee under §679.55.

Sincerely,

Vessel Name: _____

Federal Fisheries Permit Number:_____

ADF&G Vessel Number:_____

Printed Name of the vessel owner: _____

Signature of the vessel owner: _____

Vessel Name: _____

Federal Fisheries Permit Number:_____

ADF&G Vessel Number:_____

Printed Name of the vessel owner: _____

Signature of the vessel owner: _____

Vessel Name: _____

Federal Fisheries Permit Number:_____

ADF&G Vessel Number:_____

Printed Name of the vessel owner: _____

Signature of the vessel owner: _____

Vessel Name: _____

Federal Fisheries Permit Number:_____

ADF&G Vessel Number:_____

Printed Name of the vessel owner: _____

Signature of the vessel owner: _____

Northeast Fisheries Observer Program
Vessel Selection Information

In the Northeastern and Mid-Atlantic regions of the United States, there are several fisheries that require observer coverage. Vessel representatives from these fisheries notify the Northeast Fisheries Observer Program prior to each trip.

Observer coverage for these trips is accomplished through three categories of observers: Northeast Fisheries Observer Program (NEFOP), At-Sea Monitors (ASM), and Industry Funded Scallop (IFS). For consistency, any reference to "observer" in this document refers to any observer or monitor working for NEFOP, ASM or IFS contracted providers.

Pre-Trip Notification System (PTNS): for multispecies groundfish and longfin squid
Vessels must notify for PTNS-eligible trips a minimum of 48 hours in advance of trip sail time. The PTNS phone line is available 24 hours a day, 365 days a year so that fishermen may call in at their convenience.

When a trip notification is entered into the system, PTNS initiates an automated process that randomly selects trips based on the coverage rate of trips in the same stratum. A stratum is a unique combination of sector, gear, and fishing area. The random selection process applies to each trip as part of a stratum and does not take into account individual vessel information. After a trip is selected for possible coverage, providers are chosen randomly by the system based on the proportion of observers each provider employs. The selected provider(s) will receive an email containing only specific details about the trip: the type of coverage (NEFOP or ASM), the type of trip (day or multiday), the sail date and time, and the vessel's port. This is enough information for the provider to coordinate coverage without having vessel-identifying information. The selected provider determines if they have an observer available in that area for that time and either accepts the trip or declines coverage.

PTNS selects trips at a higher rate in a stratum when that stratum's system coverage is low and at a lower rate when that stratum's system coverage is high. Higher selection rates are evident at the start of the fishing year. This "front-loading" is intended to accomplish observer coverage on enough trips to calculate an observed discard rate as quickly as possible. This feature reduces the reliance on the previous year's data.

Day trips have a higher cancellation rate than multiday trips – for understandable reasons, like weather. Fewer trips and higher cancellation rates create fluctuations in stratum coverage rates within the system, especially at the beginning of the year. As more trips are taken in a stratum, coverage tends to even out to the target rates.

There are some non-random selection features as well. Vessels with a low coverage rate and those that frequently cancel trips that are assigned observers are identified by PTNS, and their trips are not selected randomly.

Notifying for a series of trips on a single day can cause a string of selections. For example, a vessel may notify for 7 single-day trips on Thursday, sailing the following Saturday-Friday. The system immediately evaluates the coverage achievements in comparison to the target and determines whether each trip is selected, and it is very likely that the selection result will be similar for all of those trips. So if coverage is needed in the stratum, then it is highly likely that most trips will be selected (and vice versa). We suggest breaking up the notifications (not entering all 7 days at once) to allow the system to refresh with recent incoming observed trips. As trips sail with observers, the providers input that data, and this is what "credits" the system with observed trips.

Please see the Pre-Trip Notification System Instructions for more information: http://www.nefsc.noaa.gov/fsb/ptns/PTNS_Instructions_Combo.pdf.

Notification System for Atlantic Herring
Atlantic herring vessel representatives notify NEFOP 48 or 72 hours in advance of a fishing trip, dependent on their permit category. NEFOP will issue waivers or selection notices for observer coverage weekly via the vessel's vessel monitoring system (VMS). Selection of vessels is representative of effort, and designed to achieve seadays allocated by fleet per quarter under the Standardized Bycatch Reporting Methodology (SBRM). More information about SBRM is found at: http://www.nefsc.noaa.gov/fsb/SBRM/.

Notification System for Atlantic Mackerel
Representatives for Atlantic mackerel vessels that are issued a limited access permit (Tier 1, 2, or 3) must call NEFOP at least 48 hours in advance of a fishing trip. NEFOP will issue waivers or selection notices for observer coverage weekly via the vessel's VMS. Selection of vessels is representative of effort, and designed to achieve seadays allocated by fleet per quarter under SBRM. More information about SBRM is found at: http://www.nefsc.noaa.gov/fsb/SBRM/.

Notification System for Atlantic Sea Scallop
The IFS observer program utilizes an automated Interactive Voice Response (IVR) system to record information on a vessel's intent to fish for scallops. The system is available 24 hours a day, 365 days a year so that fishermen may call in at their convenience prior to a trip. Limited Access vessels are required to call into the system on a per-trip basis, and Limited Access General Category vessels are required to call once per fishing week (Sunday through Saturday), with each requiring 72 hours notice of intent to fish. Random selection of scallop trips occurs based on fleet, gear, and area fished and takes into account the vessel's previous observer coverage. Selection or waiver emails are sent by NEFOP via the vessel's VMS within 24 hours of notice of their intent to fish. If selected, fishermen are then required to contact observer provider companies to arrange observer coverage for their selected trip. If no observer provider company can provide an observer for the intended trip, the vessel representative may request a waiver from NEFOP.

Northeast Fisheries Science Center Reference Document 15-04

2015 Discard Estimation, Precision, and Sample Size Analyses for 14 Federally Managed Species Groups in the Waters off the Northeastern United States

by SE Wigley, C Tholke, J Blaylock, PJ Rago, and G Shield

Northeast Fisheries Science Center Reference Document 15-04

2015 Discard Estimation, Precision, and Sample Size Analyses for 14 Federally Managed Species Groups in the Waters off the Northeastern United States

by SE Wigley[1], C Tholke[2], J Blaylock[2], PJ Rago[1], and G Shield[1]

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[2]Integrated Statistics,16 Sumner Street, Woods Hole, MA 02543

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Woods Hole, Massachusetts
April 2015

Northeast Fisheries Science Center Reference Documents

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LIST OF ACRONYMS AND ABBREVIATIONS

AA = Access area
ASM = At-Sea Monitoring Program
ASMFC = Atlantic States Marine Fisheries Commission
CV = coefficient of variation
d/k = discard/kept
FED = finfish excluder device
FMP = fishery management plan
GEN = General category
lg = large mesh
LIM = Limited access category
MA = Mid-Atlantic
MRIP = Marine Recreational Information Program
NE = New England
NEFOP = Northeast Fisheries Observer Program
NEFSC = Northeast Fisheries Science Center
NMFS = National Marine Fisheries Service
OPEN = Nonaccess area
SBRM = Standardized Bycatch Reporting Methodology
SE = standard error of the estimate
sm = small mesh
VTR = Vessel Trip Report
xlg = extra large mesh

EXECUTIVE SUMMARY

This report describes the analyses associated with the discard estimation of 14 federally managed fish and invertebrate species groups during the July 2013 through June 2014 time period and the expected coverage needed by at-sea observers for northeastern US fisheries for the April 2015 through March 2016 period using the Standardized Bycatch Reporting Methodology.

An estimated 64,795 mt (142,848,902 lb) of federally regulated species were discarded during the July 2013 through June 2014 time period. The predominant species groups discarded are skates (Rajidae*)* and spiny dogfish (*Squalus acanthias*). Across all species groups examined, "No Market" is the reason reported for the majority of discards. Analyses also revealed that observer coverage within a fleet corresponded with the spatial and temporal patterns of fishing activity in terms of kept weight of all species for fleets with observer coverage. The discards reported in this document may not necessarily correspond directly with the discard estimates derived for individual stock assessments because of differences in stratification and data. Hence, the discard estimates are not definitive, but indicative of where discarding is occurring among commercial fleets and for which species groups.

The sea days needed to achieve a precision-based performance standard (30% coefficient of variation of the discard estimate) were estimated to be 11,204 sea days for the 14 fish and invertebrate species groups across 56 fleets. The sea day analyses used a standardized protocol to account for the importance of the discarded species relative to the amount of discards by a fleet and total fishing mortality.

INTRODUCTION

The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment (NEFMC 2007; NMFS 2008) was vacated by the US District Court of the District of Columbia on 15 September 2011 because of a deficiency associated with the prioritization process, an element of the amendment. The regulations implementing the SBRM were removed by the National Marine Fisheries Service (NMFS) on 29 December 2011 (NMFS 2011). A revised SBRM Omnibus Amendment was approved on 13 March 2015, and a final rule is pending. This report provides some of the information required by the annual discard report specified in the revised SBRM amendment.

The SBRM discard estimation methods described in Wigley et al. 2007 are still applicable. Refinements to the procedure for filtering the needed sea days have been made based on analyses conducted for the 2011 SBRM 3-year Review Report (Wigley et al. 2012a). The analyses conducted for 2015 are similar to those conducted in 2014 (Wigley et al. 2014).

This document presents the estimated discards and associated precision as well as the number of sea days needed to obtain a 30% coefficient of variation (CV) on the discard estimates for the 14 species groups associated with federal fishery management plans (FMPs) in northeastern US fleets[1]. Additionally, discard reasons associated with the discarded species are

[1] "Fleet" is synonymous with "fishing mode."

summarized. This document and Wigley et al. (2012b, 2013, 2014) differ from previous SBRM documents in that they do not include a sea day prioritization[2] and focus on fish and invertebrate species groups; they do not include sea turtles.

METHODS

Data Sources

The data sets used include July 2013 through June 2014 data from the Northeast Fisheries Observer Program[3] (NEFOP) database, the Vessel Trip Report (VTR; including logbooks from the surfclam [*Spisula solidissima*] and ocean quahog [*Artica islandica*] fishery) database, the Northeast Fisheries Science Center (NEFSC) commercial landings database, and the National Oceanic and Atmospheric Administration Marine Recreational Information Program (MRIP) database.

The NEFOP is a comprehensive, multipurpose program that collects a broad range of data including information on all species, by disposition (retained and discarded), that are encountered during a fishing trip as well as gear characteristics data, economic information, and biological samples (NEFOP 2013). The NEFOP employs trained sea-going observers and monitors to collect these data. Fish and invertebrate species are recorded in weight. Conversion factors were applied to convert any dressed weight data to live[4] weight equivalents.

For this analysis, only observed hauls from NEFOP trips with a "complete" sampling protocol were used. A "complete" sampling protocol includes obtaining species weights for both kept and discarded portions of all species in the catch. NEFOP training trips have been included in the analysis. Aborted trips and "set only" trips were excluded from the analysis along with trips fishing in statistical areas associated with the Southeast Region (statistical area ≥ "700"), trips landing outside the Greater Atlantic Region (e.g., trips landing in Canada), and "carrier" trips (*fleet_type* = "050"; no fishing effort occurred on these trips). Hauls with no catch reported, species hail weight with discard reason "039" ("previously discarded"), and catch of nonliving matter (such as debris, shells, etc.; these items would not be kept and sold) were also excluded for the analysis. Additionally, there were 1 observed tuna purse seine trip, 1 scallop beam trawl trip, and 1 fish beam trawl trip for which there were no corresponding VTR trips for the gear types and 1 observed Mid-Atlantic shrimp trawl trip with no corresponding VTR trip for the calendar quarter; consequently these 4 observed trips were removed from the analysis.

---

[2] The observer sea day allocation documents are available online at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/

[3] There were 1,168 At-Sea Monitoring Program (ASM) trips associated with NE hand line, longline, otter trawl, Ruhle trawl, and gillnet fleets in the July 2013 through June 2014 data. A comparison of discard rates derived from observer and at-sea monitor data in 2013 and 2014 revealed there were generally similar discard rates between the 2 data collection programs for the 18 fish species for 5 gear types (longline, large mesh otter trawl, large mesh Ruhle trawl, large mesh gillnet, and extra large mesh gillnet) where at-sea monitor data exist, hence NEFOP and ASM data were pooled. See Northeast Fisheries Observer Program (2013) for more information on ASM. The Atlantic States Marine Fisheries Commission (ASMFC) funded 117 otter trawl trips (119 trips when stratified by gear type and mesh size) in the July 2013 through June 2014 data. A comparison of discard rates derived from NEFOP-allocated and ASMFC-allocated trips revealed there were generally similar discard rates for the 3 fleets where ASMFC-allocated trips exist (MA small mesh otter trawl fleet [83 trips], MA large mesh otter trawl fleet [5 trips], and NE small mesh otter trawl fleet [31 trips]); hence, these data have been pooled.

[4] In this document, "live" is equivalent to "round" grade (i.e., includes the weight of the shell for shellfish).

The same broad stratification scheme used in previous SBRM analyses was employed in this analysis, in which trips were partitioned into nonoverlapping fleets by using 5 classification variables: geographic region, gear type, mesh, access area, and trip category. Calendar quarter was used in the analyses and was based on landed date to capture seasonal variations in fishing activity and discard rates. Two broad geographical regions were defined: New England (NE) and Mid-Atlantic (MA) based on port of departure[5]; ports in states from Maine to Rhode Island constituted the NE region, and ports in states from Connecticut to northern North Carolina (35° N) constituted the MA region. Gear type was based on Northeast gear codes (*negear)*. Some gear codes were combined: sink, anchored, and drift gillnets, and single and paired mid-water trawls. Trips for which gear was unknown were excluded. Mesh size groups were formed for otter trawl and gillnet gear types. For otter trawls, 2 mesh groups were formed: small (mesh less than 5.50 in) and large (5.50 in mesh and greater). For gillnets, 3 mesh groups were formed: small (mesh less than 5.50 in), large (mesh from 5.50 to 7.99 in), and extra large (mesh 8.00 in and greater). Two access area categories were formed: access area (AA) and open (OPEN). The sea scallop fishery was divided into general (GEN) and limited (LIM) category trips. All other fisheries were combined into a category called "all." In the data set analyzed, there were also trips associated with an exempted fishery where 100% observer coverage was required for trips. These exempted trips using a haddock separator trawl with small mesh have been grouped together to form a separator fleet.

Stratification abbreviations used are given below.

Abbreviation	Definition
MA	Mid-Atlantic ports (CT and southward)
NE	New England ports (RI and northward)
sm	Small mesh (less than 5.50 in)
lg	Large mesh (from 5.50 to 7.99 in for gillnet; 5.50 in and greater for otter trawl)
xlg	Extra large mesh (8.00 in and greater)
LIM	Limited access category
GEN	General category
OPEN	Nonaccess area
AA	Access area

The VTR data are used as a basis for defining the sampling frame, since all federally permitted vessels are required to file a VTR for each fishing trip (See NMFS-Greater Atlantic Regional Fisheries Office http://www.greateratlantic.fisheries.noaa.gov/aps/evtr/doc/vtr_inst.pdf for guidance). These self-reported data[6] constitute the basis of the fishing activity of the commercial fleets. While dealer data are the preferred data to use because of more accurate weights, VTR data are used as a surrogate because dealer data do not contain mesh size and area fished information. The VTR data were thus used to expand the NEFOP discard ratios to total discards. For this analysis, the commercial federal VTR trips were used. Conversion factors were

[5] Wigley et al. (2007) found that the majority (over 93%) of 2004 observed trips both originated and fished in the same region and exhibited the same general pattern as in the VTR data. An updated analysis using July 2007 through June 2011 data found similar results (Wigley et al. 2012a).
[6] See Wigley et al. 2007 for more details on self-reported VTR data.

applied to convert various units of measure to pounds and all weight to live weight. VTR trip data were grouped into fleets as defined above. Trips participating in the US/Canada access area and other special access programs could not be identified in the VTR data. These trips have been grouped by the other stratification variables and have not been partitioned separately.

The clam fishery has a logbook system separate from the VTR logbook. The commercial clam logbook data were used to augment the VTR data for the clam dredge fishery. The commercial and recreational landings (in live weight) for the federally managed species were used only in sample size analysis.

A list of the 14 federally managed fish and invertebrate species groups analyzed and the individual species that compose each species groups is given in Table 1. Summaries of the data used, in terms of number of trips and number of sea days, by fleet, calendar quarter, and data source (NEFOP and VTR), are given in Tables 2 and 3, respectively.

The spatial and temporal patterns of observer coverage within a fleet were evaluated. Rather than using number of trips (a trip-based metric), the kept weight of all species reported in the VTR was used. The "kept weight with observer coverage" was derived as the kept weight of all species reported in the VTR summed by fleet, statistical area, and quarter where at least 1 observed trip occurred in the fleet-quarter-statistical area cell and at least 3 observed trips[7] occurred in the fleet-quarter stratum. The "kept weight" was derived as the kept weight of all species reported in the VTR summed over all statistical areas and quarters within a fleet. The percentages of "kept weight with observer coverage" were calculated by dividing the "kept weight with observer coverage" by the "kept weight." These percentages were derived for the 56 fleets (reported as 50 individual fleets and 6 confidential fleets combined into "Confidential fleets"), "Other minor fleets" (that also include 1 confidential fleet), and all fleets combined. Additionally, as a relative measure of fleet activity among all fleets, the percentage of "kept weight" was derived by dividing the "kept weight" by the sum of the "kept weight" across all fleets.

Discard Estimation

Total discards of each of the 14 federally managed species groups were estimated for the July 2013 through June 2014 time period by using a combined discard/kept (d/k) ratio estimator (Cochran 1963), where d = discarded pounds of a given species group, and k = the kept pounds of all species (i.e., any species retained during the trip). Total discards (in weight) were derived by multiplying the estimated discard rate of each fleet by the corresponding fleet landings in the VTR database and then summing over fleets. In this analysis, no survival ratios were applied to discard estimates.

Simple imputation methods were used to fill quarterly cells for which there were fewer than 3 observed trips. Data from adjoining strata were pooled to impute estimates for cells with 0, 1, or 2 trips. In this imputation only the temporal stratification (calendar quarter) was relaxed to an annual aggregation even though seasonal variation can occur for some species. This simple imputation could not be applied to fleets where observer coverage was low or missing throughout the year (i.e., too few data to support the simple imputation approach). In these cases, imputed values were not used, and the fleet was designated as a fleet in need of pilot coverage[8].

[7] The 3 trips for fleet-quarter correspond with a minimum threshold for allocating observer coverage.

[8] Pilot coverage is defined as a minimum level of observer coverage necessary to acquire bycatch information with which to calculate variance estimates that can then be used to further define the level of sampling needed (NMFS 2004).

If some data were available, then discard estimates were derived, but these results were not used in sample size analyses.

The variances and standard errors (SE) of the discard estimates were also derived. In this document, CV is defined as the ratio of the standard error of the total discards divided by the total discards. The appendix presents the equations used in the analysis.

For each species/species group and fleet, the landings from the VTR and clam logbook are presented to provide perspective for the discard estimates.

Discard Reasons

For each species group and fleet, the fish dispositions associated with discarding (as reported by the at-sea observer) have been grouped into the following 6 discard reason categories: no market, regulation (size), regulation (quota), regulation (other), poor quality, and other. The discard reason categories and the associated fish dispositions are summarized in Appendix Table 2. The discard reasons "No Market" and "Poor Quality" are considered economic discards and not regulatory discards.

The observed (nonextrapolated) discards associated with each of the 6 discard reason categories were summed for each species group/species for the fleets where discards could be estimated. For individual fleets, the percentage of observed discards by discard reason category was derived by dividing the sum of the observed discards for each discard reason category by the sum of the total observed discards for each species group/species and fleet. The discard reason category percentages were taken from the observed discard reason category percentages. For each fleet that composes the "Other fleets filtered out" (an aggregated fleet that represents fleets where the variance of the discard estimate was not used in the annual sample size analysis), the observed discard reason category percentages were then multiplied by the total estimated (extrapolated) discards for each species group/species to derive the estimated discards by discard reason category. The total estimated discards by discard reason category were summed over the fleets that compose the fleet aggregation for each species group/species. The estimated discard reason category percentage was derived by dividing the estimated discards for each discard reason category by the sum of the total estimated discards for each species group/species and fleet. In other words, the "Other fleets filtered out" represents the weighted percentage where the weighting factor was the fleet extrapolated discards.

Sample Size Analysis

The sample size analysis (also referred to as sea day analysis) was conducted to estimate the number of baseline trips and sea days needed to monitor the 14 federally managed species groups in each fleet. As described in Wigley et al. 2007 (and given in the appendix), the number of trips and sea days needed to achieve a given precision level was based on the variance of the total discard estimate for a species group. Sample size (trips and sea days) associated with the precision standard for discard estimates (30% CV) were derived. The sample size analysis was performed by using trips as the sampling unit and then converting the number of trips to sea days by multiplying by the weighted mean trip length, where the weighting factor was the quarterly number of VTR trips. The percentage of trips was derived by dividing the number of trips needed by the number of VTR trips that occurred in the fleet. When total discards could not be estimated because of little or no observer coverage (no data), or when total discards were zero (no variance), the sample size (number of trips) was determined by using a pilot coverage level

set to 2% of the quarterly VTR trips for a fleet, with a minimum of 3 trips per quarter (12 trips per year) and a maximum of 100 trips per quarter (400 trips per year). The 2% pilot coverage was the same as was used in previous sea day analyses (Wigley et al. 2012b, 2013, 2014) and the SBRM analyses (Wigley et al. 2007, 2011). The quarterly trips were then multiplied by the quarterly mean VTR trip length to derive quarterly sea days. The quarterly trips and quarterly sea days were then summed for annual number of trips and sea days. It is recognized that pilot coverage may result in too much coverage in cases where little or no observer coverage may actually be needed, when effort changes sharply between years, or when the fleet comprises only a few trips. Further refinements are performed during the sea day allocation[9].

Some fleet/species combinations contribute very little to the total fishing mortality or discard of the species but may require significant resources to characterize the precision of the estimate. For example, a high variance estimate for a rare event within a fleet would require high levels of sampling, even though the total discard in that fleet was unimportant with respect to either the total discard or total fishing mortality of the resource. To address this, a modification of the filtering approach developed for the 2007 SBRM was employed[10]. Similar to the SBRM analyses (Wigley et al. 2007), importance filters were used to provide a standardized protocol to further refine the number of baseline sea days based on: (a) the importance of the discarded species relative to the total amount of discards by a fleet and (b) the total fishing mortality due to discards.

The 2015 baseline sea days were filtered by using a 95% cut-point in the discard filter and a 98% cut-point for the total mortality filter due to discards. In other words, estimates of sea day coverage for a given species or species group were derived for those fleets where discards constituted 95% of the discard mortality and catch constituted 98% of the total fishing mortality.

To determine the number of sea days (referred to as the "2015 sea days needed") and trips needed to achieve a 30% CV on the estimates of discards for each of the 14 species groups within a fleet, the maximum number of sea days for the 14 species groups (i.e., the maximum number of sea days in a row) was used. This approach ensures that all species groups will have a 30% CV or less. In the event that sea days for each species group within a fleet were filtered out, then the number of sea days for the fleet was based on minimum pilot days to maintain monitoring coverage for that fleet. Minimum pilot coverage represents a minimum threshold for the allocation of sea days and is defined as 3 trips per quarter for each quarter with industry activity. The quarterly number of trips is multiplied by the quarterly mean VTR trip length and then summed over quarters to derive the annual minimum pilot days for the fleet. If the fleet was designated as a pilot fleet, then pilot sea days were used. These fleets are indicated with a "P." The fleets with sufficient data to estimate sample size are referred to as nonpilot fleets.

[9] A description of the further refinements can be found in the sea day allocation documents; see http://www.nefsc.noaa.gov/femad/fsb/SBRM/ .

[10] In the 2007 SBRM analyses, the importance filter comprised 3 filters (i.e., unlikely cell filter, fraction of discard filter, and fraction of total mortality due to discards filter) that were applied simultaneously. However, based on an evaluation of the use of the unlikely filter over a 3-year period, it was found that no substantive changes in the determination of sea days would have resulted had the unlikely filter been removed from the importance filter (Wigley et al. 2012a). Thus, in this analysis and the 2014 analysis, all cells in the unlikely filter were set to 1 (all cells are likely; this is equivalent to removing the unlikely filter from the importance filter).

RESULTS

There were 56 fleets uniquely identified in the July 2013 through June 2014 data (Tables 2 and 3; Appendix Table 1). Based upon the industry activity during this time period, the MA and NE twin trawl fleets (Rows 13 and 14, respectively) and the NE haddock separator trawl small mesh exempted fleet (Row 56) were added to the collection of fleets analyzed (fleets that have not been included in previous analyses are indicated with a "+" in Tables 2 and 3). Compared to the 2014 sea day analysis, there were 2 fleets (NE LIM OPEN scallop trawl and NE shrimp pot) that were not included in this analysis because of no industry activity. The other minor fleets not uniquely identified in this analysis have been aggregated into a single fleet labeled "Other minor fleets." Because of confidentially rules, the landings associated with 5 unique fleets (MA GEN Access area scallop trawl [Row 9], MA LIM Access area scallop trawl [Row 10], MA large mesh Ruhle trawl [Row 15], MA floating trap [Row 21], and NE beam trawl [Row 52]) in Tables 2 and 3 have been aggregated into a single fleet labeled "Confidential fleets" for reporting purposes in Tables 4 and 5. An additional confidential fleet, NE twin trawl (Row 14; Tables 2 and 3), was not aggregated with the other confidential fleets because this fleet was the only confidential fleet with some NEFOP data (confidential data would be exposed); this fleet was aggregated into "Other minor fleets" in Tables 4 and 5. Hence, the fleet row numbers within Tables 2, 3, and 6 are sequential, while the fleet row numbers in Tables 4, 5, and 7 are ordered, but there are gaps in the row numbers.

Of the 56 fleets examined, 32 fleets had little or no observer data: 12 fleets had sparse observer data across all quarters, while 20 fleets were missing observer data in all quarterly cells. The fleets with no observer coverage were primarily pot and trap fisheries targeting particular species (e.g., red deepsea crab [*Chaceon quinquedens*], whelk also known as conch [*Busycon carica, Busyotypus canaliculatus*], shrimp [*Pandalus borealis*], and hagfish [Myxinidae]). No discard estimation was performed for the 20 fleets with no observer coverage, and they were designated as fleets in need of pilot coverage (Tables 2 and 3; Appendix Table 1). The 12 fleets with sparse observer coverage were also designated as fleets in need of pilot coverage for the sample size analysis; however, discard estimation was performed with the sparse observer data. For the 24 remaining fleets (designated as nonpilot fleets), estimates of discards and their associated variance were derived and used to determine the sample sizes needed for a 30% CV. Of the 24 fleets, there were 11 fleets (Rows 2, 4, 11, 18, 23-25, 30, and 32-34) where the simple imputation was applied (Tables 2 and 3).

Thus, for the discard estimation and precision analysis, 20 fleets had no discard estimation, and 36 fleets had discards estimated. For the sample size analysis, 24 fleets had sample sizes derived from the discard variances, and 32 fleets had sample sizes based upon pilot coverage.

A total of 3,508 trips (10,800 days) was observed during the July 2013 through July 2014 period. When these trips were stratified, some trips were partitioned between strata resulting in 3,729 trips (11,335 days; Tables 2 and 3) in the NEFOP data set. The total number of trips and days do not include 2 observed beam trawl trips in the MA and NE fish and scallop beam trawl fleets because there were no reported VTR trips for these fleets. The information for these 2 fleets has been aggregated into "Other minor fleets." Information regarding beam trawl gear code and apparent misreporting of some gear types are further described in the discussion section of this report.

In terms of number of trips, the percentages of observed trips varied by fleet and calendar quarter. On an annual basis, for the 36 fleets with some observer coverage, the percentage of observed trips by fleet ranged between 0.03% (MA Hand Line, Row 3; Table 2) to 116% (NE small mesh haddock separator trawl exempted fleet, Row 56; Table 2). It is unexpected to have coverage percentages exceed 100%. In this case, the NEFOP observer reported 2 mesh sizes (large and small mesh) were used on a trip while the VTR for that trip reported only large mesh was used; hence more observed trips than VTR trips appeared in the data sets for this small mesh fleet. For the 24 nonpilot fleets (excluding the NE small mesh haddock separator trawl exempted fleet [Row 56] that required 100% observer coverage), the percentage of observed trips ranged between 0.14% (NE Lobster Pot, Row 48) and 24% (NE mid-water trawl fleet, Row 41). Over all fleets, the percentage of observed trips was 4.4% (Table 2).

In terms of kept weight of all species, the percentage of observer coverage over all fleets was 52% (Table 4). For the 24 nonpilot fleets, the percentage of observer coverage ranged between 19% and 100% with an average of 79% (Table 4). Twenty of the 24 fleets had a percentage greater than or equal to 69% with an average of 89%. This finding indicates that the majority of kept weight within the fleet was associated with statistical areas and quarters with observer coverage. Additionally, these 20 fleets composed 54% of the total kept weight across all fleets. The kept weight of all species was considered a surrogate for fishing effort; hence, observer coverage spatially and temporally occurred where the majority of fishing effort occurred.

The landings associated with the combined fleet "Other minor fleets" contributed 0.2% of the total landings across all fleets (Table 4); thus, the 56 uniquely identified fleets account for almost all of the total VTR landings.

Annual VTR landings for all fleets and estimated discards (live weight, in pounds) with associated precision (CV and SE) for 35 individual fleets (Rows 2-8, 11, 13, 16-18, 23-25, 27, 28, 30-38, 40-42, 44, 45, 47, 48, 50, and 56[11]) are summarized for each of the 14 species groups, the individual species that composed those species groups, and the 14 species groups combined (Tables 5A, 5B, and 5C; Figures 1A and 1B). There were 15 fleets (Rows 1, 12, 19, 20, 22, 26, 29, 39, 43, 46, 49, 51, and 53-55) with no discard estimation because of the lack of NEFOP coverage; 2 combined fleets ("Confidential fleets," and "Other minor fleets") also have landings only. Fleets with no discard estimation have dark shade in Tables 5A and 5B. In Table 5A, the CVs associated with the cells (species group and fleet) that were not used in the sample size analysis (i.e., cells filtered out via the importance filter) are indicated in light shading. Precision of discards of individual species (Table 5B) and 14 species group combined (Table 5C) were not used in the sample size analysis.

Based upon this analysis, 64,795 mt (142,848,902 lb; live weight) of discards for the 14 species groups occurred during the July 2013 through June 2014 period (Table 5C). The majority (78%) of the discards comprises 2 species groups: skates (Rajidae; 63%) and spiny dogfish (*Squalus acanthias*; 15%); the remaining species groups each accounted for less than or equal to 5% (Table 5A).

The percentage of discards to total catch varied among the 14 species groups (Table 5A; Figure 1A) and individual species (Table 5B; Figure 1B). There were 3 species groups (SCOQ, HERR, and TILE) where discards were less than 1% of total catch; 4 species groups (BLUE, SCAL, RCRAB, and SBM) where percentages of discards ranged between 1% and 10% of total

[11] Discards were estimated rather than summed for the NE small mesh haddock separator trawl exempted fleet (Row 56) because unobserved hauls occurred on observed trips in this fleet.

catch; 3 species groups (GFL, FSB, and GFS) where discards ranged between 11% and 25% of total catch; and 4 species groups (MONK, DOG, SKATE, and SAL) where discards were greater than 26% of total catch. The species groups with the highest percentage of total discards relative to total catch were: Atlantic salmon (*Salmo salar*; 100%), skates (76%), spiny dogfish (69%), and monkfish (*Lophius americanus*; 28%; Figure 1A). Because of the no possession regulation for Atlantic salmon, it is not surprising to have a discard percentage equal to 100%. For individual species (Table 5B; Figure 1B), most notable are the high percentages of discards to total catch for Atlantic wolffish *(Anarhichas lupus*; >99%), ocean pout (*Zoarces americanus*; >99%), and windowpane flounder (*Scophthalmus aquosus*; >99%) because of the no possession regulations for these 3 individual species and for Atlantic halibut (*Hippoglossus hippoglossus*; 75%) because of a 1 fish per trip regulation. The NE large mesh otter trawl fleet (Row 8) had the highest estimated discards (Table 5C).

The reasons for discarding varied among the 14 species groups (Appendix Table 3A) and individual species (Appendix Table 3B). Overall, for the 14 species groups, the majority (84%) of discards were attributed to "No Market." "Regulation" (size, quota, and other), "Poor Quality," and "Other" contributed 14%, 1%, and 1%, respectively (Appendix Table 3A).

The percentages of discards to total catch by fleet were also summarized for the 24 nonpilot fleets (Figure 2). Discards of 1 or more of the 14 species groups that were filtered out via the importance filter have been aggregated into a species group labeled[12] "Other SBRM." Discards of nonfederally managed species have been aggregated into a species group labeled "Non-SBRM." The percentages of discards to total catch varied by fleet (Figure 2). There were 2 fleets (Rows 30 and 41) where discards were less than 1% of the total catch in the fleet; 2 fleets (Rows 24 and 32) where the percentages of discards ranged between 1% and 10%; 13 fleets (Rows 2, 4, 7, 18, 23, 25, 28, 33, 34, 36-38, and 56) where the percentages of discards ranged between 11% and 25% of total catch; 5 fleets (Rows 5, 8, 27, 35, and 48) where the percentages of discards ranged between 26% and 50% of the total catch; and 2 fleets (Rows 6 and 11) where discards were greater than 50% of the total catch (Figure 2).

The number of species groups discarded within a fleet also varied among fleets. The majority of fleets (16 of the 24 fleets) comprised 2 or 3 discarded species groups. For 8 of these fleets (Rows 2, 11, 18, 24, 32, 33, 36, and 56), the "Other SBRM" species group comprised the majority of the discards. This finding indicates that the majority of discards were filtered out via the importance filter. For one fleet (Row 25), "Other SBRM" species group comprised the plurality of discards. There were 4 fleets (Rows 23, 30, 41, and 48) for which the "Non-SBRM" species group comprised the majority of the discards and 1 fleet (Row 35) for which the "Non-SBRM" species group comprised the plurality of the discards. There were another 2 fleets where 2 of the 3 discarded species groups were "Other SBRM" and "Non-SBRM," and the third represented at least 76% of the discards: Row 4 (large mesh groundfish) and Row 27 (spiny dogfish; Figure 2). The remaining fleets (8 of the 24 fleets) had between 4 and 9 discarded species groups. The skate species group dominated the discards in 4 of these fleets (Rows 6, 8, 28, and 34) while the "Non-SBRM" group dominated the discards in 3 fleets (Rows 7, 37, and 38) and 1 fleet (Row 5) for which these groups combined comprised the majority of discards.

[12] The labels used to reference the species groups have changed, however, the species groups have not changed. The 2012 – 2014 annual analyses used species group labels "Other FMP" and "non-FMP" because the regulations associated with 2007 SBRM Omnibus Amendment had been removed. It is anticipated that the revised SBRM Omnibus Amendment will be implemented in 2015, hence this report uses "Other SBRM" and "non-SBRM," the same labels used in the SBRM 3-year Review Report (Wigley et al. 2011).

The dominant "Non-SBRM" species in the scallop dredge fleets (Rows 32-38) were: sand dollar (Clypeasteroida), sponge (Porifera), and starfish (Asteroidea). "Fish, not known" was the dominant "Non-SBRM" species in the NE purse seine fleet and the NE mid-water trawl fleet (Rows 30 and 41). American lobster (*Homarus americanus*) and Jonah crab (*Cancer borealis*) were the dominant "Non-SBRM" species in the NE lobster pot fleet (Row 48; Figure 2).

The precision of the discard estimates varied by species group and fleet (Table 5A). Of the 14 species groups, 11 species groups (BLUE, FSB, GFL, MONK, SCAL, SKATE, GFS, DOG, SBM, SCOQ, and TILE) had an overall CV that was less than 30%, and 3 species groups (SAL, HERR, and RCRAB) had an overall CV that was greater than 30%. The discards of 6 species groups (SAL, BLUE, HERR, SCAL, SCOQ, and TILE) were filtered out in all fleets; this finding indicates that the discards of these species groups were a minor component of the total catch of these species (Table 5A; Figure 1A). The precision of the discard estimates for individual species are given in Table 5B; these precision estimates were not used in the sample size analysis.

The number of sea days needed for each species group and fleet, as well of the number of pilot coverage days, minimum pilot coverage days, and the sea days needed for the fleet (referred to as "2015 Sea Days Needed"), are summarized in Table 6. A total of 11,204 days are needed for the 56 fleets. As mentioned previously, 32 fleets had insufficient observer information to estimate discards and the sea days for these fleets were based on pilot coverage days. The number of sea days needed for fleets with the pilot coverage designation was 1,300 days (12% of 11,204 days; Table 6). There are 9 fleets for which the sea days for all species groups were filtered out via the importance filter, and minimum pilot coverage days were used to maintain some coverage (Rows 2, 11, 23, 24, 30, 32, 36, 41, and 56; Table 6). There was a total of 204 sea days associated with the fleets with minimum pilot coverage (2% of 11,204 days; Table 6). The sea days needed for the remaining 15 fleets (9,700 days, representing 87% of the total sea days needed) were derived by using the variance of the discard estimate (Tables 6). Of the 9,700 days, 4,647 days (48%) were associated with 1 fleet (NE large mesh otter trawl [Row 8]; Table 6).

The sample size (in terms of number of sea days, number of trips, and percentage of trips based on the July 2013 through June 2014 VTR trips) needed to achieve a 30% CV of the discard estimate in 15 fleets is given in Table 7. The relationship between sample size and precision, over a range of sample sizes, is shown in Figure 3 for species groups and fleets. If the precision standard (30% CV) was relaxed for the red crab species group in 1 fleet (Row 8), resulting in the penultimate (next largest) value being used in the fleet (e.g., 731 days rather than 4,647 days for Row 8), then the total number of sea days needed across the 56 fleets would be 7,288 days (a 35% decrease from the 11,204 days). When the penultimate value is used, the expected achieved precision of red crab discards in Row 8 would be 81% CV.

DISCUSSION

A broad stratification was used to support the deployment of observers on commercial fishing trips among various fleets by using attributes known prior to the trip departure. As discussed in previous discard estimation analyses (Wigley et al. 2007, 2011), species-specific stock assessment discard estimation may differ from this report because of differences in stratification and data used (calendar year versus 12-month [July through June] time period; area fished versus region [port of departure]; discard mortality assumptions, and VTR landings versus

dealer landings). Region, based on port of departure, was used for the deployment of observers. It is recognized that area fished would provide a better stratification for discard estimation. It is expected, however, that when uncertainty in the estimates is taken into account estimates would be in the same order of magnitude. The discard estimates presented here are not definitive estimates but rather are indicative of where discarding occurred among the commercial fleets for the 14 federally managed species groups.

No survival ratios were applied to the discard estimates; we do not account for potential survival of organisms returned to the water. When comparing discard estimates from this study with those from stock assessments, it is useful to note that survival ratios are applied in stock assessments for Georges Bank and Gulf of Maine stocks of Atlantic cod (*Gadus morhua*), Atlantic sea scallop (*Placopecten magellanicus*), spiny dogfish, fluke (*Paralichthys dentatus*), southern New England and Gulf of Maine stocks of winter flounder (*Pseudopleuronectes americanus*), and southern New England yellowtail flounder (*Limanda ferruginea*).

These analyses have used VTR data. Dealer (*CFDERSyyyy*) data do not contain mesh or area fished information until the trip-based allocation is performed (Wigley et al. 2008). The trip-based allocation of dealer (*CFDETT/SyyyyAA*) data is conducted annually and was not available when this analysis was initiated. Given that the VTR landings estimates are usually less (VTR reports the good faith hails) than the dealer records for a given fleet, the corresponding estimates of discards will also be underestimated. The magnitude of the underestimation will vary by fleet and year.

During the data preparation for these analyses, some possible misreported gear types were encountered. Some of the possible misreporting was associated with the seasonal switch between fishing for groundfish and shrimp. For example, captains reported using a shrimp trawl ("OTS") with 6.5 in mesh catching groundfish (in these cases, one would expect "OTF," otter trawl fish). Conversely, captains reported "OTF" with 1 7/8 in mesh catching shrimp (in these cases, one would expect "OTS"). Generally, there are only a few trips with these possible reporting errors.

There also appeared to be some confusion in the proper use of the VTR gear code "OTS" (shrimp trawl), "OTC" (scallop trawl), and "OTF" (otter trawl). Some of the "OTS" trips have either squid or scallops (species that start with the letter "S") as the predominant species reported (no shrimp reported), and it is not certain whether or not these trips used a shrimp trawl, scallop trawl, otter trawl, or twin trawl. Caution should be used when interpreting results associated with these otter trawl gear types as the implications of changed and/or misreported gear types are variable among fleets, and the true magnitude is unknown. Continued outreach and education to industry members emphasizing proper reporting of gear types is a critical need as well as improved VTR database management.

In 2014, the northern shrimp fishery was closed. Since the northern shrimp fishery is traditionally closed during the calendar quarter 3, the VTR trips associated with NE shrimp trawl fleet (Row 20, Qtr 3; Tables 2 and 3) were investigated in the 2013 analysis. These trips used 2 in mesh, and most trips reported catching herring while a few trips reported catching squid. The captains of these vessels indicated that a finfish excluder device (FED) was not used. The northern shrimp fishery requires a FED; however, other small mesh exempted fisheries do not require a FED. Currently, there is no data element within the VTR database that indicates whether or not a FED or other bycatch reduction device was used. Because of this limitation, the trips within the NE shrimp trawl fleet (Row 20) represent trips using a shrimp trawl with and without a FED (Tables 2 - 7; Figures 2 and 3). Stratifying the data by quarter reduces some of the

uncertainty in the discard estimates that are related to this data limitation. An additional data element within the VTR database is needed to partition these trips into separate fleets.

The analysis conducted for the spatial and temporal observer coverage used live weight. As a result, fleets using scallop dredge and clam dredge targeting species with shells have higher kept weight percentage than other fleets because of the use of "live" weight rather than "landed meat" weight. However, the use of live weight does not distort the observed percentage (spatial or temporal pattern) within a fleet. It is important to remember that percent observer coverage is an indicator of where observed kept weight (or trips) occurred relative to unobserved kept weight (or trips). The percentage observed should not be confused with the precision of the discard estimate, which is the metric used to describe discard variability and to determine the sample size needed for monitoring purposes.

The use of minimum pilot coverage represents a refinement over the 2012 (and prior) analyses when pilot coverage was used. As depicted in Figure 4 of Wigley et al. 2012a, there were 2 cases in which pilot coverage had been invoked in the sample size analysis: (1) insufficient or no NEFOP data (no discard information is available) and (2) when all sea days were filtered out (discard information is available and discards found to be low relative to other fleets). By utilizing the minimum pilot coverage, the numbers of trips needed to monitor the fleets in the upcoming year are based upon the information obtained via the data analysis. It is important to note that in many cases, there are only minor differences in the number of the pilot days versus the minimum pilot days because of the low number of industry trips in the fleets where all species are filtered out. Thus, the use of minimum pilot coverage represents only a minor refinement in the sea day analysis.

For fleets with low overall trip activity, the use of pilot coverage results in designating either more observed trips than the number of trips that occurred in a fleet or observer coverage that could exceed fleets with coverage derived from observer data. Pilot coverage needs further refinement.

There is 1 fleet with high sea day requirements (>2,000 sea days). The NEFOP data associated with the trips within this fleet were reviewed to rule out any data "irregularities." The high monitoring coverage for New England large mesh otter trawl fleets (Row 8; Table 6) was because of high variability of red deepsea crab discards. In this analysis, as well as in previous analyses (NEFSC 2011a, 2011b; Wigley et al. 2011, 2012b, 2013, 2014), the high variability arose from observing some trips that were fishing in deep-water portions of statistical areas as well as observing other trips that were fishing in shallower portions of the same statistical areas. Red deepsea crabs were encountered during trips fishing in deep water. Although the discard reason reported for this fleet was "No Market" (Appendix Table 3A), these vessels do not generally have permits to land red deepsea crabs, thus the red deepsea crabs must be discarded. Currently, the analysis does not stratify these fleets further to account for depth because statistical area is the finest spatial resolution that defines a subtrip within the Vessel Trip Report (a subtrip within the VTR is a unique gear, mesh, and statistical area). While depth is a data element in the VTR, depth is not always reported, and there are few quality checks on this data element.

Fish may be discarded for economic reasons (e.g., "No Market" or "Poor Quality") or for regulatory reasons (size, quota, or other). When considering mechanisms to reduce discards, it may be useful to know why discarding is occurring. It is important to note that large discard percentages may be associated with a small quantity of discards. Additionally, it is important to note that for many species, the discards are associated with fleets that have been filtered out by

the importance filter. Observers classify the discards by fish disposition based upon the NEFOP protocol (NEFOP 2013) in which the observer asks the captain/crew why species are being discarded. Thus, these data should be considered a form of self-reported data, and as such, these data are difficult to verify and should be interpreted cautiously.

This analysis does not address the coverage needed for individual sectors or multiple stock components of a species. The analytical basis for the allocation of future sea day coverage in this analysis is a specified level of precision (i.e., 30% CV), and an expectation that the pattern of fishing activity observed in the prior year will be similar to that in the upcoming year.

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Table 1. List of the 14 fish and invertebrate species groups (in bold), with species group abbreviations in parentheses and scientific names in italics, and the species that compose these groups, corresponding to the 13 federal fishery management plans implemented in the waters off the northeastern United States.

ATLANTIC SALMON (SAL)	*Salmo salar*
BLUEFISH (BLUE)	*Pomatomus saltatrix*
FLUKE - SCUP - BLACK SEA BASS (FSB)	
Black sea bass	*Centropristis striata*
Fluke	*Paralichthys dentatus*
Scup	*Stenotomus chrysops*
HERRING, ATLANTIC (HERR)	*Clupea harengus*
LARGE MESH GROUNDFISH (GFL)	
American plaice	*Hippoglossoides platessoides*
Atlantic cod	*Gadus morhua*
Atlantic halibut	*Hippoglossus hippoglossus*
Atlantic wolffish	*Anarhichas lupus*
Haddock	*Melanogrammus aeglefinus*
Ocean pout	*Zoarces americanus*
Pollock	*Pollachius virens*
Redfish	*Sebastes fasciatus*
White hake	*Urophycis tenuis*
Windowpane flounder	*Scophthalmus aquosus*
Winter flounder	*Pseudopleuronectes americanus*
Witch flounder	*Glyptocephalus cynoglossus*
Yellowtail flounder	*Limanda ferruginea*
MONKFISH (MONK)	*Lophius americanus*
RED DEEPSEA CRAB (RCRAB)[13]	*Chaceon quinquedens*
SEA SCALLOP (SCAL)	*Placopecten magellanicus*
SKATE COMPLEX[14] **(SKATE)**	Rajidae
Barndoor skate	*Dipturus laevis*
Clearnose skate	*Raja eglanteria*
Little skate	*Leucoraja erinacea*
Rosette skate	*Leucoraja garmani*
Smooth skate	*Malacoraja senta*
Thorny skate	*Amblyraja radiata*
Winter skate	*Leucoraja ocellata*
SMALL MESH GROUNDFISH (GFS)	
Offshore hake	*Merluccius albidus*
Red hake	*Urophycis chuss*
Silver hake	*Merluccius bilinearis*
SPINY DOGFISH (DOG)	*Squalus acanthias*
SQUID[15] **- BUTTERFISH - MACKEREL (SBM)**	
Atlantic mackerel	*Scomber scombrus*
Butterfish	*Peprilus triacanthus*
Northern shortfin squid	*Illex illecebrosus*
Longfin inshore squid	*Doryteuthis (Amerigo) pealeii*
SURFCLAM - OCEAN QUAHOG (SCOQ)[16]	
Surfclam	*Spisula solidissima*
Ocean quahog	*Artica islandica*
TILEFISH (TILE)	*Lopholatilus chamaeleonticeps*

[13] In previous documents (e.g., Wigley et al. 2014; Wigley et al. 2013) red deepsea crab was referred to as red crab.
[14] Skate complex is composed of 7 species as well as skate, unknown, and little/winter mixed skate. Individual species are not summarized separately.
[15] Squid, unclassified is included in this species group. Longfin inshore squid and northern shortfin squid are also known as Loligo squid and Illex squid, respectively.
[16] In this analysis, surfclams and ocean quahogs compose the species group and are not reported separately.

Table 2. Number of Northeast Fisheries Observer Program (NEFOP) and Vessel Trip Report (VTR) trips, by fleet and calendar quarter (Q) based on July 2013 through June 2014 data. "P" indicates fleets with "pilot" designation.

Fleet						NEFOP					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
1	Longline	OPEN	all	MA	all	.	.	.	.	**.**	62	26	37	69	**194**	P
2	Longline	OPEN	all	NE	all	.	4	20	6	**30**	203	160	56	73	**492**	
3	Hand Line	OPEN	all	MA	all	.	.	.	1	**1**	1,562	722	70	754	**3,108**	P
4	Hand Line	OPEN	all	NE	all	8	3	.	1	**12**	1,377	377	6	435	**2,195**	
5	Otter Trawl	OPEN	all	MA	sm	106	83	49	119	**357**	1,472	900	394	1,073	**3,839**	
6	Otter Trawl	OPEN	all	MA	lg	50	34	48	47	**179**	1,625	733	810	1,015	**4,183**	
7	Otter Trawl	OPEN	all	NE	sm	99	55	32	93	**279**	1,386	745	420	1,037	**3,588**	
8	Otter Trawl	OPEN	all	NE	lg	199	250	203	346	**998**	2,127	1,523	1,348	1,667	**6,665**	
9	Scallop Trawl	AA	GEN	MA	all	.	.	.	.	**.**	.	.	.	13	**13**	P
10	Scallop Trawl	AA	LIM	MA	all	.	.	.	.	**.**	.	1	2	.	**3**	P
11	Scallop Trawl	OPEN	GEN	MA	all	8	3	2	11	**24**	119	20	6	134	**279**	
12	Scallop Trawl	OPEN	LIM	MA	all	.	.	.	.	**.**	10	4	5	6	**25**	P
13+	Otter Trawl, Twin	OPEN	all	MA	all	.	.	1	.	**1**	2	9	9	29	**49**	P
14+	Otter Trawl, Twin	OPEN	all	NE	all	.	2	.	.	**2**	5	6	6	2	**19**	P
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	.	.	.	.	**.**	6	.	2	.	**8**	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	.	.	.	2	**2**	1	.	14	3	**18**	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	.	.	.	1	**1**	2	.	1	6	**9**	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	4	3	1	20	**28**	14	25	12	73	**124**	
19	Shrimp Trawl	OPEN	all	MA	all	.	.	.	.	**.**	249	152	4	.	**405**	P
20	Shrimp Trawl	OPEN	all	NE	all	.	.	.	.	**.**	78	4	.	49	**131**	P
21	Floating Trap	OPEN	all	MA	all	.	.	.	.	**.**	42	5	.	38	**85**	P
22	Floating Trap	OPEN	all	NE	all	.	.	.	.	**.**	9	.	.	1	**10**	P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	2	6	.	5	**13**	663	452	363	460	**1,938**	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1	4	.	5	**10**	534	720	308	453	**2,015**	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	.	8	7	19	**34**	98	714	244	1,064	**2,120**	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	.	.	.	.	**.**	1	3	.	1	**5**	P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	279	174	80	182	**715**	1,546	990	257	828	**3,621**	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	210	48	24	111	**393**	1,194	556	252	931	**2,933**	
29	Purse Seine	OPEN	all	MA	all	.	.	.	.	**.**	105	.	.	124	**229**	P
30	Purse Seine	OPEN	all	NE	all	24	4	1	5	**34**	218	39	2	37	**296**	
31	Scallop Dredge	AA	GEN	MA	all	2	.	.	1	**3**	9	13	8	37	**67**	P
32	Scallop Dredge	AA	GEN	NE	all	6	.	.	1	**7**	59	6	2	4	**71**	

See text for fleet abbreviations; "+" = new fleets in 2015.

Table 2, continued. Number of Northeast Fisheries Observer Program (NEFOP) and Vessel Trip Report (VTR) trips, by fleet and calendar quarter (Q) based on July 2013 through June 2014 data. "P" indicates fleets with "pilot" designation.

Fleet						NEFOP					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
33	Scallop Dredge	AA	LIM	MA	all	10	2	3	3	**18**	92	25	23	60	**200**	
34	Scallop Dredge	AA	LIM	NE	all	20	8	2	4	**34**	168	83	18	59	**328**	
35	Scallop Dredge	OPEN	GEN	MA	all	31	27	18	29	**105**	703	391	349	783	**2,226**	
36	Scallop Dredge	OPEN	GEN	NE	all	45	14	10	44	**113**	866	669	1,090	972	**3,597**	
37	Scallop Dredge	OPEN	LIM	MA	all	10	6	7	25	**48**	115	54	59	221	**449**	
38	Scallop Dredge	OPEN	LIM	NE	all	36	11	22	57	**126**	353	93	171	426	**1,043**	
39	Danish Seine	OPEN	all	MA	all	.	.	.	.	**.**	24	.	.	61	**85**	P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	1	.	1	.	**2**	1	.	12	.	**13**	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	37	21	28	19	**105**	127	112	140	60	**439**	
42	Pots and Traps, Fish	OPEN	all	MA	all	.	.	.	4	**4**	387	253	61	270	**971**	P
43	Pots and Traps, Fish	OPEN	all	NE	all	.	.	.	.	**.**	707	112	1	103	**923**	P
44	Pots and Traps, Conch	OPEN	all	MA	all	.	.	.	2	**2**	225	528	96	258	**1,107**	P
45	Pots and Traps, Conch	OPEN	all	NE	all	.	1	.	1	**2**	401	362	.	356	**1,119**	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	.	.	.	.	**.**	17	14	4	12	**47**	P
47	Pots and Traps, Lobster	OPEN	all	MA	all	.	.	.	2	**2**	800	398	93	401	**1,692**	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	9	9	10	9	**37**	11,982	7,823	1,773	4,590	**26,168**	
49	Pots and Traps, Crab	OPEN	all	MA	all	.	.	.	.	**.**	10	5	6	33	**54**	P
50	Pots and Traps, Crab	OPEN	all	NE	all	.	.	1	.	**1**	14	17	27	23	**81**	P
51	Beam Trawl	OPEN	all	MA	all	.	.	.	.	**.**	36	28	11	39	**114**	P
52	Beam Trawl	OPEN	all	NE	all	.	.	.	.	**.**	30	5	.	12	**47**	P
53	Dredge, Other	OPEN	all	MA	all	.	.	.	.	**.**	.	41	183	64	**288**	P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	.	.	.	.	**.**	506	365	454	499	**1,824**	P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	.	.	.	.	**.**	823	571	563	769	**2,726**	P
56+	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	.	.	.	7	**7**	.	.	.	6	**6**	
					Total	1,197	780	570	1,182	**3,729**	33,165	20,854	9,772	20,493	**84,284**	

See text for fleet abbreviations; "+" = new fleets in 2015.

Table 3. Number of Northeast Fisheries Observer Program (NEFOP) and Vessel Trip Report (VTR) sea days, by fleet and calendar quarter (Q) based on July 2013 through June 2014 data. "P" indicates fleets with "pilot" designation.

Fleet						NEFOP					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
1	Longline	OPEN	all	MA	all	.	.	.	.	**.**	347	227	272	457	**1,303**	P
2	Longline	OPEN	all	NE	all	.	4	24	6	**34**	203	178	67	92	**540**	
3	Hand Line	OPEN	all	MA	all	.	.	.	1	**1**	1,728	781	101	785	**3,395**	P
4	Hand Line	OPEN	all	NE	all	9	3	.	1	**13**	1,500	432	6	447	**2,385**	
5	Otter Trawl	OPEN	all	MA	sm	263	250	223	257	**993**	2,880	2,166	1,789	1,989	**8,824**	
6	Otter Trawl	OPEN	all	MA	lg	74	96	156	99	**425**	2,342	1,652	3,330	1,832	**9,156**	
7	Otter Trawl	OPEN	all	NE	sm	262	177	95	201	**735**	3,094	2,068	1,637	2,519	**9,318**	
8	Otter Trawl	OPEN	all	NE	lg	906	808	787	1,363	**3,864**	4,789	4,496	4,558	4,968	**18,811**	
9	Scallop Trawl	AA	GEN	MA	all	.	.	.	.	**.**	.	.	.	26	**26**	P
10	Scallop Trawl	AA	LIM	MA	all	.	.	.	.	**.**	.	7	14	.	**21**	P
11	Scallop Trawl	OPEN	GEN	MA	all	14	6	4	25	**49**	240	27	14	254	**535**	
12	Scallop Trawl	OPEN	LIM	MA	all	.	.	.	.	**.**	45	32	30	33	**140**	P
13+	Otter Trawl, Twin	OPEN	all	MA	all	.	.	9	.	**9**	11	70	52	31	**164**	P
14+	Otter Trawl, Twin	OPEN	all	NE	all	.	14	.	.	**14**	28	47	36	18	**129**	P
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	.	.	.	.	**.**	8	.	15	.	**23**	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	.	.	.	12	**12**	8	.	33	17	**58**	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	.	.	.	9	**9**	20	.	5	46	**71**	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	32	29	6	156	**223**	112	213	83	582	**990**	
19	Shrimp Trawl	OPEN	all	MA	all	.	.	.	.	**.**	1,302	825	30	.	**2,157**	P
20	Shrimp Trawl	OPEN	all	NE	all	.	.	.	.	**.**	79	4	.	52	**135**	P
21	Floating Trap	OPEN	all	MA	all	.	.	.	.	**.**	42	5	.	38	**85**	P
22	Floating Trap	OPEN	all	NE	all	.	.	.	.	**.**	9	.	.	6	**15**	P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	2	6	.	5	**13**	703	456	372	463	**1,994**	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1	5	.	5	**11**	553	733	321	513	**2,120**	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	.	10	12	26	**48**	113	859	303	1,203	**2,478**	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	.	.	.	.	**.**	1	3	.	1	**5**	P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	371	240	154	323	**1,088**	2,113	1,525	502	1,251	**5,391**	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	247	53	51	214	**565**	1,417	765	525	1,659	**4,366**	
29	Purse Seine	OPEN	all	MA	all	.	.	.	.	**.**	105	.	.	126	**231**	P
30	Purse Seine	OPEN	all	NE	all	48	9	3	13	**73**	447	81	8	82	**618**	
31	Scallop Dredge	AA	GEN	MA	all	4	.	.	1	**5**	22	23	21	80	**146**	P
32	Scallop Dredge	AA	GEN	NE	all	14	.	.	3	**17**	120	14	6	12	**152**	

See text for fleet abbreviations; "+" = new fleets in 2015.

Table 3, continued. Number of Northeast Fisheries Observer Program (NEFOP) and Vessel Trip Report (VTR) sea days, by fleet and calendar quarter (Q) based on July 2013 through June 2014 data. "P" indicates fleets with "pilot" designation.

Fleet						NEFOP					VTR					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Q3	Q4	Q1	Q2	TOTAL	Pilot
33	Scallop Dredge	AA	LIM	MA	all	82	18	19	23	**142**	810	196	144	430	**1,580**	
34	Scallop Dredge	AA	LIM	NE	all	156	67	18	26	**267**	1,307	675	139	458	**2,579**	
35	Scallop Dredge	OPEN	GEN	MA	all	49	47	36	53	**185**	1,102	699	676	1,339	**3,816**	
36	Scallop Dredge	OPEN	GEN	NE	all	62	25	18	63	**168**	1,174	885	1,256	1,347	**4,662**	
37	Scallop Dredge	OPEN	LIM	MA	all	91	55	58	227	**431**	1,096	457	452	2,048	**4,053**	
38	Scallop Dredge	OPEN	LIM	NE	all	364	108	194	604	**1,270**	3,420	799	1,503	4,579	**10,301**	
39	Danish Seine	OPEN	all	MA	all	.	.	.	.	**.**	24	.	.	61	**85**	P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	5	.	4	.	**9**	7	.	44	.	**51**	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	203	77	107	68	**455**	573	270	371	212	**1,426**	
42	Pots and Traps, Fish	OPEN	all	MA	all	.	.	.	4	**4**	392	263	70	280	**1,005**	P
43	Pots and Traps, Fish	OPEN	all	NE	all	.	.	.	.	**.**	726	120	7	103	**956**	P
44	Pots and Traps, Conch	OPEN	all	MA	all	.	.	.	2	**2**	327	587	131	296	**1,341**	P
45	Pots and Traps, Conch	OPEN	all	NE	all	.	1	.	1	**2**	401	365	.	356	**1,122**	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	.	.	.	.	**.**	116	113	22	87	**338**	P
47	Pots and Traps, Lobster	OPEN	all	MA	all	.	.	.	2	**2**	1,043	531	152	544	**2,270**	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	29	29	46	29	**133**	14,435	10,083	3,468	6,409	**34,395**	
49	Pots and Traps, Crab	OPEN	all	MA	all	.	.	.	.	**.**	53	5	14	36	**108**	P
50	Pots and Traps, Crab	OPEN	all	NE	all	.	.	8	.	**8**	99	137	175	139	**550**	P
51	Beam Trawl	OPEN	all	MA	all	.	.	.	.	**.**	132	95	33	64	**324**	P
52	Beam Trawl	OPEN	all	NE	all	.	.	.	.	**.**	30	6	.	19	**55**	P
53	Dredge, Other	OPEN	all	MA	all	.	.	.	.	**.**	.	41	183	84	**308**	P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	.	.	.	.	**.**	1,032	703	945	1,054	**3,735**	P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	.	.	.	.	**.**	936	747	704	843	**3,230**	P
56+	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	.	.	.	56	**56**	.	.	.	49	**49**	
					Totals	3,288	2,137	2,032	3,878	**11,335**	53,616	35,467	24,620	40,419	**154,121**	

See text for fleet abbreviations; "+" = new fleets in 2015.

Table 4. Vessel Trip Report kept weight of all species (live mt), percentage of kept weight of all species across all fleets, kept weight of all species (live mt) with Northeast Fisheries Observer Program (NEFOP) coverage from statistical areas and quarters with at least 1 observed trip and at least 3 observed trips in the fleet and quarter, and percentage of kept weight of all species with observer coverage, by fleet based on July 2013 through June 2014 data.

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Kept Weight (mt)	Percentage of Kept Weight	Kept Weight with NEFOP coverage (mt)	Percentage of Kept Weight with NEFOP coverage
1	Longline	OPEN	all	MA	all	806	0.1	0	0.0
2	Longline	OPEN	all	NE	all	592	0.1	222	37.4
3	Hand Line	OPEN	all	MA	all	237	<0.1	0	0.0
4	Hand Line	OPEN	all	NE	all	495	0.1	366	73.8
5	Otter Trawl	OPEN	all	MA	sm	17,863	3.1	16,611	93.0
6	Otter Trawl	OPEN	all	MA	lg	6,555	1.1	6,061	92.5
7	Otter Trawl	OPEN	all	NE	sm	25,319	4.4	22,709	89.7
8	Otter Trawl	OPEN	all	NE	lg	26,350	4.6	26,024	98.8
11	Scallop Trawl	OPEN	GEN	MA	all	452	0.1	395	87.4
12	Scallop Trawl	OPEN	LIM	MA	all	302	0.1	0	0.0
13	Otter Trawl, Twin	OPEN	all	MA	all	525	0.1	0	0.0
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	410	0.1	0	0.0
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	33	<0.1	0	0.0
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,097	0.2	962	87.7
19	Shrimp Trawl	OPEN	all	MA	all	567	0.1	0	0.0
20	Shrimp Trawl	OPEN	all	NE	all	168	<0.1	0	0.0
22	Floating Trap	OPEN	all	NE	all	9	<0.1	0	0.0
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	1,638	0.3	312	19.1
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	2,363	0.4	493	20.9
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	3,115	0.5	2,574	82.6
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	<1	<0.1	0	0.0
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	3,669	0.6	3,423	93.3
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	6,901	1.2	6,532	94.7
29	Purse Seine	OPEN	all	MA	all	17,554	3.0	0	0.0
30	Purse Seine	OPEN	all	NE	all	21,999	3.8	21,926	99.7
31	Scallop Dredge	AA	GEN	MA	all	164	<0.1	0	0.0
32	Scallop Dredge	AA	GEN	NE	all	204	<0.1	142	69.4
33	Scallop Dredge	AA	LIM	MA	all	7,063	1.2	5,508	78.0
34	Scallop Dredge	AA	LIM	NE	all	14,313	2.5	12,391	86.6
35	Scallop Dredge	OPEN	GEN	MA	all	4,503	0.8	4,298	95.5
36	Scallop Dredge	OPEN	GEN	NE	all	4,090	0.7	3,388	82.8
37	Scallop Dredge	OPEN	LIM	MA	all	25,093	4.4	23,330	93.0
38	Scallop Dredge	OPEN	LIM	NE	all	76,139	13.2	72,551	95.3
39	Danish Seine	OPEN	all	MA	all	1,736	0.3	0	0.0
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	2,537	0.4	0	0.0
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	67,143	11.6	63,195	94.1
42	Pots and Traps, Fish	OPEN	all	MA	all	241	<0.1	14	5.7
43	Pots and Traps, Fish	OPEN	all	NE	all	153	<0.1	0	0.0
44	Pots and Traps, Conch	OPEN	all	MA	all	1,545	0.3	0	0.0
45	Pots and Traps, Conch	OPEN	all	NE	all	313	0.1	0	0.0
46	Pots and Traps, Hagfish	OPEN	all	NE	all	675	0.1	0	0.0
47	Pots and Traps, Lobster	OPEN	all	MA	all	810	0.1	0	0.0
48	Pots and Traps, Lobster	OPEN	all	NE	all	13,094	2.3	4,933	37.7

See text for fleet abbreviations.

Table 4, continued. Vessel Trip Report kept weight of all species (live mt), percentage of kept weight of all species across all fleets, kept weight of all species (live mt) with Northeast Fisheries Observer Program (NEFOP) coverage from statistical areas and quarters with at least 1 observed trip and at least 3 observed trips in the fleet and quarter, and percentage of kept weight of all species with observer coverage, by fleet based on July 2013 through June 2014 data.

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Kept Weight (mt)	Percentage of Kept Weight	Kept Weight with NEFOP coverage (mt)	Percentage of Kept Weight with NEFOP coverage
49	Pots and Traps, Crab	OPEN	all	MA	all	105	<0.1	0	0.0
50	Pots and Traps, Crab	OPEN	all	NE	all	1,293	0.2	0	0.0
51	Beam Trawl	OPEN	all	MA	all	336	0.1	0	0.0
53	Dredge, Other	OPEN	all	MA	all	161	<0.1	0	0.0
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	116,296	20.2	0	0.0
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	98,098	17.0	0	0.0
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	92	<0.1	92	100.0
	Confidential fleets					338	0.1	0	0.0
	Other minor fleets					1,285	0.2	0	0.0
					Total	**576,836**	**100.0**	**298,451**	**51.7**

See text for fleet abbreviations.

Table 5A. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: ATLANTIC SALMON (Salmo salar)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	0	0	0			
6	Otter Trawl	OPEN	all	MA	lg	0	0	0			
7	Otter Trawl	OPEN	all	NE	sm	0	0	0			
8	Otter Trawl	OPEN	all	NE	lg	0	0	0			
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	33	0	33	0.896	30	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0			
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: ATLANTIC SALMON (Salmo salar)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	0	0	0			
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	33	0	33	0.896	30	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: BLUEFISH (Pomatomus saltatrix)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	140	140	0			
3	Hand Line	OPEN	all	MA	all	100,432	100,432	0			P
4	Hand Line	OPEN	all	NE	all	47,625	47,625	0			
5	Otter Trawl	OPEN	all	MA	sm	161,029	145,729	15,300	0.451	6,901	
6	Otter Trawl	OPEN	all	MA	lg	60,490	59,536	954	0.500	477	
7	Otter Trawl	OPEN	all	NE	sm	89,149	82,119	7,030	0.311	2,186	
8	Otter Trawl	OPEN	all	NE	lg	32,836	31,979	857	0.355	304	
11	Scallop Trawl	OPEN	GEN	MA	all	90	90	0			
12	Scallop Trawl	OPEN	LIM	MA	all	320	320				P
13	Otter Trawl, Twin	OPEN	all	MA	all	130	130	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
19	Shrimp Trawl	OPEN	all	MA	all	458	458				P
20	Shrimp Trawl	OPEN	all	NE	all	190	190				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	424,647	424,335	312	0.707	221	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1,114,123	1,114,123	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	25,918	18,213	7,705	0.618	4,764	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	168	168				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	226,140	225,889	251	0.538	135	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	20,773	10,792	9,981	0.179	1,788	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: BLUEFISH (Pomatomus saltatrix)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	130	130	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	145	0	145	0.947	137	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	116	0	116	0.828	96	
42	Pots and Traps, Fish	OPEN	all	MA	all	536	536	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	125	125				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	1,601	1,601	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	81	81	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	7,149	7,149				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					135,713	135,713				
	Other minor fleets					17,867	17,867				
					TOTAL	2,468,121	2,425,470	42,651	0.208	8,872	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: FLUKE (Paralichthys dentatus) - SCUP (Stenotomus chrysops) - BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	215	215				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	184,426	184,426	0			P
4	Hand Line	OPEN	all	NE	all	38,106	38,106	0			
5	Otter Trawl	OPEN	all	MA	sm	7,591,056	6,369,190	1,221,866	0.227	277,694	
6	Otter Trawl	OPEN	all	MA	lg	9,762,122	9,013,703	748,419	0.217	162,370	
7	Otter Trawl	OPEN	all	NE	sm	5,243,177	4,690,466	552,711	0.299	165,285	
8	Otter Trawl	OPEN	all	NE	lg	3,701,554	2,636,434	1,065,120	0.146	155,956	
11	Scallop Trawl	OPEN	GEN	MA	all	43,758	31,424	12,334	0.477	5,889	
12	Scallop Trawl	OPEN	LIM	MA	all	52,020	52,020				P
13	Otter Trawl, Twin	OPEN	all	MA	all	19,571	4,331	15,240	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	114,586	60,700	53,886	0.048	2,584	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	6,500	6,500	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,173	340	833	0.664	554	
19	Shrimp Trawl	OPEN	all	MA	all	2,148	2,148				P
20	Shrimp Trawl	OPEN	all	NE	all	9,882	9,882				P
22	Floating Trap	OPEN	all	NE	all	9,649	9,649				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	1,830	1,529	301	0.512	154	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	14,720	12,579	2,141	0.887	1,900	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	43,847	14,910	28,937	0.744	21,526	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	178	178				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	145,324	145,204	120	0.322	39	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	73,545	14,852	58,693	0.222	13,053	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	2,136	2,136	0			P
32	Scallop Dredge	AA	GEN	NE	all	323	0	323	0.572	185	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: FLUKE (Paralichthys dentatus) - SCUP (Stenotomus chrysops) - BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	27,995	2,854	25,141	0.376	9,459	
34	Scallop Dredge	AA	LIM	NE	all	74,222	410	73,812	0.285	21,030	
35	Scallop Dredge	OPEN	GEN	MA	all	49,021	14,468	34,553	0.159	5,502	
36	Scallop Dredge	OPEN	GEN	NE	all	10,168	302	9,866	0.399	3,940	
37	Scallop Dredge	OPEN	LIM	MA	all	169,368	5,461	163,907	0.201	32,887	
38	Scallop Dredge	OPEN	LIM	NE	all	681,606	448	681,158	0.116	79,042	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	1,300	1,300	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	474,717	363,060	111,657	0.215	23,975	P
43	Pots and Traps, Fish	OPEN	all	NE	all	319,654	319,654				P
44	Pots and Traps, Conch	OPEN	all	MA	all	2,545	416	2,129	0.145	309	P
45	Pots and Traps, Conch	OPEN	all	NE	all	42,794	0	42,794	0.000	0	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	149,987	118,844	31,143	0.332	10,324	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	14,264	13,298	966	0.971	938	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	543	543	0			P
51	Beam Trawl	OPEN	all	MA	all	57,597	57,597				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	113	5	108	0.153	17	
	Confidential fleets					39,705	39,705				
	Other minor fleets					30,926	30,926				
					TOTAL	29,208,374	24,270,213	4,938,161	0.082	405,448	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: HERRING, ATLANTIC (Clupea harengus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	222	222	0			P
4	Hand Line	OPEN	all	NE	all	1,350	1,350	0			
5	Otter Trawl	OPEN	all	MA	sm	399,239	379,795	19,444	0.635	12,356	
6	Otter Trawl	OPEN	all	MA	lg	6,050	5,533	517	0.530	274	
7	Otter Trawl	OPEN	all	NE	sm	11,403,867	11,285,362	118,505	0.645	76,426	
8	Otter Trawl	OPEN	all	NE	lg	53,877	36,231	17,646	0.196	3,456	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	804,076	804,000	76	0.060	5	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	4	0	4	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	304	0	304	0.366	111	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	141,250	141,250				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	347	347	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	147	147	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	2,162	500	1,662	0.197	328	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0			
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	48,499,512	48,499,422	90	0.158	14	
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: HERRING, ATLANTIC (Clupea harengus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	14	0	14	0.875	12	
36	Scallop Dredge	OPEN	GEN	NE	all	11	0	11	0.874	9	
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	40	0	40	0.421	17	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	3,152,003	3,152,000	3	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	140,448,579	140,445,741	2,838	0.722	2,049	
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	12	0	12	0.212	3	
	Confidential fleets					6,813	6,813				
	Other minor fleets					440,000	440,000				
					TOTAL	205,359,879	205,198,713	161,166	0.481	77,523	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: LARGE MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	19	19				P
2	Longline	OPEN	all	NE	all	123,223	74,974	48,249	0.494	23,851	
3	Hand Line	OPEN	all	MA	all	5,123	5,123	0			P
4	Hand Line	OPEN	all	NE	all	282,228	55,852	226,376	0.518	117,168	
5	Otter Trawl	OPEN	all	MA	sm	443,462	5,704	437,758	0.187	81,678	
6	Otter Trawl	OPEN	all	MA	lg	731,374	274,358	457,016	0.126	57,465	
7	Otter Trawl	OPEN	all	NE	sm	353,875	9,891	343,984	0.193	66,270	
8	Otter Trawl	OPEN	all	NE	lg	37,895,421	34,940,438	2,954,983	0.096	283,717	
11	Scallop Trawl	OPEN	GEN	MA	all	19,593	34	19,559	0.242	4,732	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	4,399	2,948	1,451	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	40,949	23,638	17,311	0.060	1,044	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	96,056	65,401	30,655	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	2,559,825	2,370,105	189,720	0.226	42,829	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	114	64	50	0.506	25	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1,679	266	1,413	1.256	1,776	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	1,679	728	951	0.771	734	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	4,875,131	4,662,822	212,309	0.055	11,770	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	230,414	203,770	26,644	0.202	5,378	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	1,631	50	1,581	0.846	1,337	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: LARGE MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	41,671	499	41,172	0.318	13,093	
34	Scallop Dredge	AA	LIM	NE	all	133,157	4,776	128,381	0.278	35,725	
35	Scallop Dredge	OPEN	GEN	MA	all	63,658	27	63,631	0.161	10,216	
36	Scallop Dredge	OPEN	GEN	NE	all	51,455	72	51,383	0.189	9,702	
37	Scallop Dredge	OPEN	LIM	MA	all	128,006	380	127,626	0.125	15,994	
38	Scallop Dredge	OPEN	LIM	NE	all	677,012	2,380	674,632	0.100	67,441	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	165,783	125,860	39,923	0.681	27,190	
42	Pots and Traps, Fish	OPEN	all	MA	all	362	362	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	50	50				P
44	Pots and Traps, Conch	OPEN	all	MA	all	15	15	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	82,584	430	82,154	0.234	19,214	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	301,727	302	301,425	1.042	314,174	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	6	6				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	25	25				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	209,238	199,427	9,811	0.065	639	
	Confidential fleets					13	13				
	Other minor fleets					31	31				
					TOTAL	49,520,989	43,030,840	6,490,149	0.072	466,319	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: MONKFISH (Lophius americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	64	64				P
2	Longline	OPEN	all	NE	all	172	172	0			
3	Hand Line	OPEN	all	MA	all	81	81	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	228,649	106,035	122,613	0.310	37,959	
6	Otter Trawl	OPEN	all	MA	lg	554,716	321,365	233,350	0.425	99,262	
7	Otter Trawl	OPEN	all	NE	sm	153,795	125,516	28,279	0.679	19,202	
8	Otter Trawl	OPEN	all	NE	lg	6,993,676	6,071,426	922,250	0.079	72,850	
11	Scallop Trawl	OPEN	GEN	MA	all	24,534	4,392	20,142	0.270	5,436	
12	Scallop Trawl	OPEN	LIM	MA	all	5,648	5,648				P
13	Otter Trawl, Twin	OPEN	all	MA	all	4,443	4,306	137	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	330	252	78	0.060	5	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	19,189	18,820	369	0.686	253	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	498	498				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	476	476	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	13,136	13,136	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	4,018,170	3,762,104	256,066	0.492	126,064	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	258,464	248,423	10,041	0.097	970	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	3,856,707	3,620,186	236,520	0.147	34,691	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	3,754	1,139	2,615	0.367	961	P
32	Scallop Dredge	AA	GEN	NE	all	4,377	1,954	2,423	0.727	1,761	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: MONKFISH (Lophius americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	296,071	29,282	266,789	0.314	83,654	
34	Scallop Dredge	AA	LIM	NE	all	491,981	153,843	338,137	0.136	45,932	
35	Scallop Dredge	OPEN	GEN	MA	all	160,440	86,879	73,561	0.146	10,743	
36	Scallop Dredge	OPEN	GEN	NE	all	59,598	15,764	43,834	0.240	10,525	
37	Scallop Dredge	OPEN	LIM	MA	all	732,546	141,674	590,872	0.154	90,727	
38	Scallop Dredge	OPEN	LIM	NE	all	3,057,051	416,364	2,640,687	0.107	282,444	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	44	0	44	0.916	40	
42	Pots and Traps, Fish	OPEN	all	MA	all	214	214	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	103	103				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	60	60	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	18	18	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	3,899	3,899				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	19,346	19,346				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	4,930	4,930				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	164	161	3	0.376	1	
	Confidential fleets					205	205				
	Other minor fleets					7,050	7,050				
					TOTAL	20,974,598	15,185,788	5,788,810	0.063	362,546	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: RED DEEPSEA CRAB (Chaceon quinquedens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	5,750	0	5,750	0.743	4,272	
6	Otter Trawl	OPEN	all	MA	lg	4,461	0	4,461	0.559	2,494	
7	Otter Trawl	OPEN	all	NE	sm	10	0	10	1.887	18	
8	Otter Trawl	OPEN	all	NE	lg	81,977	0	81,977	0.399	32,720	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	2	0	2	2.196	4	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	179	0	179	0.325	58	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	38	0	38	1.027	39	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: RED DEEPSEA CRAB (Chaceon quinquedens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	17	0	17	1.039	17	
38	Scallop Dredge	OPEN	LIM	NE	all	0	0	0			
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	9,045	0	9,045	1.312	11,871	
49	Pots and Traps, Crab	OPEN	all	MA	all	176,182	176,182				P
50	Pots and Traps, Crab	OPEN	all	NE	all	2,201,196	2,201,196	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	2,478,856	2,377,378	101,478	0.346	35,157	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SEA SCALLOP (Placopecten magellanicus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	178,490	77,910	100,579	0.329	33,088	
6	Otter Trawl	OPEN	all	MA	lg	1,228,781	1,091,432	137,349	0.359	49,352	
7	Otter Trawl	OPEN	all	NE	sm	59,106	11,071	48,035	0.402	19,308	
8	Otter Trawl	OPEN	all	NE	lg	149,637	80,734	68,902	0.251	17,322	
11	Scallop Trawl	OPEN	GEN	MA	all	994,119	902,980	91,139	0.383	34,916	
12	Scallop Trawl	OPEN	LIM	MA	all	600,485	600,485				P
13	Otter Trawl, Twin	OPEN	all	MA	all	21,736	21,736	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	27	0	27	0.551	15	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	369	42	327	0.952	312	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	692	0	692	0.558	386	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	443	0	443	0.271	120	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	361,240	355,408	5,832	0.159	929	P
32	Scallop Dredge	AA	GEN	NE	all	450,439	447,513	2,926	0.889	2,601	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SEA SCALLOP (Placopecten magellanicus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	16,516,766	15,537,872	978,895	0.529	517,416	
34	Scallop Dredge	AA	LIM	NE	all	32,023,849	31,345,190	678,659	0.356	241,918	
35	Scallop Dredge	OPEN	GEN	MA	all	9,914,091	9,777,988	136,103	0.223	30,312	
36	Scallop Dredge	OPEN	GEN	NE	all	9,184,413	8,966,054	218,359	0.284	62,121	
37	Scallop Dredge	OPEN	LIM	MA	all	55,293,187	55,171,776	121,411	0.269	32,619	
38	Scallop Dredge	OPEN	LIM	NE	all	170,136,761	167,486,862	2,649,900	0.206	546,400	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	63,791	63,791				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	739,879	739,879				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	223,234	223,234				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					83,033	83,033				
	Other minor fleets					34,782	34,782				
					TOTAL	298,259,352	293,019,773	5,239,579	0.152	797,540	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SKATE COMPLEX (*Rajidae*)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	2,879	2,879				P
2	Longline	OPEN	all	NE	all	111,203	964	110,238	0.547	60,347	
3	Hand Line	OPEN	all	MA	all	298	298	0			P
4	Hand Line	OPEN	all	NE	all	71	71	0			
5	Otter Trawl	OPEN	all	MA	sm	6,759,957	281,677	6,478,280	0.174	1,130,214	
6	Otter Trawl	OPEN	all	MA	lg	18,684,124	2,082,956	16,601,168	0.140	2,322,619	
7	Otter Trawl	OPEN	all	NE	sm	1,448,045	201,307	1,246,738	0.248	309,195	
8	Otter Trawl	OPEN	all	NE	lg	47,515,960	12,540,933	34,975,028	0.094	3,279,502	
11	Scallop Trawl	OPEN	GEN	MA	all	758,537	53,440	705,097	0.210	148,107	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	11,650	11,395	255	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	6,662	0	6,662	0.060	402	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	3,590	200	3,390	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	215,544	17,622	197,922	0.346	68,472	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	2,582	1,280	1,301	8.844	11,510	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	223,741	95,463	128,278	0.597	76,567	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	3,325,525	2,908,944	416,582	0.180	74,904	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	303,992	197,949	106,043	0.081	8,626	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	12,614,809	10,550,501	2,064,308	0.100	207,408	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	5,760	0	5,760	1.398	8,054	P
32	Scallop Dredge	AA	GEN	NE	all	11,474	0	11,474	0.869	9,975	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SKATE COMPLEX (*Rajidae*)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	905,482	0	905,482	0.204	184,656	
34	Scallop Dredge	AA	LIM	NE	all	1,880,014	0	1,880,014	0.188	353,112	
35	Scallop Dredge	OPEN	GEN	MA	all	1,730,208	6,722	1,723,487	0.116	200,415	
36	Scallop Dredge	OPEN	GEN	NE	all	563,211	36	563,175	0.159	89,507	
37	Scallop Dredge	OPEN	LIM	MA	all	4,354,455	1,314	4,353,141	0.098	427,043	
38	Scallop Dredge	OPEN	LIM	NE	all	17,901,753	75	17,901,678	0.074	1,317,100	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	277	227	50	0.616	31	
42	Pots and Traps, Fish	OPEN	all	MA	all	57	57	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	14,677	0	14,677	0.332	4,865	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	595	4	591	4.349	2,571	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	27,094	27,094				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	406	406				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	10,408	629	9,779	0.050	485	
	Confidential fleets					3,580	3,580				
	Other minor fleets					419	419				
					TOTAL	119,399,039	28,988,443	90,410,596	0.049	4,442,063	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SMALL MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	26	26				P
2	Longline	OPEN	all	NE	all	740	1	739	0.627	464	
3	Hand Line	OPEN	all	MA	all	4,400	4,400	0			P
4	Hand Line	OPEN	all	NE	all	421	421	0			
5	Otter Trawl	OPEN	all	MA	sm	5,735,315	4,837,352	897,963	0.237	212,634	
6	Otter Trawl	OPEN	all	MA	lg	221,103	130,800	90,303	0.440	39,710	
7	Otter Trawl	OPEN	all	NE	sm	11,324,135	9,756,035	1,568,100	0.236	369,297	
8	Otter Trawl	OPEN	all	NE	lg	947,854	204,982	742,872	0.079	58,929	
11	Scallop Trawl	OPEN	GEN	MA	all	5,334	3,420	1,914	0.468	895	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	12,890	122	12,768	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	11,768	0	11,768	0.059	695	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	897	3	894	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	18,395	1,680	16,715	0.371	6,205	
19	Shrimp Trawl	OPEN	all	MA	all	2,641	2,641				P
20	Shrimp Trawl	OPEN	all	NE	all	67,070	67,070				P
22	Floating Trap	OPEN	all	NE	all	1,600	1,600				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	208	208	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	2,123	2,014	109	0.617	67	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	101,320	85,358	15,962	0.149	2,385	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	5,762	5,019	743	0.234	174	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	11	0	11	0.818	9	
31	Scallop Dredge	AA	GEN	MA	all	367	0	367	0.109	40	P
32	Scallop Dredge	AA	GEN	NE	all	100	0	100	0.421	42	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SMALL MESH GROUNDFISH

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	24,202	0	24,202	0.411	9,946	
34	Scallop Dredge	AA	LIM	NE	all	57,464	15	57,449	0.244	13,999	
35	Scallop Dredge	OPEN	GEN	MA	all	5,014	67	4,947	0.251	1,239	
36	Scallop Dredge	OPEN	GEN	NE	all	5,620	0	5,620	0.395	2,218	
37	Scallop Dredge	OPEN	LIM	MA	all	15,335	5	15,330	0.239	3,657	
38	Scallop Dredge	OPEN	LIM	NE	all	107,301	77	107,224	0.207	22,230	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	4	0	4	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	3,951	0	3,951	0.912	3,604	
42	Pots and Traps, Fish	OPEN	all	MA	all	2,592	2,592	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	34	34				P
44	Pots and Traps, Conch	OPEN	all	MA	all	2,915	2,915	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	23,453	18,799	4,654	0.332	1,543	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	12,393	11,307	1,086	1.505	1,634	
49	Pots and Traps, Crab	OPEN	all	MA	all	128	128				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	6	6				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	4,060	1,800	2,260	0.106	240	
	Confidential fleets					559	559				
	Other minor fleets					5,706	5,706				
					TOTAL	18,735,217	15,147,162	3,588,055	0.121	433,031	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SPINY DOGFISH (Squalus acanthias)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	152,690	152,690				P
2	Longline	OPEN	all	NE	all	1,245,197	1,212,546	32,651	0.475	15,524	
3	Hand Line	OPEN	all	MA	all	51	51	0			P
4	Hand Line	OPEN	all	NE	all	719,174	705,289	13,885	1.671	23,204	
5	Otter Trawl	OPEN	all	MA	sm	3,853,454	142,984	3,710,470	0.204	757,578	
6	Otter Trawl	OPEN	all	MA	lg	5,106,394	205,954	4,900,440	0.222	1,088,310	
7	Otter Trawl	OPEN	all	NE	sm	906,210	67,738	838,472	0.264	221,451	
8	Otter Trawl	OPEN	all	NE	lg	7,423,410	263,924	7,159,486	0.073	525,776	
11	Scallop Trawl	OPEN	GEN	MA	all	119,521	0	119,521	0.600	71,682	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	18,749	0	18,749	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	111,012	0	111,012	0.058	6,450	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	12,789	200	12,589	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	313,298	4,400	308,898	0.353	109,075	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	939,449	909,132	30,317	1.930	58,517	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	2,804,975	2,675,897	129,078	0.818	105,561	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	290,297	116,367	173,930	0.513	89,241	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	5,709,445	2,386,266	3,323,179	0.085	281,283	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	1,137,488	767,545	369,943	0.183	67,787	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	14,377	0	14,377	0.517	7,439	
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SPINY DOGFISH (Squalus acanthias)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	16,056	0	16,056	0.387	6,215	
34	Scallop Dredge	AA	LIM	NE	all	35,885	0	35,885	0.246	8,824	
35	Scallop Dredge	OPEN	GEN	MA	all	9,233	0	9,233	0.218	2,010	
36	Scallop Dredge	OPEN	GEN	NE	all	5,610	0	5,610	0.883	4,956	
37	Scallop Dredge	OPEN	LIM	MA	all	56,845	0	56,845	0.295	16,789	
38	Scallop Dredge	OPEN	LIM	NE	all	177,743	1,200	176,543	0.132	23,259	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	8,951	0	8,951	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	24,466	20	24,446	0.429	10,477	
42	Pots and Traps, Fish	OPEN	all	MA	all	9	9	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	25	25				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	4,595	170	4,425	1.185	5,242	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	1,237	0	1,237	0.000	0	P
51	Beam Trawl	OPEN	all	MA	all	2,700	2,700				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	43,723	0	43,723	0.064	2,788	
	Confidential fleets					189	189				
	Other minor fleets					0	0				
					TOTAL	31,265,249	9,615,296	21,649,953	0.069	1,486,303	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SQUID (Doryteuthis [Amerigo] pealeii, Illex illecebrosus)- BUTTERFISH (Peprilus triacanthus) - MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	423	423	0			
3	Hand Line	OPEN	all	MA	all	17	17	0			P
4	Hand Line	OPEN	all	NE	all	88,931	88,160	771	1.242	958	
5	Otter Trawl	OPEN	all	MA	sm	22,023,879	19,294,254	2,729,625	0.242	661,618	
6	Otter Trawl	OPEN	all	MA	lg	403,049	374,825	28,224	0.263	7,428	
7	Otter Trawl	OPEN	all	NE	sm	30,111,454	28,594,426	1,517,028	0.418	633,535	
8	Otter Trawl	OPEN	all	NE	lg	479,167	426,066	53,101	0.161	8,552	
11	Scallop Trawl	OPEN	GEN	MA	all	959	465	494	0.386	191	
12	Scallop Trawl	OPEN	LIM	MA	all	282	282				P
13	Otter Trawl, Twin	OPEN	all	MA	all	1,166,409	1,103,757	62,652	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	14,550	13,800	750	0.047	35	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	2	2	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	4,710	0	4,710	0.679	3,200	
19	Shrimp Trawl	OPEN	all	MA	all	3,139	3,139				P
20	Shrimp Trawl	OPEN	all	NE	all	151,257	151,257				P
22	Floating Trap	OPEN	all	NE	all	6,555	6,555				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	15,271	14,959	312	0.742	232	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1,083	1,083	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	538	227	311	0.824	256	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	30	30				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	5,506	4,059	1,447	0.276	399	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	288	164	124	0.426	53	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	40	0	40	0.542	22	
31	Scallop Dredge	AA	GEN	MA	all	2,034	2,000	34	0.138	5	P
32	Scallop Dredge	AA	GEN	NE	all	14	0	14	1.030	14	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SQUID (Doryteuthis [Amerigo] pealeii, Illex illecebrosus)- BUTTERFISH (Peprilus triacanthus) - MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	149	32	117	0.420	49	
34	Scallop Dredge	AA	LIM	NE	all	983	0	983	0.440	433	
35	Scallop Dredge	OPEN	GEN	MA	all	3,177	2,145	1,032	0.252	260	
36	Scallop Dredge	OPEN	GEN	NE	all	146	0	146	0.580	85	
37	Scallop Dredge	OPEN	LIM	MA	all	1,383	10	1,373	0.324	445	
38	Scallop Dredge	OPEN	LIM	NE	all	5,418	0	5,418	0.253	1,373	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	11,510	11,000	510	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	7,452,531	7,450,772	1,759	0.884	1,555	
42	Pots and Traps, Fish	OPEN	all	MA	all	18	18	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	1	1	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	513,286	513,286				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	5	0	5	0.300	1	
	Confidential fleets					2,082	2,082				
	Other minor fleets					1,264,212	1,264,212				
					TOTAL	63,734,488	59,323,508	4,410,980	0.208	916,105	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SURFCLAM (Spisula solidissima) - OCEAN QUAHOG (Artica islandica)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	2,994	0	2,994	0.515	1,543	
6	Otter Trawl	OPEN	all	MA	lg	6,063	0	6,063	0.518	3,141	
7	Otter Trawl	OPEN	all	NE	sm	904	0	904	0.332	301	
8	Otter Trawl	OPEN	all	NE	lg	2,766	41	2,724	0.335	914	
11	Scallop Trawl	OPEN	GEN	MA	all	64	0	64	1.043	67	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	0	0	0			
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	3	0	3	0.879	3	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: SURFCLAM (Spisula solidissima) - OCEAN QUAHOG (Artica islandica)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	1,832	0	1,832	0.941	1,724	
34	Scallop Dredge	AA	LIM	NE	all	6,369	0	6,369	0.702	4,468	
35	Scallop Dredge	OPEN	GEN	MA	all	763	0	763	1.105	843	
36	Scallop Dredge	OPEN	GEN	NE	all	1,478	0	1,478	0.568	839	
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	18	0	18	0.949	17	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	255,607,665	255,607,665				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	215,583,883	215,583,883				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					0	0				
	Other minor fleets					466,340	466,340				
					TOTAL	471,681,142	471,657,929	23,214	0.264	6,126	

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: TILEFISH (Lopholatilus chamaeleonticeps)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	1,555,586	1,555,586				P
2	Longline	OPEN	all	NE	all	9,259	9,259	0			
3	Hand Line	OPEN	all	MA	all	1,269	1,269	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	9,727	8,668	1,059	0.491	520	
6	Otter Trawl	OPEN	all	MA	lg	768	687	81	0.562	46	
7	Otter Trawl	OPEN	all	NE	sm	12,891	11,835	1,056	0.780	824	
8	Otter Trawl	OPEN	all	NE	lg	1,900	1,454	446	0.651	290	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	40	40	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	50	50				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	25	25	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	5	5	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	70	70	0			
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	3,710	2,317	1,393	0.410	571	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5A, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 fish and invertebrate species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. Light shading indicates that the variance of the discard estimate was not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species Group: TILEFISH (Lopholatilus chamaeleonticeps)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	42	0	42	1.009	42	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	283	283	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	25	25	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					0	0				
	Other minor fleets					17,575	17,575				
					TOTAL	1,613,226	1,609,148	4,078	0.286	1,168	

See text for fleet abbreviations.

Table 5B. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	215	215				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	71,663	71,663	0			P
4	Hand Line	OPEN	all	NE	all	9,368	9,368	0			
5	Otter Trawl	OPEN	all	MA	sm	1,002,505	639,464	363,041	0.268	97,274	
6	Otter Trawl	OPEN	all	MA	lg	591,837	396,410	195,427	0.358	69,901	
7	Otter Trawl	OPEN	all	NE	sm	321,522	82,812	238,710	0.431	102,824	
8	Otter Trawl	OPEN	all	NE	lg	52,797	33,171	19,626	0.174	3,407	
11	Scallop Trawl	OPEN	GEN	MA	all	509	318	191	0.423	81	
12	Scallop Trawl	OPEN	LIM	MA	all	2,920	2,920				P
13	Otter Trawl, Twin	OPEN	all	MA	all	310	310	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	13,978	0	13,978	0.048	670	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	15	0	15	0.883	13	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	339	339	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	928	380	548	1.719	942	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	2,171	2,171	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	8,515	8,495	20	0.943	19	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	471	295	176	0.628	110	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: BLACK SEA BASS (Centropristis striata)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	136	73	63	0.793	50	
34	Scallop Dredge	AA	LIM	NE	all	145	0	145	0.741	107	
35	Scallop Dredge	OPEN	GEN	MA	all	742	78	664	0.346	230	
36	Scallop Dredge	OPEN	GEN	NE	all	137	0	137	0.635	87	
37	Scallop Dredge	OPEN	LIM	MA	all	3,340	58	3,282	0.437	1,435	
38	Scallop Dredge	OPEN	LIM	NE	all	17,528	0	17,528	0.241	4,229	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	50	50	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	458,329	353,082	105,247	0.214	22,477	P
43	Pots and Traps, Fish	OPEN	all	NE	all	99,704	99,704				P
44	Pots and Traps, Conch	OPEN	all	MA	all	2,523	394	2,129	0.145	309	P
45	Pots and Traps, Conch	OPEN	all	NE	all	42,794	0	42,794	0.000	0	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	148,313	117,170	31,143	0.332	10,324	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	12,276	11,621	655	1.119	733	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	453	453	0			P
51	Beam Trawl	OPEN	all	MA	all	8,900	8,900				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					6,395	6,395				
	Other minor fleets					2,788	2,788				
					TOTAL	2,884,615	1,849,097	1,035,518	0.154	159,895	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: FLUKE (Paralichthys dentatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	70,338	70,338	0			P
4	Hand Line	OPEN	all	NE	all	12,578	12,578	0			
5	Otter Trawl	OPEN	all	MA	sm	868,510	621,553	246,957	0.248	61,233	
6	Otter Trawl	OPEN	all	MA	lg	7,245,681	6,827,970	417,711	0.229	95,715	
7	Otter Trawl	OPEN	all	NE	sm	739,868	645,722	94,146	0.268	25,184	
8	Otter Trawl	OPEN	all	NE	lg	2,416,854	1,409,275	1,007,579	0.154	154,723	
11	Scallop Trawl	OPEN	GEN	MA	all	43,033	30,977	12,056	0.486	5,865	
12	Scallop Trawl	OPEN	LIM	MA	all	48,100	48,100				P
13	Otter Trawl, Twin	OPEN	all	MA	all	2,707	2,091	616	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	1,700	1,700	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,159	340	819	0.675	553	
19	Shrimp Trawl	OPEN	all	MA	all	2,148	2,148				P
20	Shrimp Trawl	OPEN	all	NE	all	132	132				P
22	Floating Trap	OPEN	all	NE	all	1,500	1,500				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	1,425	1,124	301	0.512	154	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	12,607	11,014	1,593	0.641	1,021	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	41,576	12,639	28,937	0.744	21,526	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	64	64				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	18,471	18,378	93	0.305	28	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	72,565	14,068	58,497	0.223	13,055	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	2,136	2,136	0			P
32	Scallop Dredge	AA	GEN	NE	all	323	0	323	0.572	185	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: FLUKE (Paralichthys dentatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	27,858	2,781	25,077	0.377	9,449	
34	Scallop Dredge	AA	LIM	NE	all	74,014	410	73,604	0.285	20,980	
35	Scallop Dredge	OPEN	GEN	MA	all	47,525	13,920	33,605	0.162	5,454	
36	Scallop Dredge	OPEN	GEN	NE	all	9,912	232	9,680	0.402	3,896	
37	Scallop Dredge	OPEN	LIM	MA	all	165,872	5,403	160,469	0.205	32,838	
38	Scallop Dredge	OPEN	LIM	NE	all	660,923	448	660,475	0.116	76,556	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	300	300	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	1,564	567	997	0.036	36	P
43	Pots and Traps, Fish	OPEN	all	NE	all	1,205	1,205				P
44	Pots and Traps, Conch	OPEN	all	MA	all	6	6	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	154	154	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	364	53	311	0.969	301	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	47,000	47,000				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	113	5	108	0.153	17	
	Confidential fleets					33,019	33,019				
	Other minor fleets					3,268	3,268				
					TOTAL	12,676,571	9,842,618	2,833,953	0.075	213,700	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: SCUP (Stenotomus chrysops)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	42,425	42,425	0			P
4	Hand Line	OPEN	all	NE	all	16,160	16,160	0			
5	Otter Trawl	OPEN	all	MA	sm	5,720,041	5,108,173	611,868	0.271	165,969	
6	Otter Trawl	OPEN	all	MA	lg	1,924,605	1,789,323	135,282	0.307	41,480	
7	Otter Trawl	OPEN	all	NE	sm	4,181,787	3,961,932	219,855	0.342	75,232	
8	Otter Trawl	OPEN	all	NE	lg	1,231,903	1,193,988	37,915	0.283	10,745	
11	Scallop Trawl	OPEN	GEN	MA	all	216	129	87	0.667	58	
12	Scallop Trawl	OPEN	LIM	MA	all	1,000	1,000				P
13	Otter Trawl, Twin	OPEN	all	MA	all	16,554	1,930	14,624	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	98,908	59,000	39,908	0.048	1,914	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	6,500	6,500	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	9,750	9,750				P
22	Floating Trap	OPEN	all	NE	all	8,149	8,149				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	66	66	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1,185	1,185	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	100	100	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	114	114				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	118,339	118,331	8	0.683	5	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	510	489	21	1.355	28	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: SCUP (Stenotomus chrysops)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	64	0	64	0.865	55	
35	Scallop Dredge	OPEN	GEN	MA	all	754	470	284	0.612	174	
36	Scallop Dredge	OPEN	GEN	NE	all	120	70	50	1.061	53	
37	Scallop Dredge	OPEN	LIM	MA	all	156	0	156	0.826	129	
38	Scallop Dredge	OPEN	LIM	NE	all	3,155	0	3,155	0.456	1,439	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	950	950	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	14,825	9,411	5,414	0.319	1,730	P
43	Pots and Traps, Fish	OPEN	all	NE	all	218,745	218,745				P
44	Pots and Traps, Conch	OPEN	all	MA	all	16	16	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	1,520	1,520	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	1,624	1,624	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	90	90	0			P
51	Beam Trawl	OPEN	all	MA	all	1,697	1,697				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					291	291				
	Other minor fleets					24,870	24,870				
					TOTAL	13,647,188	12,578,498	1,068,690	0.175	187,218	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: AMERICAN PLAICE (Hippoglossoides platessoides)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	918	918	0			
3	Hand Line	OPEN	all	MA	all	1	1	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	714	563	151	0.849	128	
6	Otter Trawl	OPEN	all	MA	lg	5,321	242	5,079	0.641	3,255	
7	Otter Trawl	OPEN	all	NE	sm	26,793	399	26,394	0.201	5,299	
8	Otter Trawl	OPEN	all	NE	lg	2,803,760	2,603,469	200,291	0.071	14,316	
11	Scallop Trawl	OPEN	GEN	MA	all	18	0	18	0.249	4	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	14	5	9	0.060	1	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	21	21	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	11,026	8,323	2,703	0.382	1,032	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	65	65	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	46,127	43,310	2,817	0.143	403	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	1,730	1,626	104	0.453	47	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: AMERICAN PLAICE (Hippoglossoides platessoides)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	484	0	484	0.884	428	
34	Scallop Dredge	AA	LIM	NE	all	3,142	25	3,117	0.348	1,086	
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	543	0	543	0.453	246	
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	6,958	0	6,958	0.466	3,242	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	61	31	30	0.275	8	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	2,907,695	2,658,998	248,697	0.064	16,025	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC COD (Gadus morhua)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	14	14				P
2	Longline	OPEN	all	NE	all	61,902	22,241	39,661	0.500	19,814	
3	Hand Line	OPEN	all	MA	all	3,747	3,747	0			P
4	Hand Line	OPEN	all	NE	all	106,678	22,154	84,524	0.228	19,266	
5	Otter Trawl	OPEN	all	MA	sm	964	320	644	0.473	305	
6	Otter Trawl	OPEN	all	MA	lg	4,526	3,904	622	0.724	450	
7	Otter Trawl	OPEN	all	NE	sm	7,698	276	7,422	0.247	1,836	
8	Otter Trawl	OPEN	all	NE	lg	3,754,564	3,652,235	102,329	0.122	12,451	
11	Scallop Trawl	OPEN	GEN	MA	all	1,956	7	1,949	1.072	2,089	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	3	3	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	34	34	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	718	718	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	91,860	89,283	2,577	0.319	823	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	5	5	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	80	80	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	898	591	307	0.878	270	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	635,403	604,423	30,980	0.067	2,067	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	30,213	25,367	4,846	0.230	1,113	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	4	0	4	0.973	4	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC COD (Gadus morhua)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	362	15	347	0.652	226	
34	Scallop Dredge	AA	LIM	NE	all	1,167	65	1,102	0.591	651	
35	Scallop Dredge	OPEN	GEN	MA	all	72	0	72	0.928	67	
36	Scallop Dredge	OPEN	GEN	NE	all	429	0	429	0.623	267	
37	Scallop Dredge	OPEN	LIM	MA	all	369	73	296	0.589	174	
38	Scallop Dredge	OPEN	LIM	NE	all	5,717	70	5,647	0.266	1,501	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	163	120	43	0.839	36	
42	Pots and Traps, Fish	OPEN	all	MA	all	341	341	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	43	43				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	167	167	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	93,565	85	93,480	0.840	78,522	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	6	6				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	1,028	1,012	16	0.143	2	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	4,804,698	4,427,399	377,299	0.223	84,271	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC HALIBUT (Hippoglossus hippoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	2,287	2,287	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	175	175	0			
5	Otter Trawl	OPEN	all	MA	sm	446	0	446	0.962	429	
6	Otter Trawl	OPEN	all	MA	lg	35	35	0			
7	Otter Trawl	OPEN	all	NE	sm	1,083	0	1,083	0.436	472	
8	Otter Trawl	OPEN	all	NE	lg	87,897	19,901	67,996	0.098	6,653	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,945	915	1,030	0.425	438	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	95	95	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	10,230	2,723	7,507	0.137	1,031	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	13,583	2,731	10,852	0.229	2,481	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC HALIBUT (Hippoglossus hippoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	220	0	220	0.857	189	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	216	216	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	48	0	48	0.186	9	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	118,260	29,078	89,182	0.081	7,219	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC WOLFFISH (Anarhichas lupus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	2,369	0	2,369	0.565	1,339	
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	0	0	0			
6	Otter Trawl	OPEN	all	MA	lg	0	0	0			
7	Otter Trawl	OPEN	all	NE	sm	0	0	0			
8	Otter Trawl	OPEN	all	NE	lg	28,886	0	28,886	0.094	2,714	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	2,428	0	2,428	0.411	997	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	3,992	0	3,992	0.128	511	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	548	0	548	0.540	296	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC WOLFFISH (Anarhichas lupus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	517	0	517	0.591	305	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	6	0	6	0.316	2	
	Confidential fleets					0	0				
	Other minor fleets					31	31				
					TOTAL	38,777	31	38,746	0.084	3,255	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: HADDOCK (Melanogrammus aeglefinus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	50,200	45,546	4,654	0.520	2,422	
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	29,154	2,244	26,910	0.804	21,630	
5	Otter Trawl	OPEN	all	MA	sm	50,419	0	50,419	0.486	24,522	
6	Otter Trawl	OPEN	all	MA	lg	3,232	6	3,226	0.615	1,983	
7	Otter Trawl	OPEN	all	NE	sm	90,718	2,432	88,286	0.329	29,090	
8	Otter Trawl	OPEN	all	NE	lg	5,202,703	4,677,964	524,739	0.117	61,486	
11	Scallop Trawl	OPEN	GEN	MA	all	22	0	22	1.051	23	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	40,328	23,416	16,912	0.060	1,020	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	92,791	62,136	30,655	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	2,053,710	1,887,141	166,569	0.230	38,355	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	4	4	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	51,872	42,486	9,386	0.096	905	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	1,826	1,285	541	0.517	280	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	5	0	5	1.030	6	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: HADDOCK (Melanogrammus aeglefinus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	375	0	375	0.982	368	
34	Scallop Dredge	AA	LIM	NE	all	3,786	0	3,786	0.869	3,290	
35	Scallop Dredge	OPEN	GEN	MA	all	24	0	24	0.564	14	
36	Scallop Dredge	OPEN	GEN	NE	all	138	0	138	0.935	129	
37	Scallop Dredge	OPEN	LIM	MA	all	7	0	7	1.011	7	
38	Scallop Dredge	OPEN	LIM	NE	all	4,829	0	4,829	0.244	1,177	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	163,024	124,355	38,669	0.695	26,887	
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	6	6	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	1,245	0	1,245	0.545	679	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	204,428	195,189	9,239	0.071	652	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	8,044,848	7,064,210	980,638	0.091	88,966	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: OCEAN POUT (Zoarces americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	1,259	0	1,259	0.700	882	
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	50,653	0	50,653	0.481	24,375	
6	Otter Trawl	OPEN	all	MA	lg	14,250	0	14,250	0.795	11,326	
7	Otter Trawl	OPEN	all	NE	sm	3,611	0	3,611	0.742	2,678	
8	Otter Trawl	OPEN	all	NE	lg	73,449	0	73,449	0.145	10,622	
11	Scallop Trawl	OPEN	GEN	MA	all	284	2	282	0.948	267	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	546	0	546	0.439	240	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	15	15	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	33	0	33	0.492	16	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0			
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	28	0	28	0.454	13	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: OCEAN POUT (Zoarces americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	276	0	276	0.976	269	
34	Scallop Dredge	AA	LIM	NE	all	220	0	220	0.386	85	
35	Scallop Dredge	OPEN	GEN	MA	all	142	0	142	0.615	87	
36	Scallop Dredge	OPEN	GEN	NE	all	6	0	6	0.978	6	
37	Scallop Dredge	OPEN	LIM	MA	all	104	0	104	0.627	65	
38	Scallop Dredge	OPEN	LIM	NE	all	1,592	0	1,592	0.201	320	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	82,154	0	82,154	0.234	19,214	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	1,353	0	1,353	0.646	874	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	115	0	115	0.148	17	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	230,090	17	230,073	0.151	34,834	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: POLLOCK (Pollachius virens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	292	163	129	0.910	118	
3	Hand Line	OPEN	all	MA	all	1,041	1,041	0			P
4	Hand Line	OPEN	all	NE	all	145,654	30,712	114,942	0.925	106,275	
5	Otter Trawl	OPEN	all	MA	sm	234	65	169	0.737	125	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0			
7	Otter Trawl	OPEN	all	NE	sm	6,156	640	5,516	0.994	5,481	
8	Otter Trawl	OPEN	all	NE	lg	5,913,791	5,783,357	130,434	0.129	16,819	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	123	0	123	0.060	7	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	1,005	1,005	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	74,116	65,616	8,500	1.983	16,857	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	267	0	267	1.174	313	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	3,068,827	2,949,248	119,579	0.070	8,342	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	82,033	76,657	5,376	0.296	1,590	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: POLLOCK (Pollachius virens)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	1	0	1	1.006	1	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	450	0	450	0.589	265	
42	Pots and Traps, Fish	OPEN	all	MA	all	15	15	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	7	7	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	177	0	177	1.576	278	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	53	34	19	0.118	2	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	9,294,242	8,908,560	385,682	0.284	109,379	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: REDFISH (Sebastes fasciatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	5	5				P
2	Longline	OPEN	all	NE	all	301	185	116	0.590	69	
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	450	450	0			
5	Otter Trawl	OPEN	all	MA	sm	1,730	0	1,730	0.893	1,545	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0			
7	Otter Trawl	OPEN	all	NE	sm	2,804	529	2,275	0.647	1,471	
8	Otter Trawl	OPEN	all	NE	lg	9,416,670	8,450,348	966,322	0.276	266,506	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	166,139	164,447	1,692	0.332	562	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	25	25	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	22	22	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	109,141	103,450	5,691	0.235	1,340	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	4,154	4,153	1	0.880	1	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: REDFISH (Sebastes fasciatus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	86	0	86	0.770	66	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	1,248	625	623	0.650	405	
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	250	250	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	2,930	0	2,930	3.290	9,639	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	9,705,954	8,724,489	981,465	0.272	266,693	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WHITE HAKE (Urophycis tenuis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	149	87	62	0.866	54	
3	Hand Line	OPEN	all	MA	all	104	104	0			P
4	Hand Line	OPEN	all	NE	all	84	84	0			
5	Otter Trawl	OPEN	all	MA	sm	3,969	1,351	2,618	0.695	1,819	
6	Otter Trawl	OPEN	all	MA	lg	724	134	590	0.622	367	
7	Otter Trawl	OPEN	all	NE	sm	3,904	1,710	2,194	0.737	1,617	
8	Otter Trawl	OPEN	all	NE	lg	2,359,407	2,342,805	16,602	0.250	4,155	
11	Scallop Trawl	OPEN	GEN	MA	all	25	25	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	13	13	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	19,150	19,120	30	0.412	12	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	12	12	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	713,612	685,319	28,293	0.125	3,549	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	83,938	80,332	3,606	0.345	1,244	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WHITE HAKE (Urophycis tenuis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	302	0	302	0.957	289	
34	Scallop Dredge	AA	LIM	NE	all	516	70	446	0.922	411	
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	164	0	164	0.604	99	
38	Scallop Dredge	OPEN	LIM	NE	all	711	0	711	0.392	279	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	13	0	13	0.916	12	
42	Pots and Traps, Fish	OPEN	all	MA	all	6	6	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	15	15	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	201,847	0	201,847	1.208	243,733	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	74	68	6	0.350	2	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	3,388,739	3,131,255	257,484	0.947	243,811	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WINDOWPANE FLOUNDER (Scophthalmus aquosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	2	2	0			
5	Otter Trawl	OPEN	all	MA	sm	177,911	830	177,081	0.192	34,006	
6	Otter Trawl	OPEN	all	MA	lg	340,704	3,517	337,187	0.150	50,668	
7	Otter Trawl	OPEN	all	NE	sm	42,180	10	42,170	0.468	19,727	
8	Otter Trawl	OPEN	all	NE	lg	634,876	0	634,876	0.111	70,165	
11	Scallop Trawl	OPEN	GEN	MA	all	6,610	0	6,610	0.300	1,980	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	12	0	12	0.060	1	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	1,389	0	1,389	0.326	453	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	69	19	50	0.506	25	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1,507	94	1,413	1.256	1,776	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	70	7	63	1.217	76	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	765	95	670	0.323	216	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	149	0	149	0.257	38	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	209	0	209	0.575	120	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WINDOWPANE FLOUNDER (Scophthalmus aquosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	13,800	0	13,800	0.381	5,260	
34	Scallop Dredge	AA	LIM	NE	all	41,515	0	41,515	0.462	19,170	
35	Scallop Dredge	OPEN	GEN	MA	all	47,522	0	47,522	0.174	8,246	
36	Scallop Dredge	OPEN	GEN	NE	all	16,578	0	16,578	0.340	5,638	
37	Scallop Dredge	OPEN	LIM	MA	all	76,025	0	76,025	0.173	13,174	
38	Scallop Dredge	OPEN	LIM	NE	all	236,075	0	236,075	0.152	35,851	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	125	0	125	0.920	115	
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	145	0	145	0.178	26	
	Confidential fleets					4	4				
	Other minor fleets					0	0				
					TOTAL	1,638,242	4,578	1,633,664	0.064	104,867	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WINTER FLOUNDER (Pseudopleuronectes americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	3,255	3,255	0			
3	Hand Line	OPEN	all	MA	all	230	230	0			P
4	Hand Line	OPEN	all	NE	all	25	25	0			
5	Otter Trawl	OPEN	all	MA	sm	82,092	2,202	79,890	0.261	20,883	
6	Otter Trawl	OPEN	all	MA	lg	124,296	87,930	36,366	0.269	9,785	
7	Otter Trawl	OPEN	all	NE	sm	132,462	2,121	130,341	0.236	30,711	
8	Otter Trawl	OPEN	all	NE	lg	4,966,642	4,910,391	56,251	0.134	7,517	
11	Scallop Trawl	OPEN	GEN	MA	all	6,064	0	6,064	0.344	2,086	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	185	185	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	135	135	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	1,329	1,329	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	123,297	122,961	336	0.540	182	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	314	0	314	1.174	369	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	58,526	57,697	829	0.174	144	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	2,233	1,854	379	0.724	275	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	855	0	855	1.067	913	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WINTER FLOUNDER (Pseudopleuronectes americanus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	9,433	0	9,433	0.711	6,704	
34	Scallop Dredge	AA	LIM	NE	all	13,708	44	13,664	0.269	3,672	
35	Scallop Dredge	OPEN	GEN	MA	all	3,709	0	3,709	0.259	960	
36	Scallop Dredge	OPEN	GEN	NE	all	15,931	10	15,921	0.162	2,586	
37	Scallop Dredge	OPEN	LIM	MA	all	8,601	0	8,601	0.293	2,516	
38	Scallop Dredge	OPEN	LIM	NE	all	189,102	438	188,664	0.158	29,738	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	320	320	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	7	7				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	312	1	311	0.968	301	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	2,500	2,492	8	0.215	2	
	Confidential fleets					9	9				
	Other minor fleets					0	0				
					TOTAL	5,745,574	5,193,636	551,938	0.090	49,938	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WITCH FLOUNDER (Glyptocephalus cynoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	6	6	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	54,550	205	54,345	0.468	25,454	
6	Otter Trawl	OPEN	all	MA	lg	33,931	4,464	29,467	0.291	8,583	
7	Otter Trawl	OPEN	all	NE	sm	9,979	274	9,705	0.256	2,484	
8	Otter Trawl	OPEN	all	NE	lg	1,286,787	1,206,938	79,849	0.080	6,386	
11	Scallop Trawl	OPEN	GEN	MA	all	240	0	240	0.691	166	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	1,451	0	1,451	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	10	3	7	0.060	<1	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	10	10	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	10,156	8,830	1,326	0.729	967	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	11,131	10,814	317	0.129	41	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	9,175	9,172	3	0.857	3	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: WITCH FLOUNDER (Glyptocephalus cynoglossus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	808	0	808	0.600	485	
34	Scallop Dredge	AA	LIM	NE	all	12,312	42	12,270	0.531	6,514	
35	Scallop Dredge	OPEN	GEN	MA	all	1,029	0	1,029	0.417	429	
36	Scallop Dredge	OPEN	GEN	NE	all	1,889	0	1,889	0.971	1,835	
37	Scallop Dredge	OPEN	LIM	MA	all	4,182	0	4,182	0.254	1,063	
38	Scallop Dredge	OPEN	LIM	NE	all	30,387	238	30,149	0.206	6,209	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	10	10	0			
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	1,468,043	1,241,006	227,037	0.129	29,247	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: YELLOWTAIL FLOUNDER (Limanda ferruginea)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	286	286	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	6	6	0			
5	Otter Trawl	OPEN	all	MA	sm	19,779	168	19,611	0.337	6,617	
6	Otter Trawl	OPEN	all	MA	lg	204,354	174,126	30,228	0.364	10,993	
7	Otter Trawl	OPEN	all	NE	sm	26,487	1,500	24,987	0.203	5,062	
8	Otter Trawl	OPEN	all	NE	lg	1,365,990	1,293,030	72,960	0.162	11,855	
11	Scallop Trawl	OPEN	GEN	MA	all	4,372	0	4,372	0.263	1,152	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	2,760	2,760	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	280	32	248	0.060	15	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	182	182	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	4,062	3,469	593	0.333	198	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	5	5	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	19	19	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	165,471	163,257	2,214	0.145	320	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	831	593	238	0.312	74	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	529	50	479	0.878	421	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: YELLOWTAIL FLOUNDER (Limanda ferruginea)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	15,831	484	15,347	0.553	8,486	
34	Scallop Dredge	AA	LIM	NE	all	56,792	4,530	52,262	0.254	13,269	
35	Scallop Dredge	OPEN	GEN	MA	all	11,160	27	11,133	0.204	2,275	
36	Scallop Dredge	OPEN	GEN	NE	all	15,940	62	15,878	0.198	3,141	
37	Scallop Dredge	OPEN	LIM	MA	all	38,555	307	38,248	0.273	10,442	
38	Scallop Dredge	OPEN	LIM	NE	all	200,818	1,634	199,184	0.142	28,344	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	440	440	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	83	0	83	0.969	80	
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	25	25				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	770	591	179	0.092	16	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	2,135,827	1,647,583	488,244	0.080	38,833	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: OFFSHORE HAKE (Merluccius albidus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	14	14	0			
5	Otter Trawl	OPEN	all	MA	sm	23,388	11,375	12,013	0.557	6,697	
6	Otter Trawl	OPEN	all	MA	lg	2,070	1,216	854	0.601	513	
7	Otter Trawl	OPEN	all	NE	sm	10,339	9,625	714	0.628	448	
8	Otter Trawl	OPEN	all	NE	lg	1,850	1,141	709	0.663	470	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0			
19	Shrimp Trawl	OPEN	all	MA	all	13	13				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	184	184	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	40	40	0			
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0			
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: OFFSHORE HAKE (Merluccius albidus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	85	27	58	0.928	54	
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	77	77	0			
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	4	0	4	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0			
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	38,065	23,712	14,353	0.470	6,748	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: RED HAKE (Urophycis chuss)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	26	26				P
2	Longline	OPEN	all	NE	all	740	1	739	0.627	464	
3	Hand Line	OPEN	all	MA	all	4,397	4,397	0			P
4	Hand Line	OPEN	all	NE	all	54	54	0			
5	Otter Trawl	OPEN	all	MA	sm	891,441	419,972	471,469	0.324	152,571	
6	Otter Trawl	OPEN	all	MA	lg	56,259	36,175	20,084	0.527	10,577	
7	Otter Trawl	OPEN	all	NE	sm	1,669,752	796,201	873,551	0.258	225,296	
8	Otter Trawl	OPEN	all	NE	lg	208,095	21,476	186,619	0.075	14,047	
11	Scallop Trawl	OPEN	GEN	MA	all	1,120	600	520	0.489	254	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	812	0	812	0.060	49	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	255	0	255	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	5,228	0	5,228	0.471	2,463	
19	Shrimp Trawl	OPEN	all	MA	all	110	110				P
20	Shrimp Trawl	OPEN	all	NE	all	10,335	10,335				P
22	Floating Trap	OPEN	all	NE	all	200	200				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	2	2	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	2,966	144	2,822	0.100	282	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	40	0	40	0.746	30	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	367	0	367	0.109	40	P
32	Scallop Dredge	AA	GEN	NE	all	95	0	95	0.423	40	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: RED HAKE (Urophycis chuss)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	16,609	0	16,609	0.517	8,594	
34	Scallop Dredge	AA	LIM	NE	all	36,016	0	36,016	0.190	6,857	
35	Scallop Dredge	OPEN	GEN	MA	all	2,559	0	2,559	0.312	798	
36	Scallop Dredge	OPEN	GEN	NE	all	3,336	0	3,336	0.460	1,534	
37	Scallop Dredge	OPEN	LIM	MA	all	8,692	0	8,692	0.332	2,883	
38	Scallop Dredge	OPEN	LIM	NE	all	65,326	0	65,326	0.229	14,957	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	3	0	3	0.926	3	
42	Pots and Traps, Fish	OPEN	all	MA	all	2,551	2,551	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	34	34				P
44	Pots and Traps, Conch	OPEN	all	MA	all	2,915	2,915	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	23,453	18,799	4,654	0.332	1,543	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	12,393	11,307	1,086	1.505	1,634	
49	Pots and Traps, Crab	OPEN	all	MA	all	128	128				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	432	0	432	0.110	47	
	Confidential fleets					540	540				
	Other minor fleets					0	0				
					TOTAL	3,027,281	1,325,967	1,701,314	0.161	273,337	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: SILVER HAKE (Merluccius bilinearis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	3	3	0			P
4	Hand Line	OPEN	all	NE	all	353	353	0			
5	Otter Trawl	OPEN	all	MA	sm	4,820,485	4,406,005	414,480	0.311	129,059	
6	Otter Trawl	OPEN	all	MA	lg	162,773	93,409	69,364	0.426	29,549	
7	Otter Trawl	OPEN	all	NE	sm	9,644,044	8,950,209	693,835	0.337	233,656	
8	Otter Trawl	OPEN	all	NE	lg	737,910	182,365	555,545	0.092	51,369	
11	Scallop Trawl	OPEN	GEN	MA	all	4,215	2,820	1,395	0.473	659	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	12,890	122	12,768	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	10,956	0	10,956	0.059	646	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	642	3	639	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	13,167	1,680	11,487	0.349	4,014	
19	Shrimp Trawl	OPEN	all	MA	all	2,518	2,518				P
20	Shrimp Trawl	OPEN	all	NE	all	56,735	56,735				P
22	Floating Trap	OPEN	all	NE	all	1,400	1,400				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	22	22	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	2,123	2,014	109	0.617	67	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	98,314	85,174	13,140	0.178	2,340	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	5,722	5,019	703	0.240	169	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	11	0	11	0.818	9	
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	5	0	5	0.816	4	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: SILVER HAKE (Merluccius bilinearis)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	7,593	0	7,593	0.514	3,905	
34	Scallop Dredge	AA	LIM	NE	all	21,448	15	21,433	0.383	8,213	
35	Scallop Dredge	OPEN	GEN	MA	all	2,370	40	2,330	0.228	531	
36	Scallop Dredge	OPEN	GEN	NE	all	2,284	0	2,284	0.342	781	
37	Scallop Dredge	OPEN	LIM	MA	all	6,642	5	6,637	0.255	1,695	
38	Scallop Dredge	OPEN	LIM	NE	all	41,898	0	41,898	0.197	8,250	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0			P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	3,948	0	3,948	0.913	3,604	
42	Pots and Traps, Fish	OPEN	all	MA	all	41	41	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	6	6				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	3,628	1,800	1,828	0.106	194	
	Confidential fleets					19	19				
	Other minor fleets					5,706	5,706				
					TOTAL	15,669,872	13,797,483	1,872,389	0.146	273,776	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	423	423	0			
3	Hand Line	OPEN	all	MA	all	4	4	0			P
4	Hand Line	OPEN	all	NE	all	87,716	86,945	771	1.242	958	
5	Otter Trawl	OPEN	all	MA	sm	110,540	75,883	34,657	0.557	19,316	
6	Otter Trawl	OPEN	all	MA	lg	1,657	1,306	351	1.015	356	
7	Otter Trawl	OPEN	all	NE	sm	1,101,045	1,081,758	19,287	1.753	33,816	
8	Otter Trawl	OPEN	all	NE	lg	2,615	265	2,350	0.378	889	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	0	0	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	4,650	4,650	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	172	0	172	0.459	79	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	5	5				P
22	Floating Trap	OPEN	all	NE	all	170	170				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	43	43	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	739	739	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	532	221	311	0.824	256	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	30	30				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	5,374	4,009	1,365	0.292	399	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	258	164	94	0.523	49	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	34	0	34	0.546	18	
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: ATLANTIC MACKEREL (Scomber scombrus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	0	0	0			
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0			
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	89	0	89	0.707	63	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	11,003	11,000	3	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	7,450,307	7,450,242	65	0.192	12	
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	0	0				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0			
	Confidential fleets					0	0				
	Other minor fleets					8,098	8,098				
					TOTAL	8,785,503	8,725,955	59,548	0.654	38,970	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: BUTTERFISH (Peprilus triacanthus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	13	13	0			P
4	Hand Line	OPEN	all	NE	all	66	66	0			
5	Otter Trawl	OPEN	all	MA	sm	1,573,012	614,053	958,959	0.276	264,613	
6	Otter Trawl	OPEN	all	MA	lg	76,087	68,967	7,120	0.313	2,226	
7	Otter Trawl	OPEN	all	NE	sm	5,105,183	4,378,775	726,408	0.269	195,506	
8	Otter Trawl	OPEN	all	NE	lg	48,201	45,683	2,518	0.452	1,139	
11	Scallop Trawl	OPEN	GEN	MA	all	307	200	107	0.666	71	
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	1,850	235	1,615	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	848	100	748	0.047	36	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	16	0	16	0.367	6	
19	Shrimp Trawl	OPEN	all	MA	all	2,596	2,596				P
20	Shrimp Trawl	OPEN	all	NE	all	3,097	3,097				P
22	Floating Trap	OPEN	all	NE	all	280	280				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	15,213	14,901	312	0.742	232	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	288	288	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	6	6	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	101	20	81	0.313	25	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	30	0	30	0.607	18	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	6	0	6	0.936	6	
31	Scallop Dredge	AA	GEN	MA	all	0	0	0			P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: BUTTERFISH (Peprilus triacanthus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	0	0	0			
34	Scallop Dredge	AA	LIM	NE	all	26	0	26	0.778	20	
35	Scallop Dredge	OPEN	GEN	MA	all	37	1	36	0.716	26	
36	Scallop Dredge	OPEN	GEN	NE	all	9	0	9	0.996	9	
37	Scallop Dredge	OPEN	LIM	MA	all	8	0	8	1.023	9	
38	Scallop Dredge	OPEN	LIM	NE	all	362	0	362	0.514	186	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	10	0	10	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	961	90	871	0.919	801	
42	Pots and Traps, Fish	OPEN	all	MA	all	14	14	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	1	1	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	5,000	5,000				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	<1	0	<1	0.367	<1	
	Confidential fleets					2,054	2,054				
	Other minor fleets					3,344	3,344				
					TOTAL	6,839,028	5,139,784	1,699,244	0.194	329,013	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: NORTHERN SHORTFIN SQUID (Illex illecebrosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	0	0	0			
5	Otter Trawl	OPEN	all	MA	sm	6,816,179	5,962,991	853,188	0.363	309,862	
6	Otter Trawl	OPEN	all	MA	lg	840	741	99	0.813	81	
7	Otter Trawl	OPEN	all	NE	sm	5,372,371	4,832,637	539,734	0.682	368,019	
8	Otter Trawl	OPEN	all	NE	lg	20,130	1,496	18,634	0.112	2,081	
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0			
12	Scallop Trawl	OPEN	LIM	MA	all	0	0				P
13	Otter Trawl, Twin	OPEN	all	MA	all	61,037	0	61,037	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	8,200	8,200	0			P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	400	0	400	2.076	829	
19	Shrimp Trawl	OPEN	all	MA	all	0	0				P
20	Shrimp Trawl	OPEN	all	NE	all	0	0				P
22	Floating Trap	OPEN	all	NE	all	0	0				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	1	0	1	0.886	1	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0			
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	4	0	4	1.944	9	P
32	Scallop Dredge	AA	GEN	NE	all	14	0	14	1.030	14	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: NORTHERN SHORTFIN SQUID (Illex illecebrosus)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	57	0	57	0.508	29	
34	Scallop Dredge	AA	LIM	NE	all	34	0	34	0.679	23	
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0			
36	Scallop Dredge	OPEN	GEN	NE	all	10	0	10	0.934	9	
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0			
38	Scallop Dredge	OPEN	LIM	NE	all	457	0	457	0.521	238	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	453	0	453	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	53	0	53	0.869	46	
42	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	107,000	107,000				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	<1	0	<1	0.338	<1	
	Confidential fleets					0	0				
	Other minor fleets					0	0				
					TOTAL	12,387,239	10,913,065	1,474,174	0.326	481,101	

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: LONGFIN INSHORE SQUID (Doryteuthis [Amerigo] pealeii)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	0	0				P
2	Longline	OPEN	all	NE	all	0	0	0			
3	Hand Line	OPEN	all	MA	all	0	0	0			P
4	Hand Line	OPEN	all	NE	all	1,149	1,149	0			
5	Otter Trawl	OPEN	all	MA	sm	13,524,138	12,641,317	882,821	0.317	279,539	
6	Otter Trawl	OPEN	all	MA	lg	324,336	303,811	20,525	0.332	6,814	
7	Otter Trawl	OPEN	all	NE	sm	18,525,840	18,301,256	224,584	0.698	156,656	
8	Otter Trawl	OPEN	all	NE	lg	408,007	378,622	29,385	0.274	8,055	
11	Scallop Trawl	OPEN	GEN	MA	all	652	265	387	0.472	183	
12	Scallop Trawl	OPEN	LIM	MA	all	282	282				P
13	Otter Trawl, Twin	OPEN	all	MA	all	1,103,522	1,103,522	0			P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	852	850	2	0.060	<1	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	2	2	0			P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	4,122	0	4,122	0.767	3,160	
19	Shrimp Trawl	OPEN	all	MA	all	543	543				P
20	Shrimp Trawl	OPEN	all	NE	all	148,155	148,155				P
22	Floating Trap	OPEN	all	NE	all	6,105	6,105				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	15	15	0			
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	56	56	0			
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0			
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	30	30	0			
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0			
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	0	0	0			
31	Scallop Dredge	AA	GEN	MA	all	2,030	2,000	30	0.128	4	P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0			

See text for fleet abbreviations.

Table 5B, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 23 individual species that compose the 14 species groups, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards estimated or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: LONGFIN INSHORE SQUID (Doryteuthis [Amerigo] pealeii)

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	93	32	61	0.478	29	
34	Scallop Dredge	AA	LIM	NE	all	924	0	924	0.462	427	
35	Scallop Dredge	OPEN	GEN	MA	all	3,134	2,138	996	0.246	245	
36	Scallop Dredge	OPEN	GEN	NE	all	127	0	127	0.625	79	
37	Scallop Dredge	OPEN	LIM	MA	all	1,375	10	1,365	0.327	446	
38	Scallop Dredge	OPEN	LIM	NE	all	4,511	0	4,511	0.283	1,279	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	43	0	43	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	1,210	440	770	0.920	709	
42	Pots and Traps, Fish	OPEN	all	MA	all	4	4	0			P
43	Pots and Traps, Fish	OPEN	all	NE	all	0	0				P
44	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0			P
45	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0			P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0			P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0			
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0			P
51	Beam Trawl	OPEN	all	MA	all	401,286	401,286				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	0	0				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	0	0				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	4	0	4	0.350	1	
	Confidential fleets					28	28				
	Other minor fleets					1,252,770	1,252,770				
					TOTAL	35,715,345	34,544,688	1,170,657	0.274	320,635	

See text for fleet abbreviations.

Table 5C. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 Standardized Bycatch Reporting Methodology (SBRM) species groups combined, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: 14 SBRM SPECIES GROUPS COMBINED

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	1,711,479	1,711,479				P
2	Longline	OPEN	all	NE	all	1,490,357	1,298,479	191,878	0.348	66,722	
3	Hand Line	OPEN	all	MA	all	296,320	296,320	0			P
4	Hand Line	OPEN	all	NE	all	1,177,906	936,874	241,032	0.496	119,447	
5	Otter Trawl	OPEN	all	MA	sm	47,393,001	31,649,299	15,743,702	0.099	1,555,892	
6	Otter Trawl	OPEN	all	MA	lg	36,769,493	13,561,150	23,208,344	0.111	2,573,438	
7	Otter Trawl	OPEN	all	NE	sm	61,106,617	54,835,765	6,270,852	0.135	848,933	
8	Otter Trawl	OPEN	all	NE	lg	105,280,035	57,234,642	48,045,393	0.069	3,338,657	
11	Scallop Trawl	OPEN	GEN	MA	all	1,966,509	996,246	970,264	0.174	168,466	
12	Scallop Trawl	OPEN	LIM	MA	all	658,754	658,754				P
13	Otter Trawl, Twin	OPEN	all	MA	all	1,260,016	1,148,765	111,251	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	1,103,933	902,390	201,543	0.035	7,072	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	119,838	72,306	47,532	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	3,132,468	2,412,967	719,501	0.189	135,902	
19	Shrimp Trawl	OPEN	all	MA	all	8,386	8,386				P
20	Shrimp Trawl	OPEN	all	NE	all	369,649	369,649				P
22	Floating Trap	OPEN	all	NE	all	18,352	18,352				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	1,384,925	1,352,331	32,594	1.830	59,639	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	4,173,630	3,912,719	260,911	0.500	130,431	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	7,708,472	6,823,553	884,919	0.196	173,070	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	376	376				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	11,628,459	7,956,540	3,671,919	0.077	281,674	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	17,943,981	15,175,147	2,768,834	0.080	221,403	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	48,513,940	48,499,422	14,518	0.512	7,439	
31	Scallop Dredge	AA	GEN	MA	all	375,290	360,682	14,608	0.559	8,164	P
32	Scallop Dredge	AA	GEN	NE	all	468,359	449,517	18,842	0.560	10,545	

See text for fleet abbreviations.

Table 5C, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 Standardized Bycatch Reporting Methodology (SBRM) species groups combined, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.

Species: 14 SBRM SPECIES GROUPS COMBINED

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
33	Scallop Dredge	AA	LIM	MA	all	17,830,225	15,570,539	2,259,686	0.246	556,073	
34	Scallop Dredge	AA	LIM	NE	all	34,703,924	31,504,235	3,199,689	0.135	432,822	
35	Scallop Dredge	OPEN	GEN	MA	all	11,935,749	9,888,426	2,047,323	0.099	203,326	
36	Scallop Dredge	OPEN	GEN	NE	all	9,881,711	8,982,229	899,483	0.122	110,096	
37	Scallop Dredge	OPEN	LIM	MA	all	60,751,142	55,320,621	5,430,521	0.081	439,652	
38	Scallop Dredge	OPEN	LIM	NE	all	192,744,890	167,907,405	24,837,485	0.059	1,457,709	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	3,172,468	3,163,000	9,468	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	148,097,047	148,023,920	73,127	0.403	29,474	
42	Pots and Traps, Fish	OPEN	all	MA	all	478,506	366,848	111,657	0.215	23,975	P
43	Pots and Traps, Fish	OPEN	all	NE	all	319,991	319,991				P
44	Pots and Traps, Conch	OPEN	all	MA	all	5,475	3,346	2,129	0.145	309	P
45	Pots and Traps, Conch	OPEN	all	NE	all	42,794	0	42,794	0.000	0	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	272,646	140,018	132,628	0.169	22,401	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	342,744	25,205	317,539	0.990	314,458	
49	Pots and Traps, Crab	OPEN	all	MA	all	176,310	176,310				P
50	Pots and Traps, Crab	OPEN	all	NE	all	2,202,976	2,201,739	1,237	0.000	0	P
51	Beam Trawl	OPEN	all	MA	all	675,527	675,527				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	256,367,297	256,367,297				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	215,812,072	215,812,072				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	267,724	202,022	65,702	0.044	2,911	
	Confidential fleets					271,892	271,892				
	Other minor fleets					2,284,907	2,284,907				
					TOTAL	1,314,698,562	1,171,849,660	142,848,902	0.034	4,911,669	

See text for fleet abbreviations.

Table 6. The number of sea days needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot sea days, the number of minimum pilot sea days, and the maximum number of sea days needed for each fleet (2015 Sea Days Needed) for fish and invertebrate species groups based on July 2013 through June 2014 data. Bold red font indicates basis for fleet sea days. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1.

Row	Fleet Gear Type	Access Area	Trip Category	Region	Mesh Group	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2015 Sea Days Needed	Pilot
1	Longline	OPEN	all	MA	all	85	85	85	85	85	85	85	85	85	85	85	85	85	85	**85**	85	85	P
2	Longline	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	**14**	14	
3	Hand Line	OPEN	all	MA	all	70	70	70	70	70	70	70	70	70	70	70	70	70	70	**70**	14	70	P
4	Hand Line	OPEN	all	NE	all	0	0	0	0	0	0	0	**48**	0	0	0	0	0	0	51	13	48	
5	Otter Trawl	OPEN	all	MA	sm	0	0	0	0	0	**556**	0	336	531	294	402	493	0	0	176	32	556	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0	0	0	0	**744**	72	0	89	220	210	0	0	183	29	744	
7	Otter Trawl	OPEN	all	NE	sm	0	0	0	0	0	**1,311**	0	313	460	0	571	720	0	0	186	34	1,311	
8	Otter Trawl	OPEN	all	NE	lg	0	0	0	**4,647**	0	0	228	349	231	316	192	731	0	0	376	35	4,647	
9	Scallop Trawl	AA	GEN	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
10	Scallop Trawl	AA	LIM	MA	all	42	42	42	42	42	42	42	42	42	42	42	42	42	42	**42**	42	42	P
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	**23**	23	
12	Scallop Trawl	OPEN	LIM	MA	all	72	72	72	72	72	72	72	72	72	72	72	72	72	72	**72**	72	72	P
13	Otter Trawl, Twin	OPEN	all	MA	all	60	60	60	60	60	60	60	60	60	60	60	60	60	60	**60**	60	60	P
14	Otter Trawl, Twin	OPEN	all	NE	all	85	85	85	85	85	85	85	85	85	85	85	85	85	85	**85**	85	85	P
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	27	27	27	27	27	27	27	27	27	27	27	27	27	27	**27**	27	27	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	48	48	48	48	48	48	48	48	48	48	48	48	48	48	**48**	48	48	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	68	68	68	68	68	68	68	68	68	68	68	68	68	68	**68**	68	68	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	**302**	0	0	0	94	94	302	
19	Shrimp Trawl	OPEN	all	MA	all	65	65	65	65	65	65	65	65	65	65	65	65	65	65	**65**	54	65	P
20	Shrimp Trawl	OPEN	all	NE	all	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
21	Floating Trap	OPEN	all	MA	all	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
22	Floating Trap	OPEN	all	NE	all	21	21	21	21	21	21	21	21	21	21	21	21	21	21	**21**	21	21	P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	**12**	12	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	**13**	13	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0	0	0	0	**122**	0	0	0	0	0	0	0	51	14	122	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	**103**	0	0	0	108	19	103	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0	0	0	0	152	0	0	73	**240**	0	0	0	87	19	240	
29	Purse Seine	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
30	Purse Seine	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	**31**	31	
31	Scallop Dredge	AA	GEN	MA	all	27	27	27	27	27	27	27	27	27	27	27	27	27	27	**27**	27	27	P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	**31**	31	
33	Scallop Dredge	AA	LIM	MA	all	0	0	0	0	0	0	**153**	0	0	0	0	0	0	0	90	90	153	
34	Scallop Dredge	AA	LIM	NE	all	0	0	0	0	0	0	65	0	0	**121**	0	0	0	0	97	94	121	
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	**28**	0	0	0	0	76	21	28	
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	**16**	16	
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0	0	0	0	**123**	0	0	51	0	0	0	0	118	105	123	

See text for fleet abbreviations.

Table 6, continued. The number of sea days needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot sea days, the number of minimum pilot sea days, and the maximum number of sea days needed for each fleet (2015 Sea Days Needed) for fish and invertebrate species groups based on July 2013 through June 2014 data. Bold red font indicates basis for fleet sea days. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1.

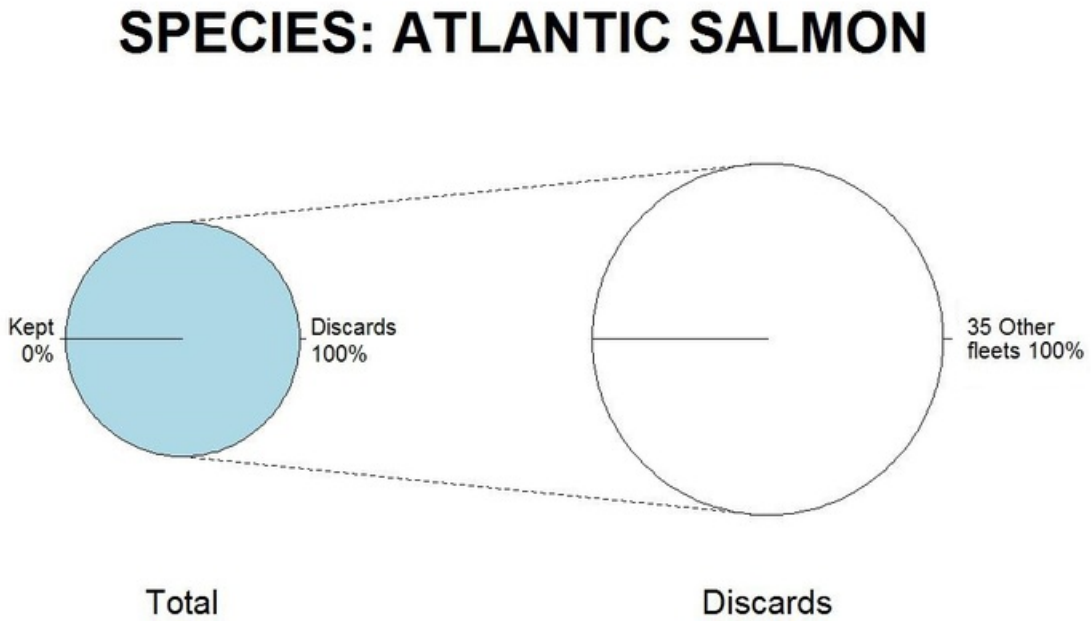
Row	Fleet Gear Type	Access Area	Trip Category	Region	Mesh Group	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2015 Sea Days Needed	Pilot
38	Scallop Dredge	OPEN	LIM	NE	all	0	0	0	0	0	0	176	155	**630**	84	0	207	0	0	216	113	630	
39	Danish Seine	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	32	32	32	32	32	32	32	32	32	32	32	32	32	32	**32**	32	32	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	**39**	39	
42	Pots and Traps, Fish	OPEN	all	MA	all	22	22	22	22	22	22	22	22	22	22	22	22	22	22	**22**	13	22	P
43	Pots and Traps, Fish	OPEN	all	NE	all	42	42	42	42	42	42	42	42	42	42	42	42	42	42	**42**	30	42	P
44	Pots and Traps, Conch	OPEN	all	MA	all	28	28	28	28	28	28	28	28	28	28	28	28	28	28	**28**	15	28	P
45	Pots and Traps, Conch	OPEN	all	NE	all	22	22	22	22	22	22	22	22	22	22	22	22	22	22	**22**	9	22	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	83	83	83	83	83	83	83	83	83	83	83	83	83	83	**83**	83	83	P
47	Pots and Traps, Lobster	OPEN	all	MA	all	47	47	47	47	47	47	47	47	47	47	47	47	47	47	**47**	17	47	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0	0	0	0	0	**572**	0	0	0	0	0	0	447	18	572	
49	Pots and Traps, Crab	OPEN	all	MA	all	29	29	29	29	29	29	29	29	29	29	29	29	29	29	**29**	29	29	P
50	Pots and Traps, Crab	OPEN	all	NE	all	83	83	83	83	83	83	83	83	83	83	83	83	83	83	**83**	83	83	P
51	Beam Trawl	OPEN	all	MA	all	35	35	35	35	35	35	35	35	35	35	35	35	35	35	**35**	35	35	P
52	Beam Trawl	OPEN	all	NE	all	11	11	11	11	11	11	11	11	11	11	11	11	11	11	**11**	11	11	P
53	Dredge, Other	OPEN	all	MA	all	11	11	11	11	11	11	11	11	11	11	11	11	11	11	**11**	10	11	P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	75	75	75	75	75	75	75	75	75	75	75	75	75	75	**75**	24	75	P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	65	65	65	65	65	65	65	65	65	65	65	65	65	65	**65**	14	65	P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	**25**	25	
					Totals	**1,300**	**1,300**	**1,300**	**5,947**	**1,300**	**3,167**	**3,063**	**3,145**	**3,152**	**2,356**	**3,330**	**3,661**	**1,300**	**1,300**	**3,998**	**1,987**	**11,204**	

See text for fleet abbreviations.

Table 7. Number of sea days, trips, and percentage of trips (based upon previous industry activity) needed to achieve a 30% coefficient of variation of the discard estimate, by fleet and species group, based on July 2013 through June 2014 data. See Table 1 for species group abbreviations.

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	Sea Days	Trips	% of Trips
4	Hand Line	OPEN	all	NE	all	GFL	48	45	2
5	Otter Trawl	OPEN	all	MA	sm	SBM	556	242	6
						GFS	531	231	6
						FSB	493	214	6
						DOG	402	175	5
						GFL	336	146	4
						SKATE	293	128	3
6	Otter Trawl	OPEN	all	MA	lg	MONK	744	340	8
						DOG	220	100	2
						FSB	210	96	2
						SKATE	89	40	1
						GFL	72	33	1
7	Otter Trawl	OPEN	all	NE	sm	SBM	1,311	505	14
						FSB	720	277	8
						DOG	571	220	6
						GFS	460	177	5
						GFL	313	120	3
8	Otter Trawl	OPEN	all	NE	lg	RCRAB	4,647	1,646	25
						FSB	730	259	4
						GFL	349	124	2
						SKATE	316	112	2
						GFS	231	82	1
						MONK	228	81	1
						DOG	192	68	1
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	DOG	302	38	30
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MONK	121	104	5
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	DOG	103	69	2
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	DOG	240	161	5
						MONK	152	102	3
						SKATE	73	49	2
33	Scallop Dredge	AA	LIM	MA	all	MONK	153	19	10
34	Scallop Dredge	AA	LIM	NE	all	SKATE	121	15	5
						MONK	65	8	3
35	Scallop Dredge	OPEN	GEN	MA	all	SKATE	28	16	1
37	Scallop Dredge	OPEN	LIM	MA	all	MONK	123	14	3
						SKATE	51	6	1
38	Scallop Dredge	OPEN	LIM	NE	all	GFS	629	64	6
						FSB	207	21	2
						MONK	175	18	2
						GFL	155	16	2
						SKATE	84	9	1
48	Pots and Traps, Lobster	OPEN	all	NE	all	GFL	572	435	2

See text for fleet abbreviations.



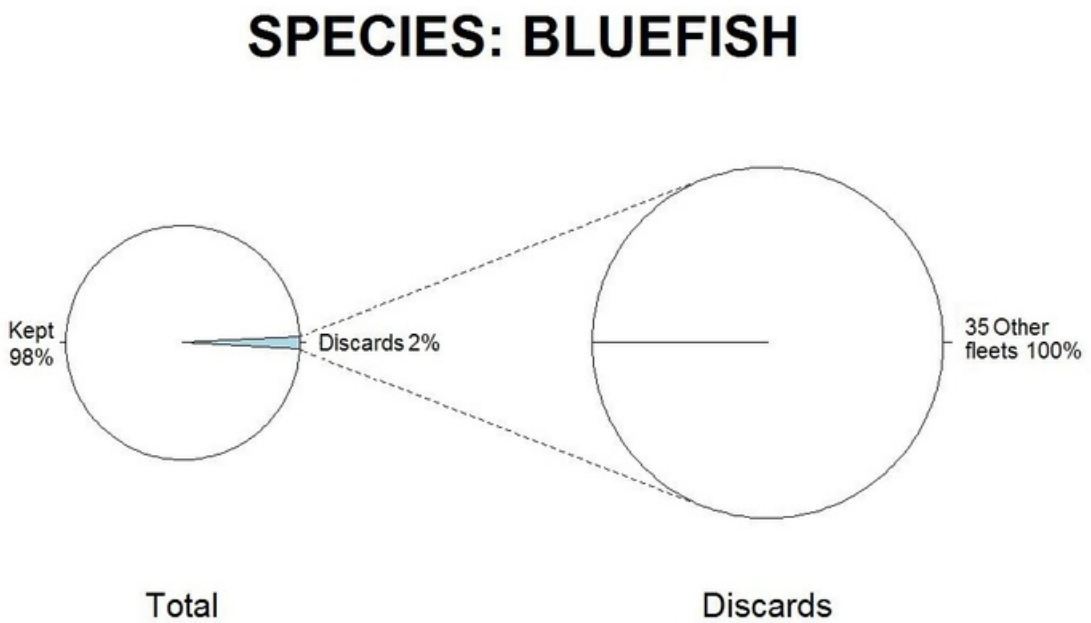


Figure 1A. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations.
Top: Atlantic salmon (*Salmo salar);* bottom: bluefish *(Pomatomus saltatrix).*

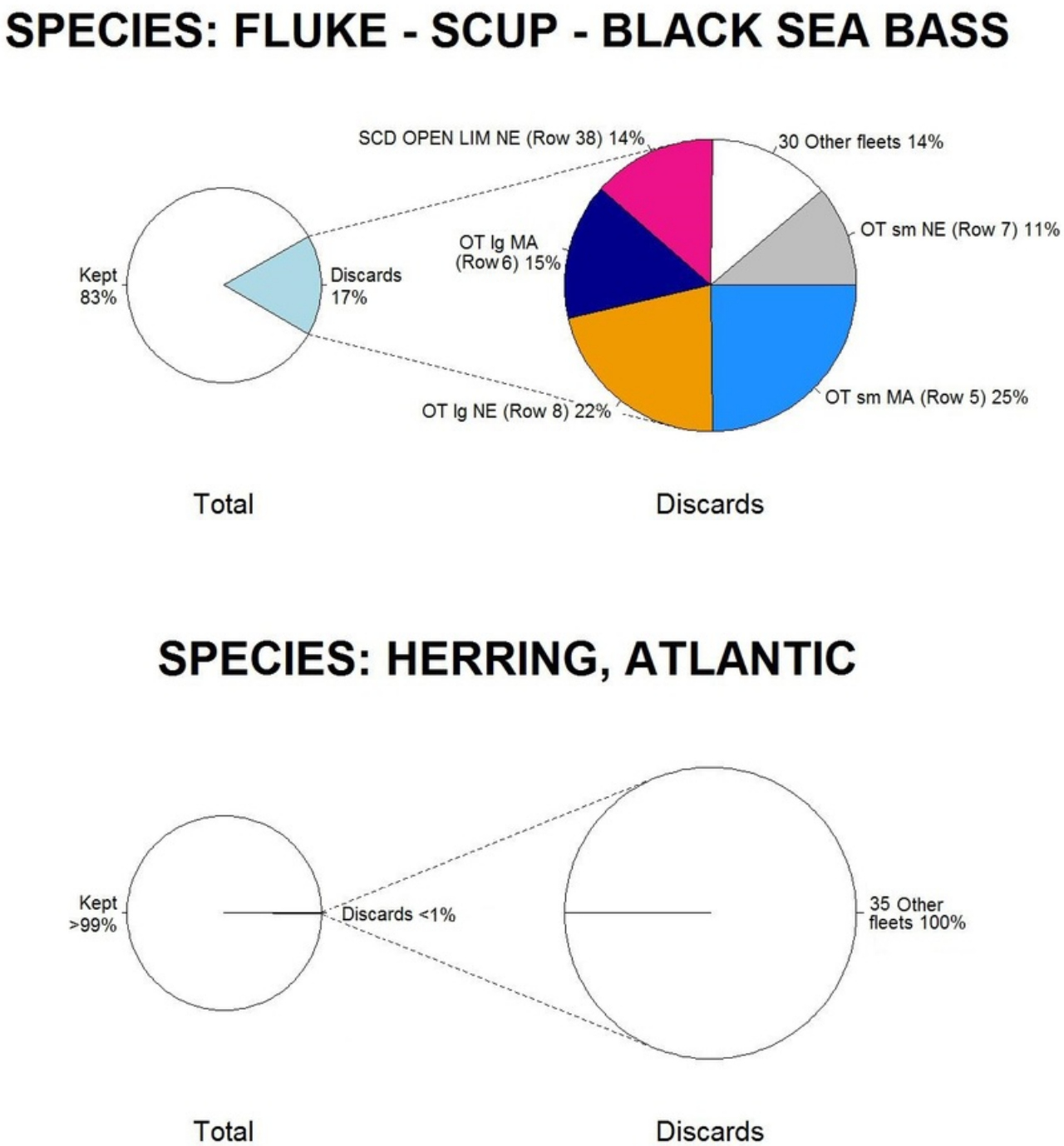
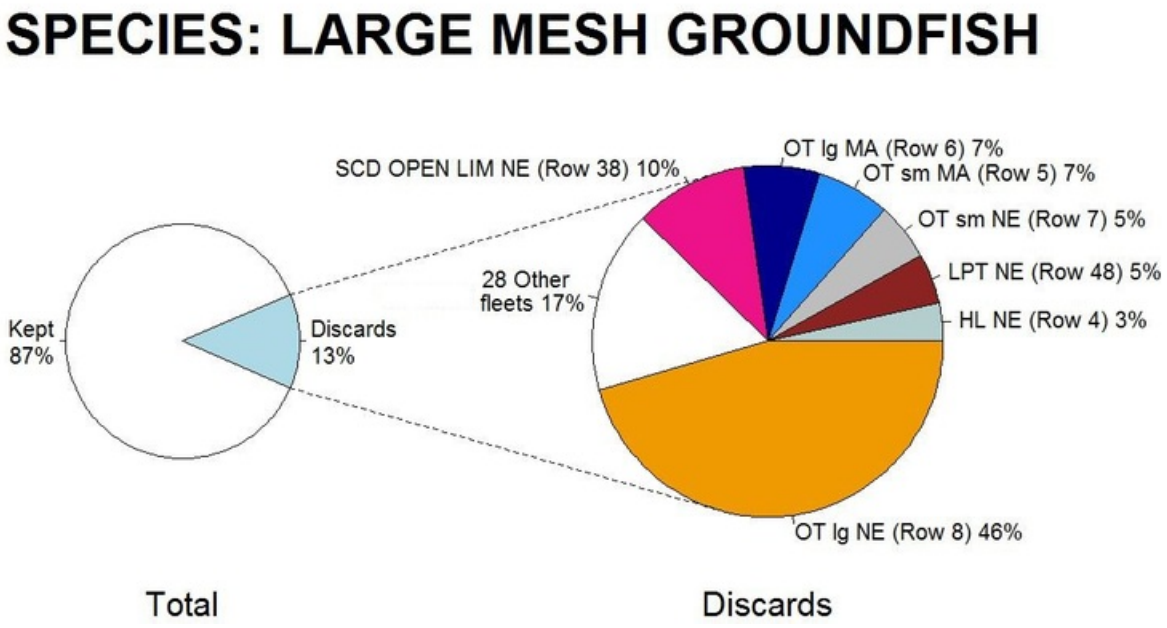


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: fluke (*Paralichthys dentatus) - scup (Stenotomus chrysops) - black sea bass (Centropristis striata);* bottom: *Atlantic herring (Clupea harengus)*.



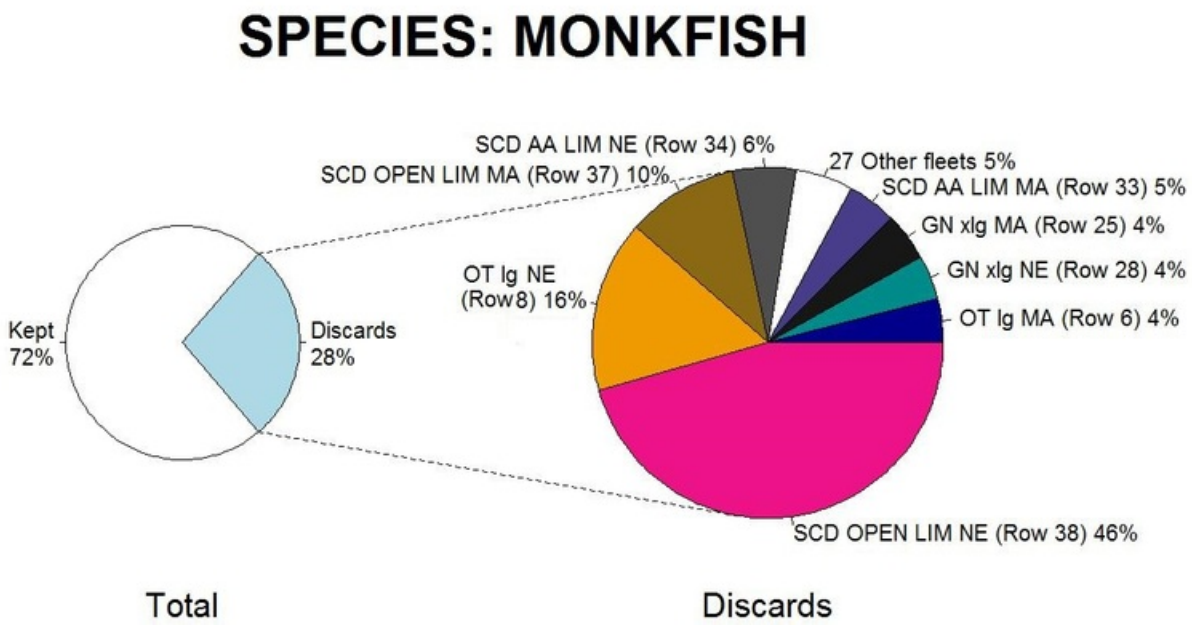


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: large mesh groundfish; bottom: monkfish (*Lophius americanus).*

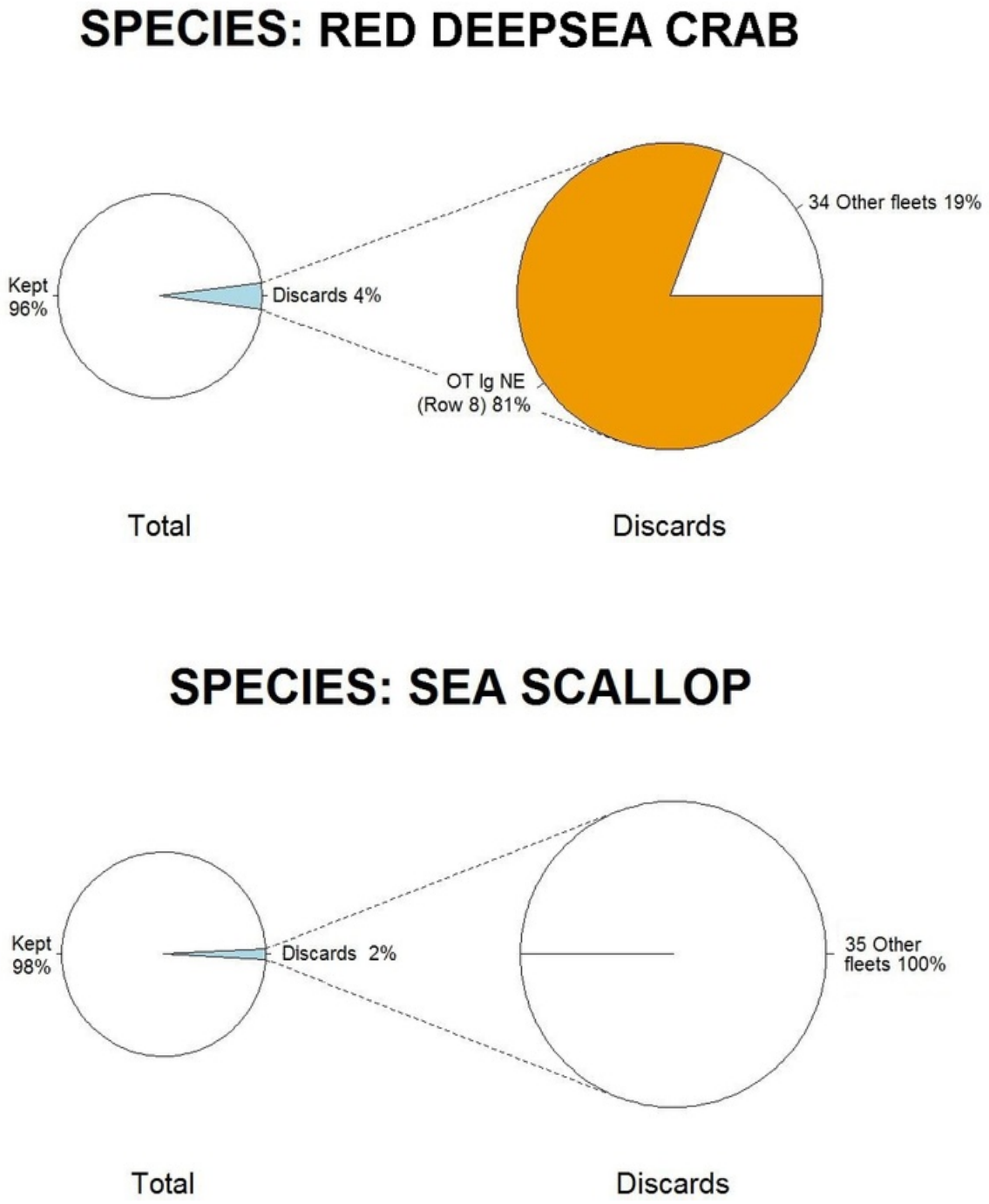
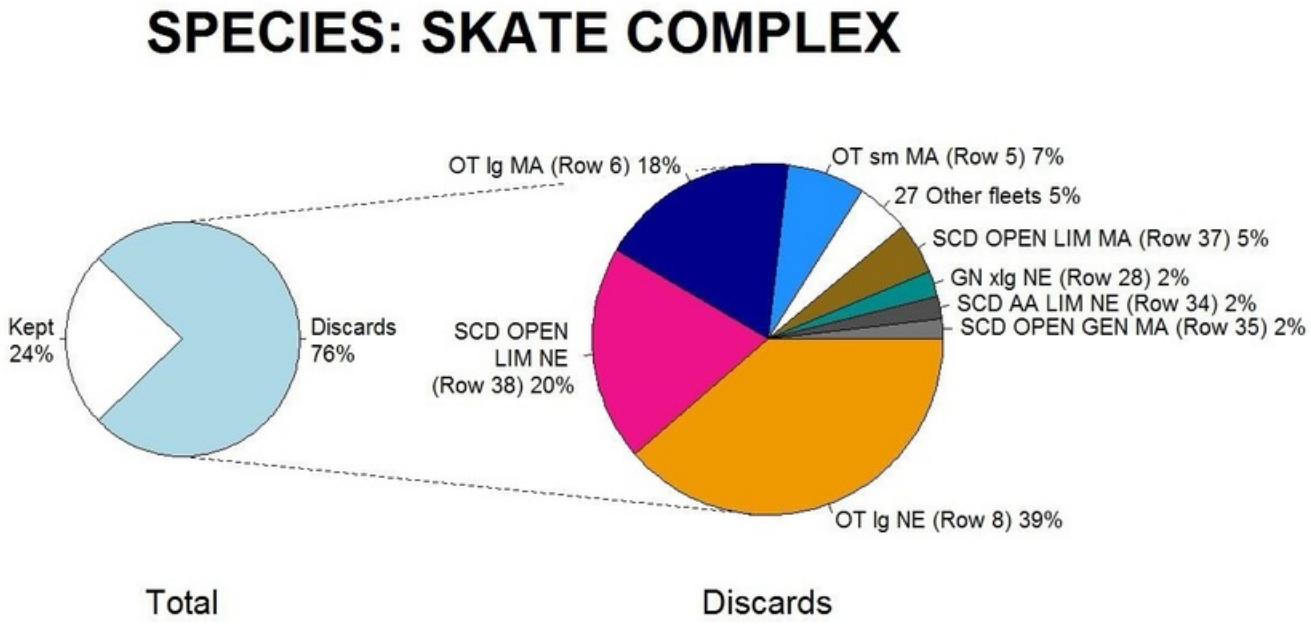


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: red deepsea crab (*Chaceon quinquedens*); bottom: sea scallop (*Placopecten magellanicus*).



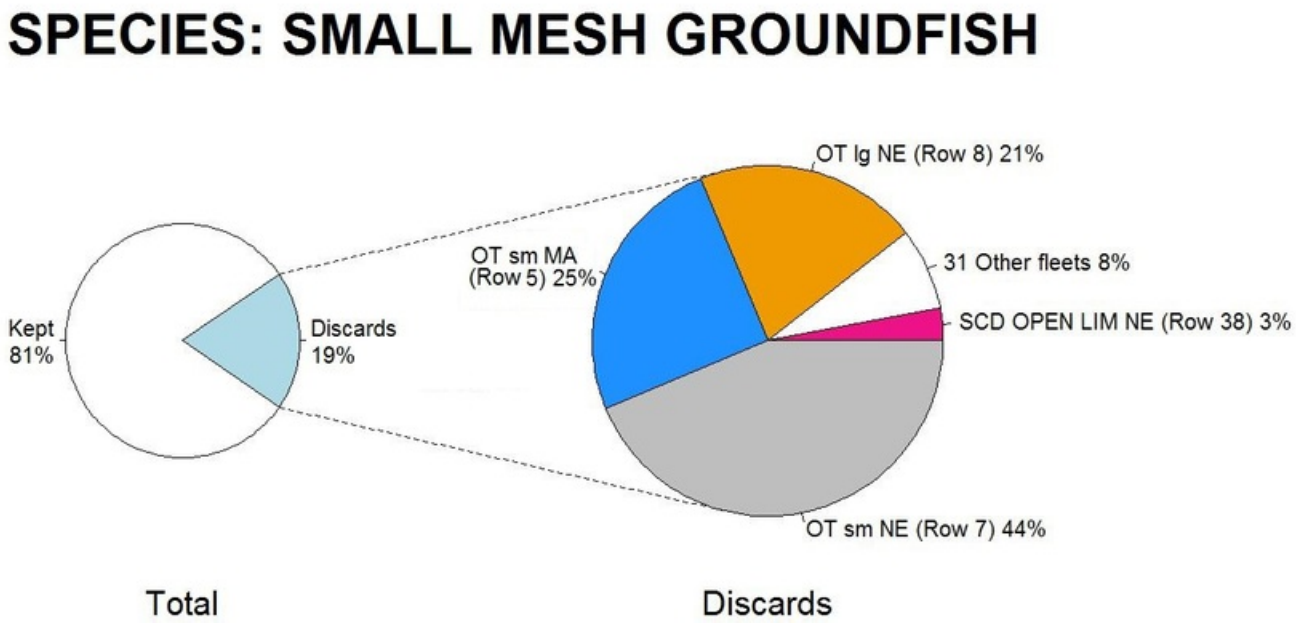
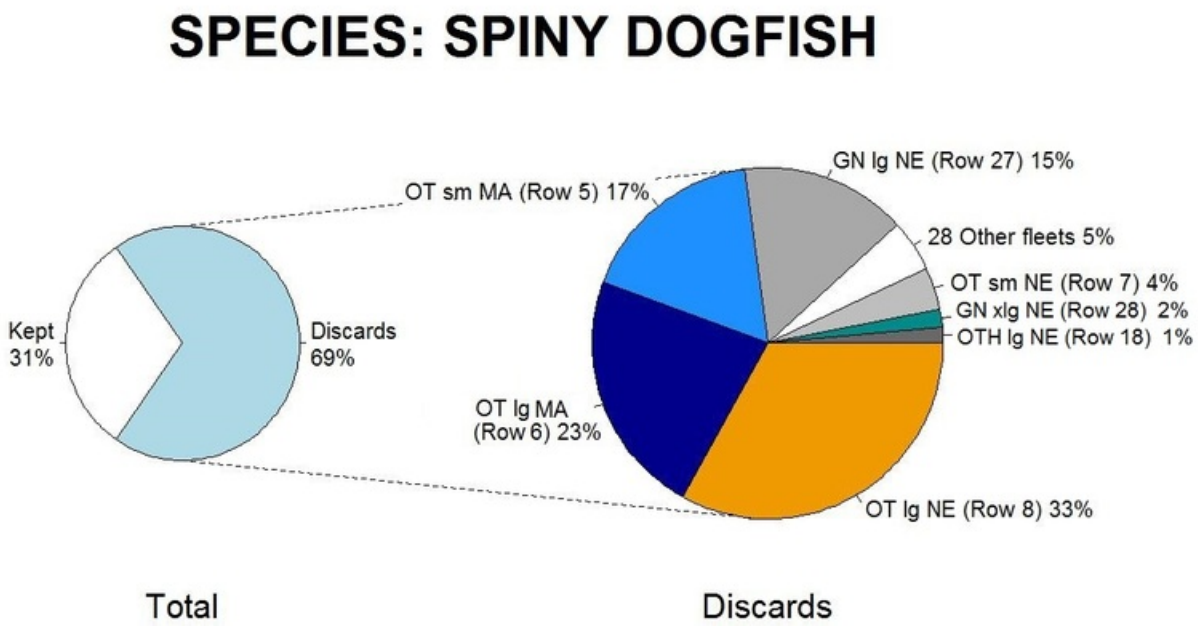


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: skate complex (Rajidae); bottom: small mesh groundfish.



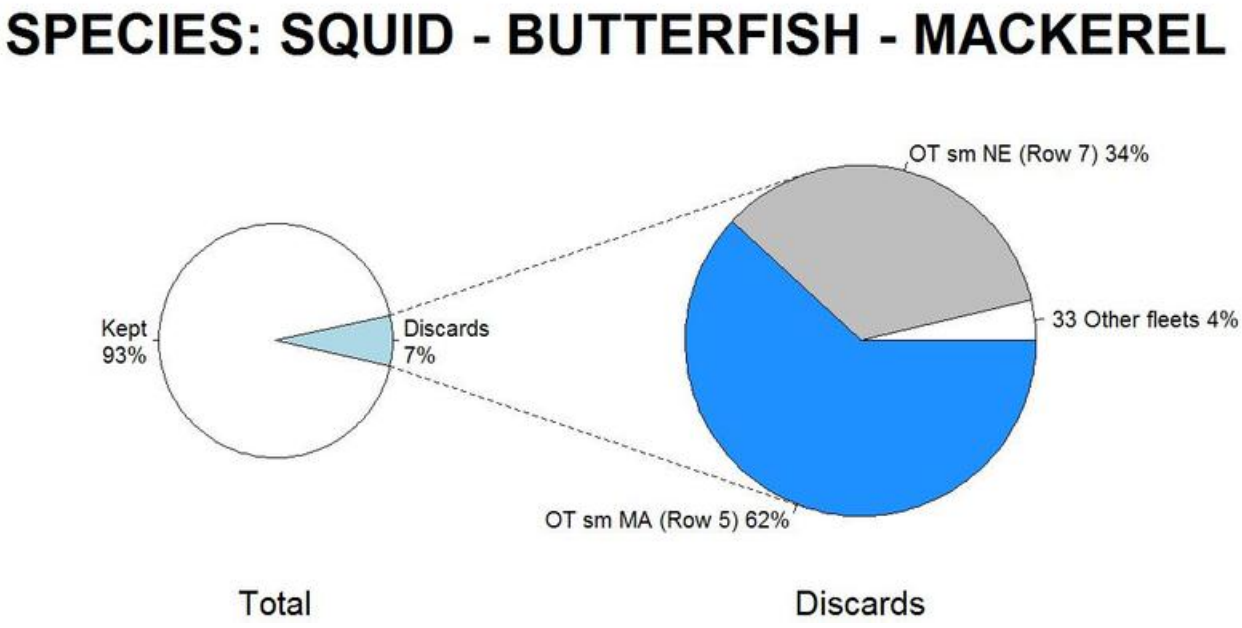
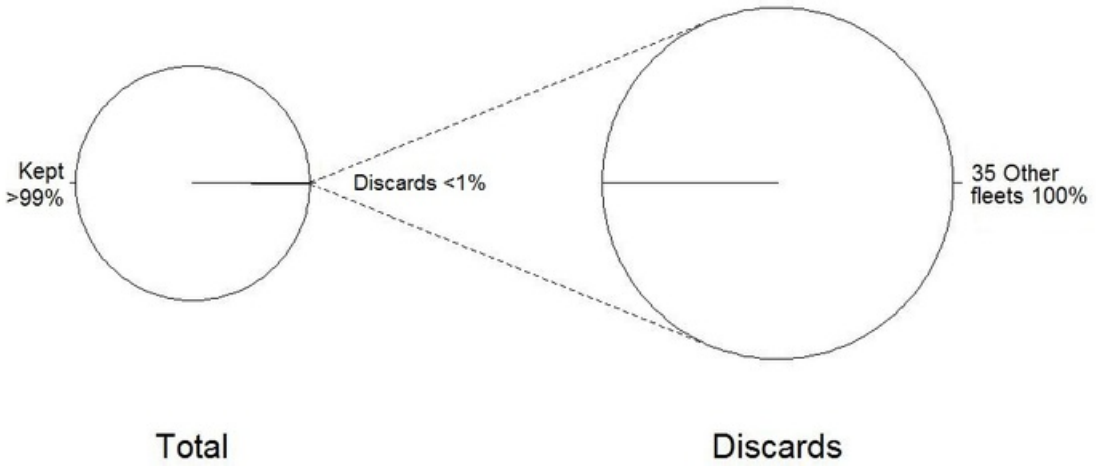


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: spiny dogfish (*Squalus acanthias*); bottom: squid (*Doryteuthis [Amerigo] pealeii, Illex illecebrosus*) – butterfish (*Peprilus triacanthus*) – Atlantic mackerel (*Scomber scombrus*).

SPECIES: SURFCLAM - OCEAN QUAHOG



SPECIES: TILEFISH

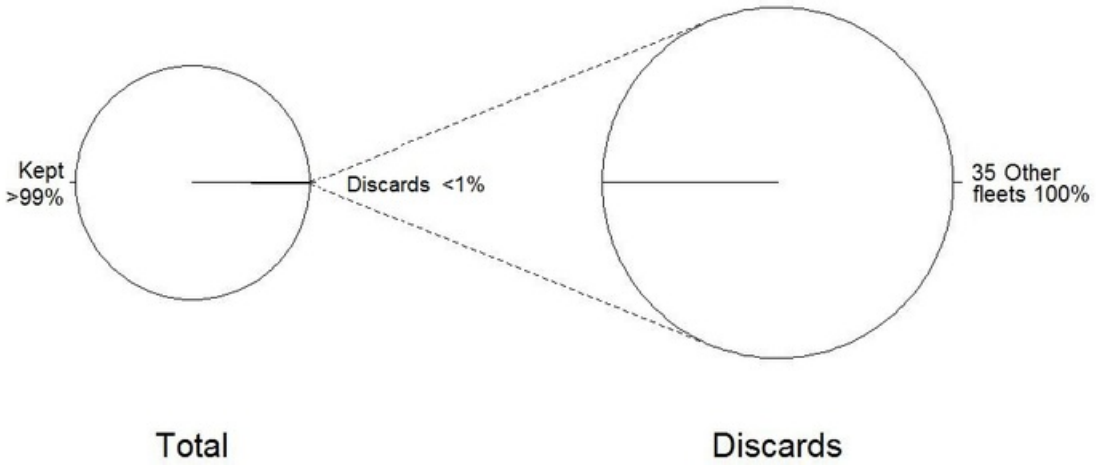
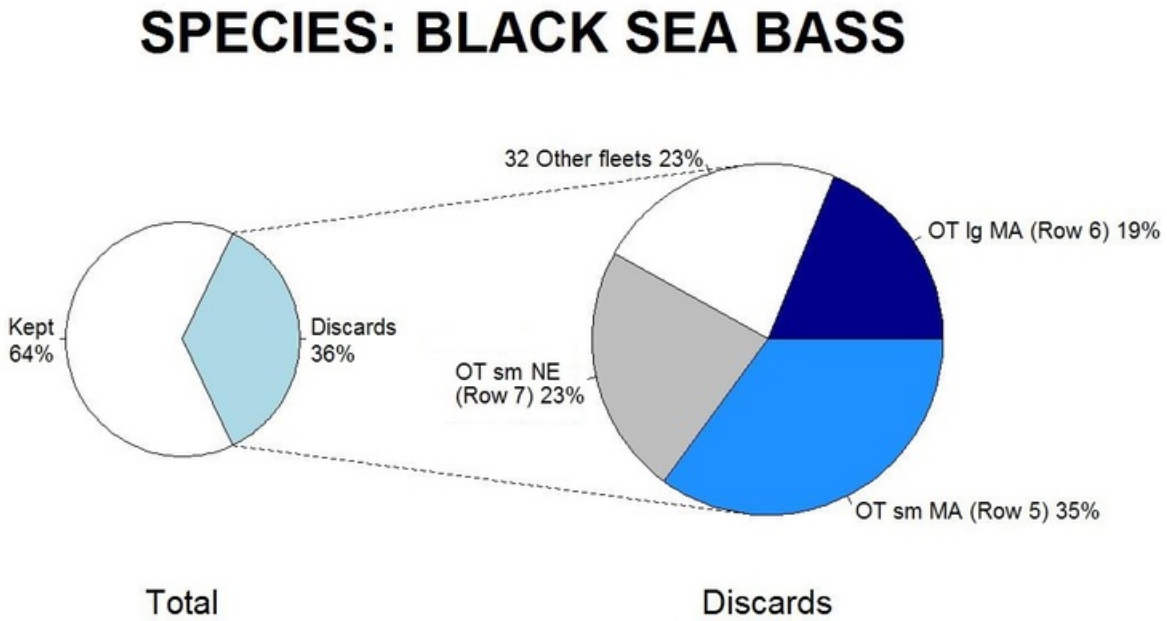


Figure 1A, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for each of the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: surfclam (*Spisula solidissima*) - ocean quahog (*Artica islandica*); bottom: tilefish (*Lopholatilus chamaeleonticeps*).



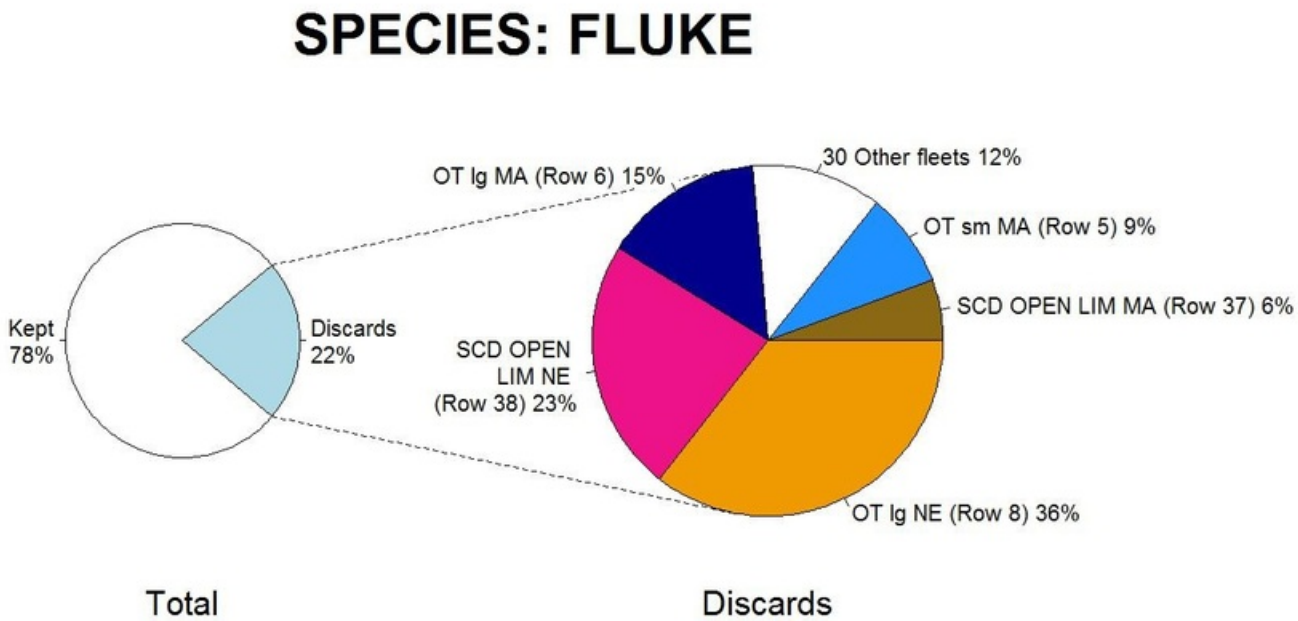
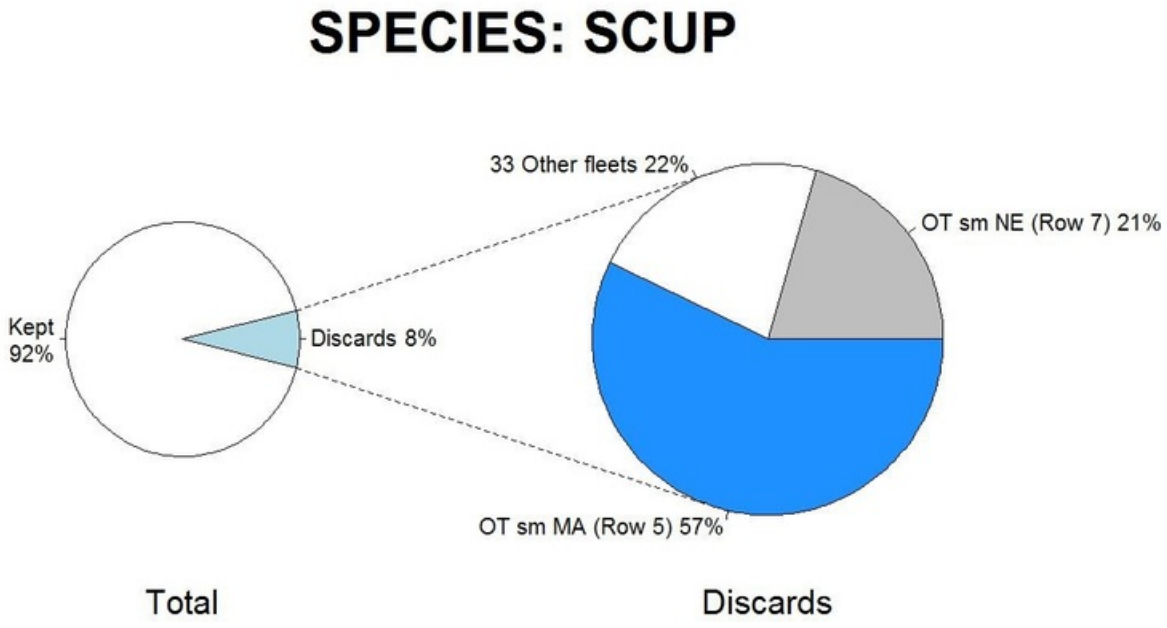
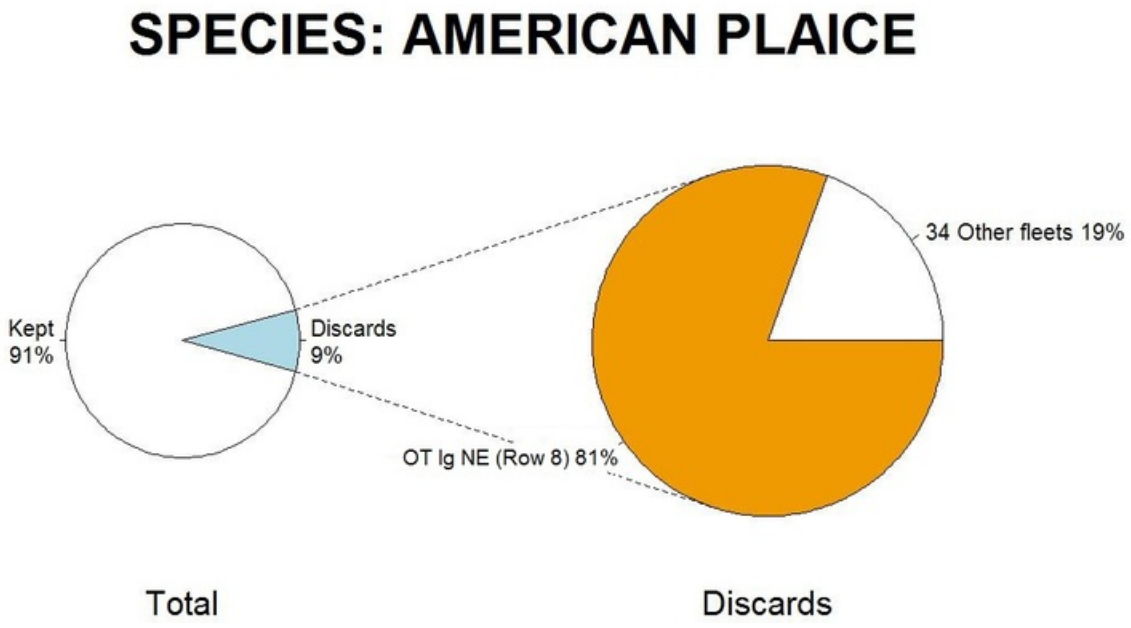


Figure 1B. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for the 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: black sea bass (*Centropristis striata*); bottom: fluke (*Paralichthys dentatus*).





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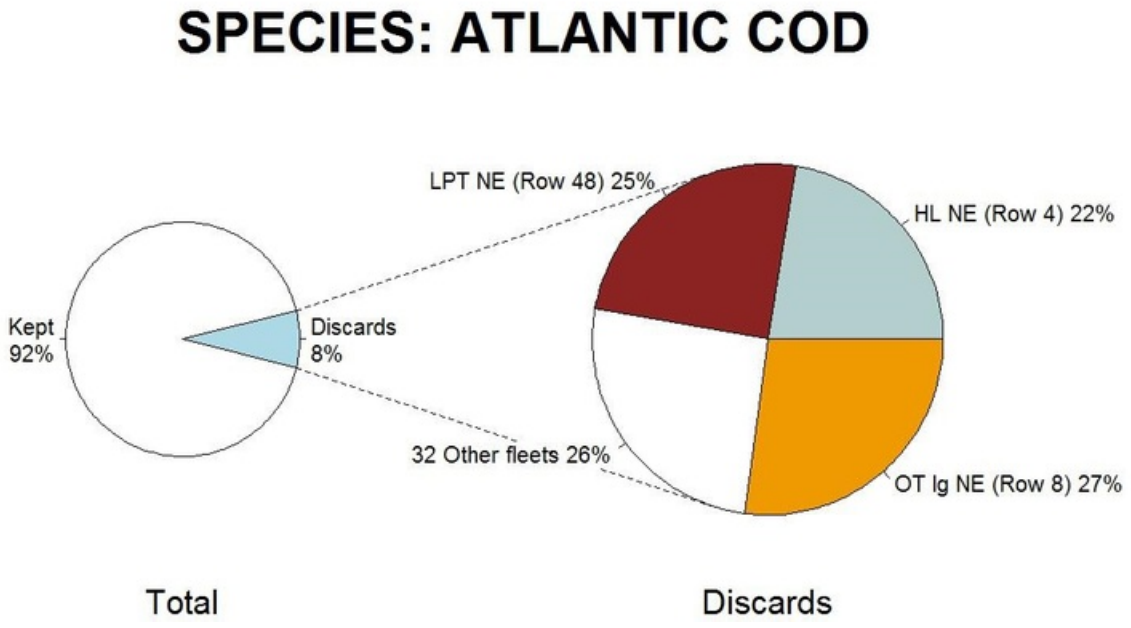

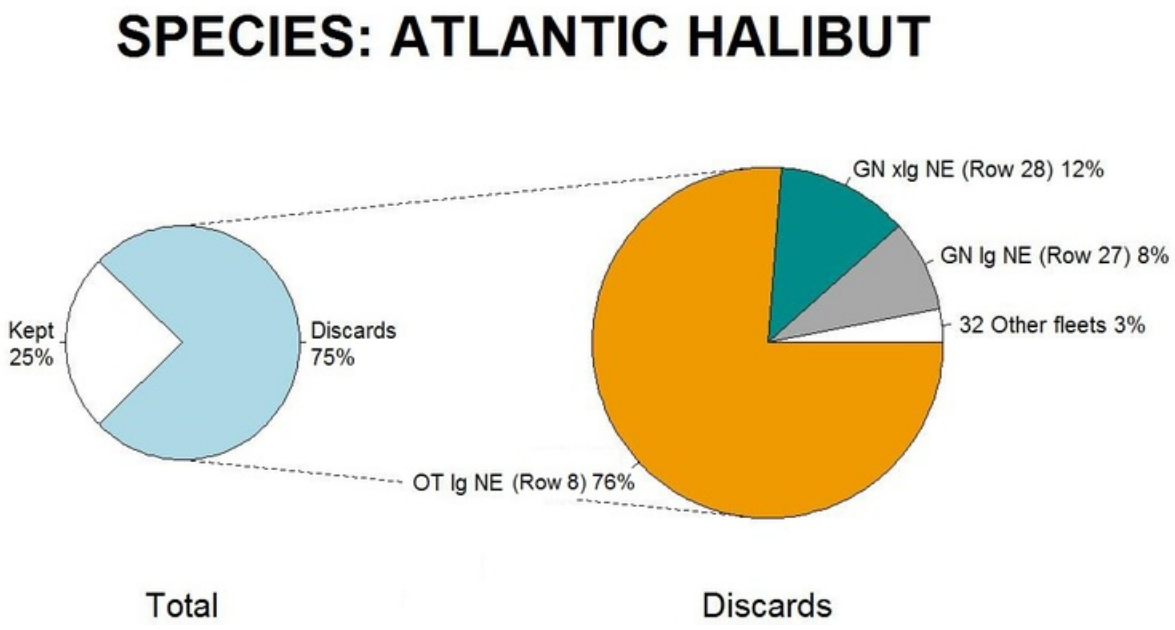

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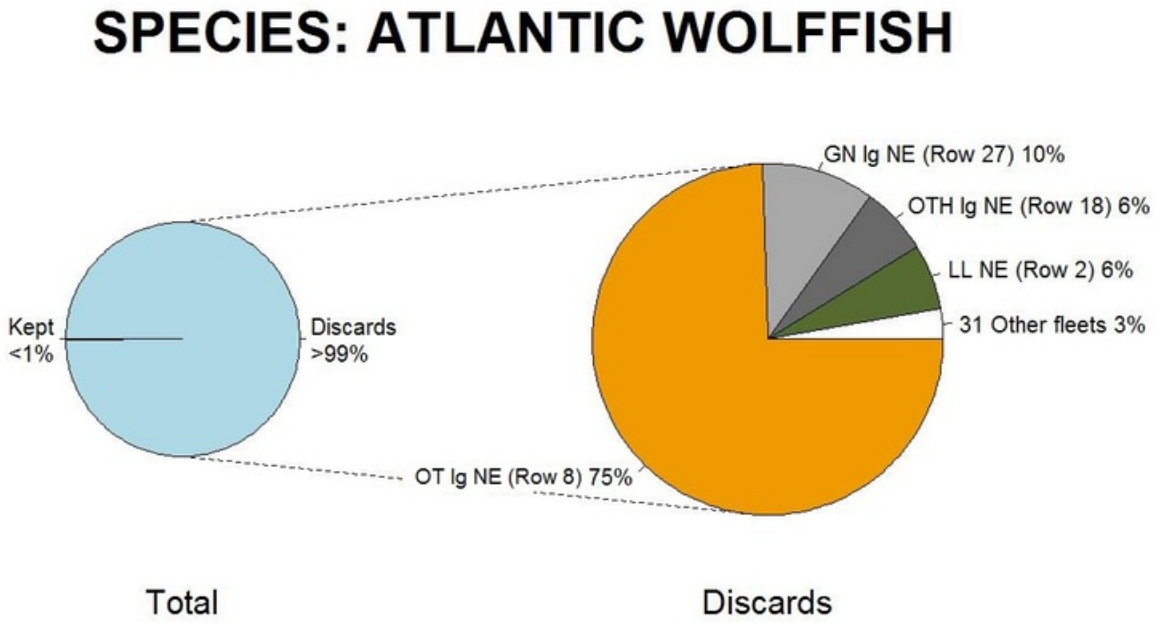

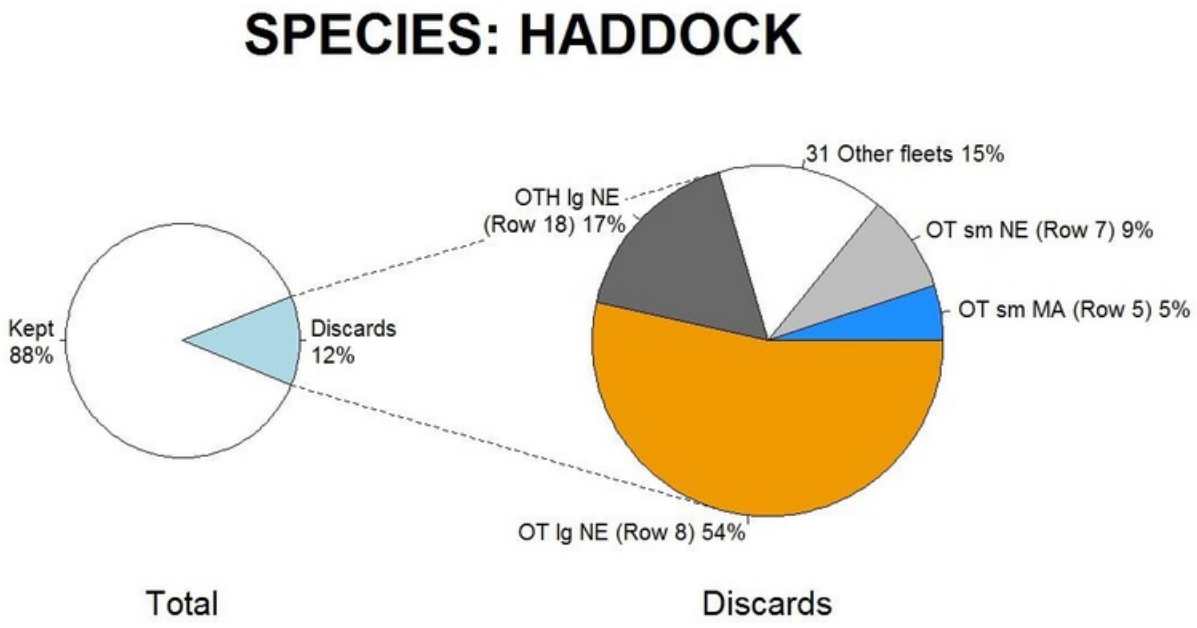

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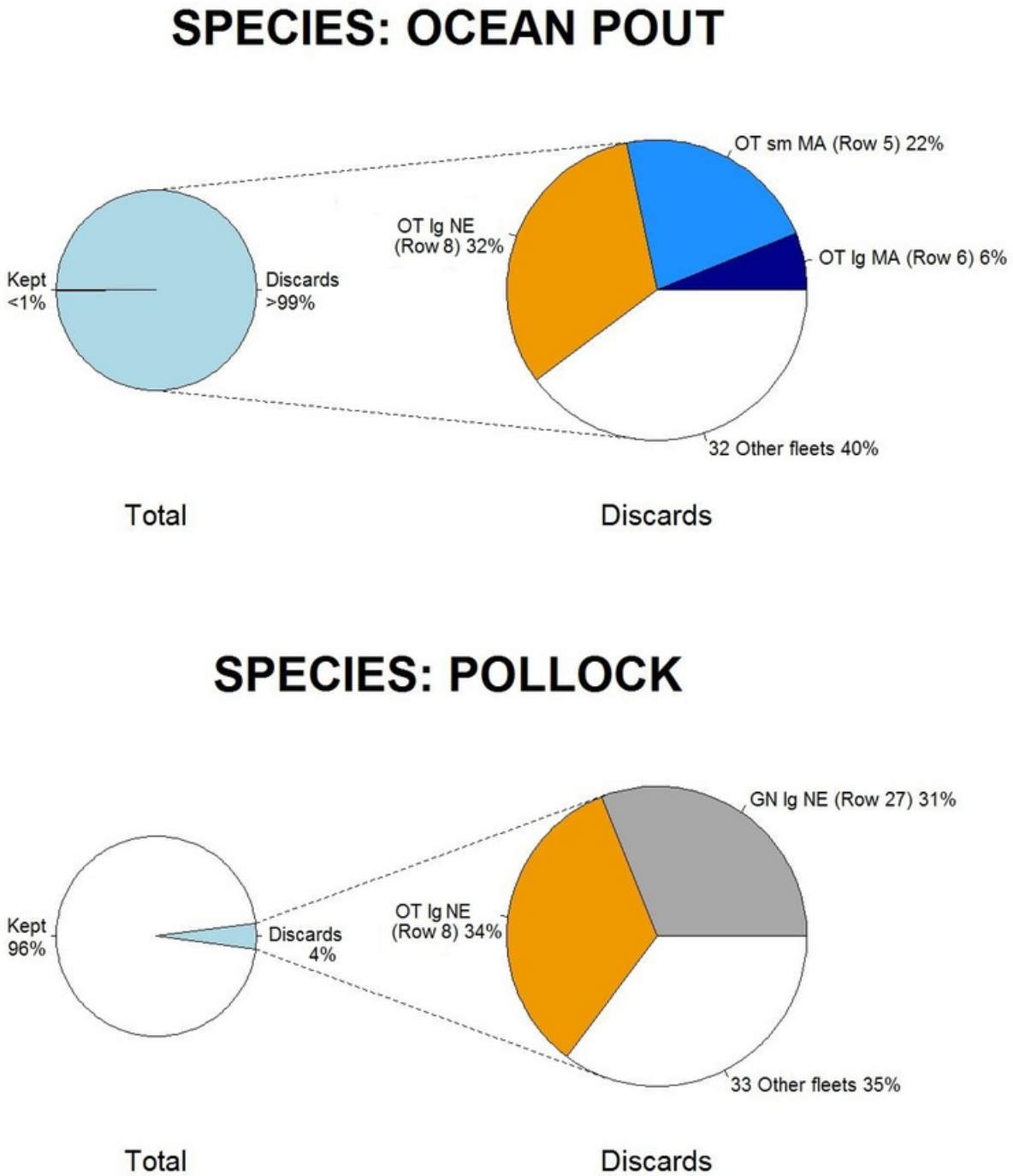

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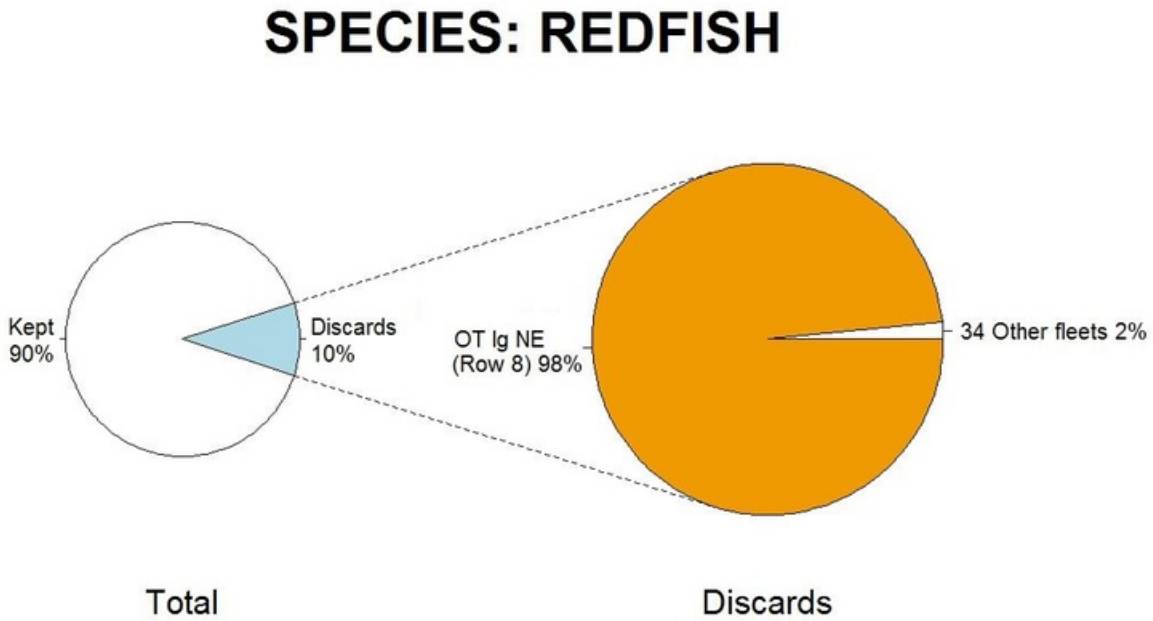

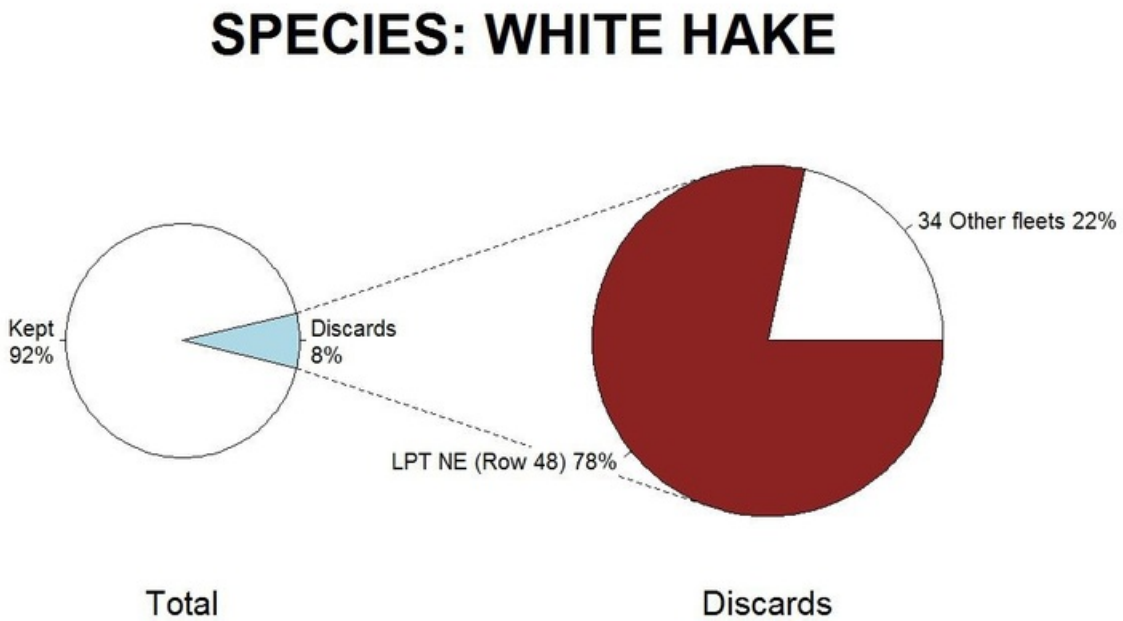

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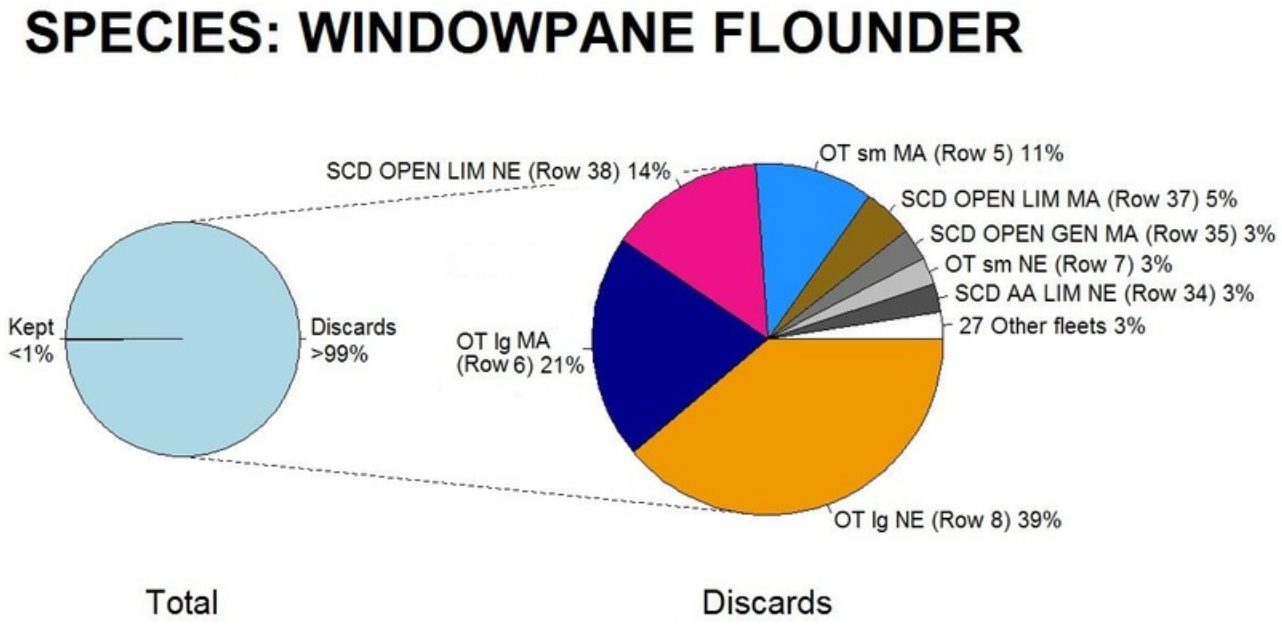

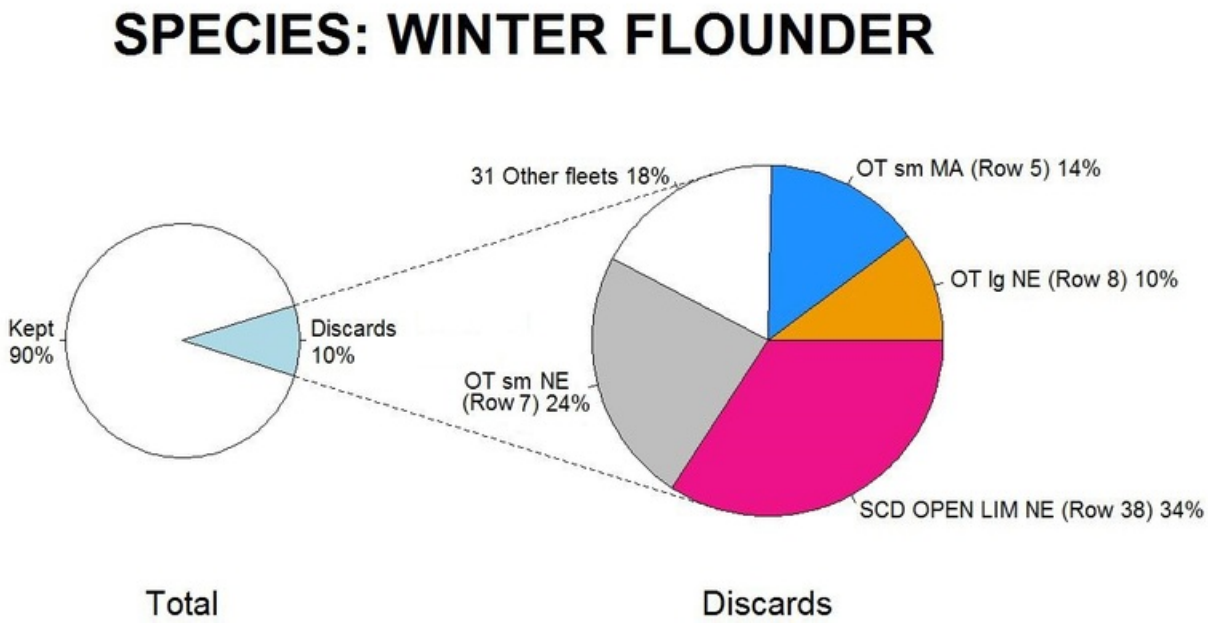

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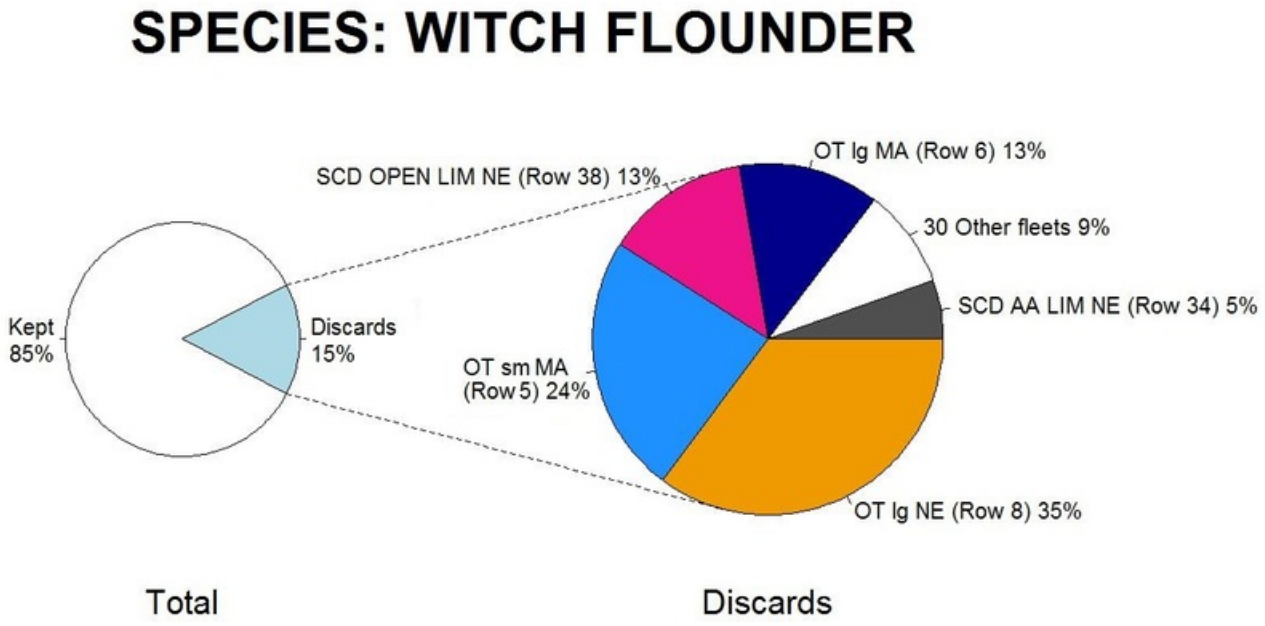


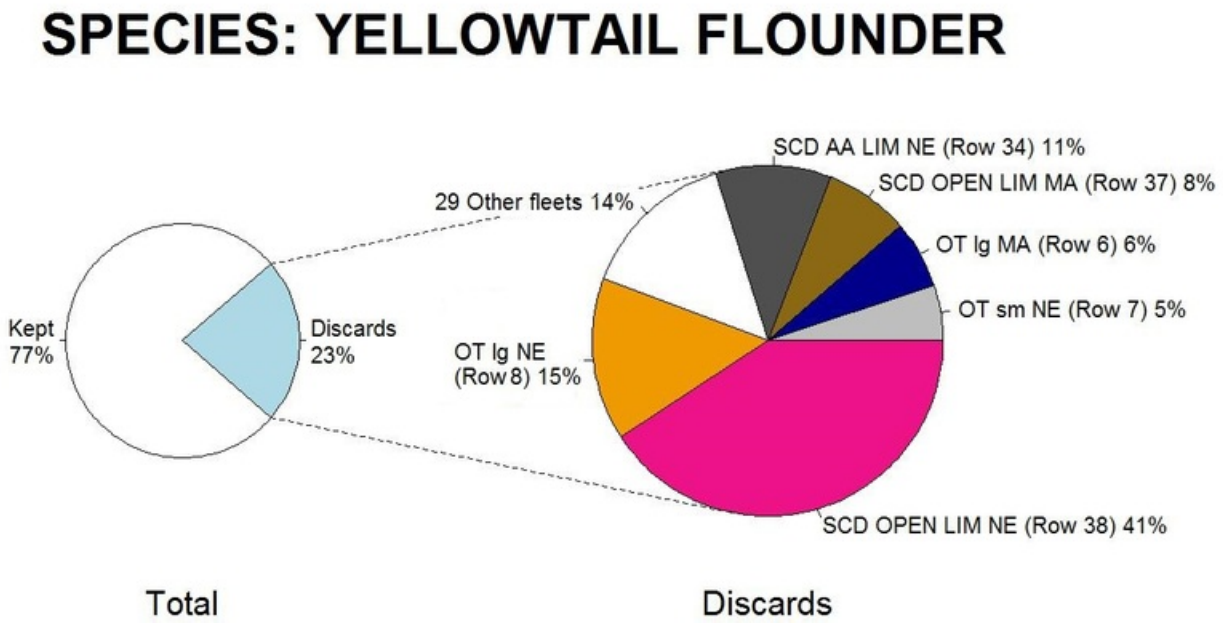
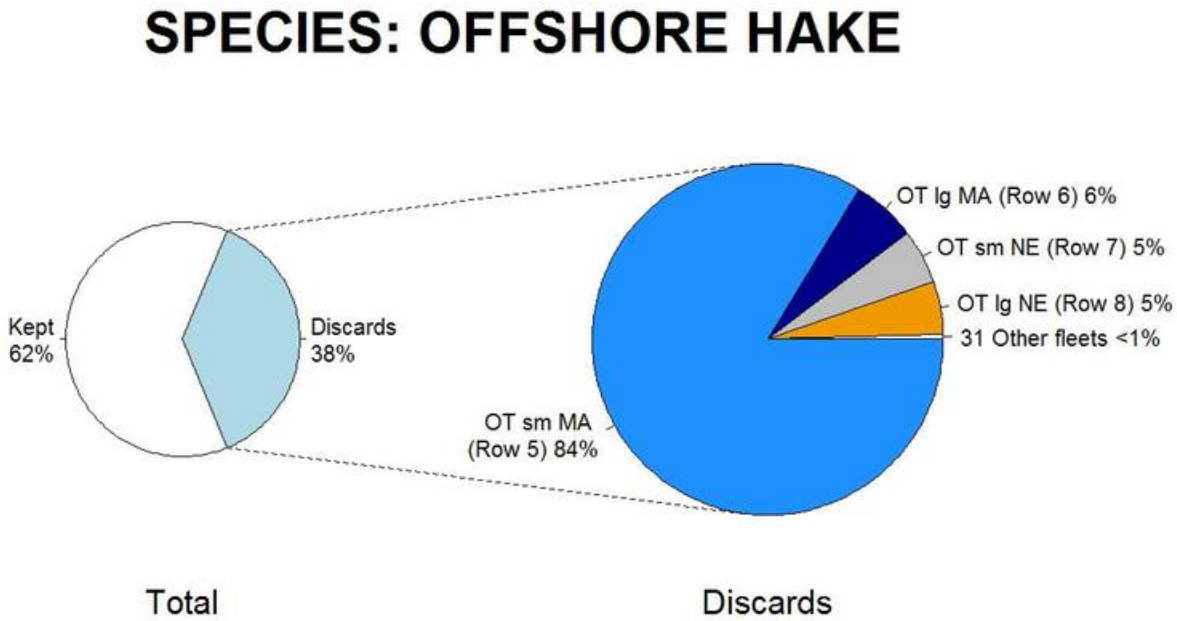


Figure 1B, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for the 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: witch flounder (*Glyptocephalus cynoglossus*); bottom: yellowtail flounder (*Limanda ferruginea*).



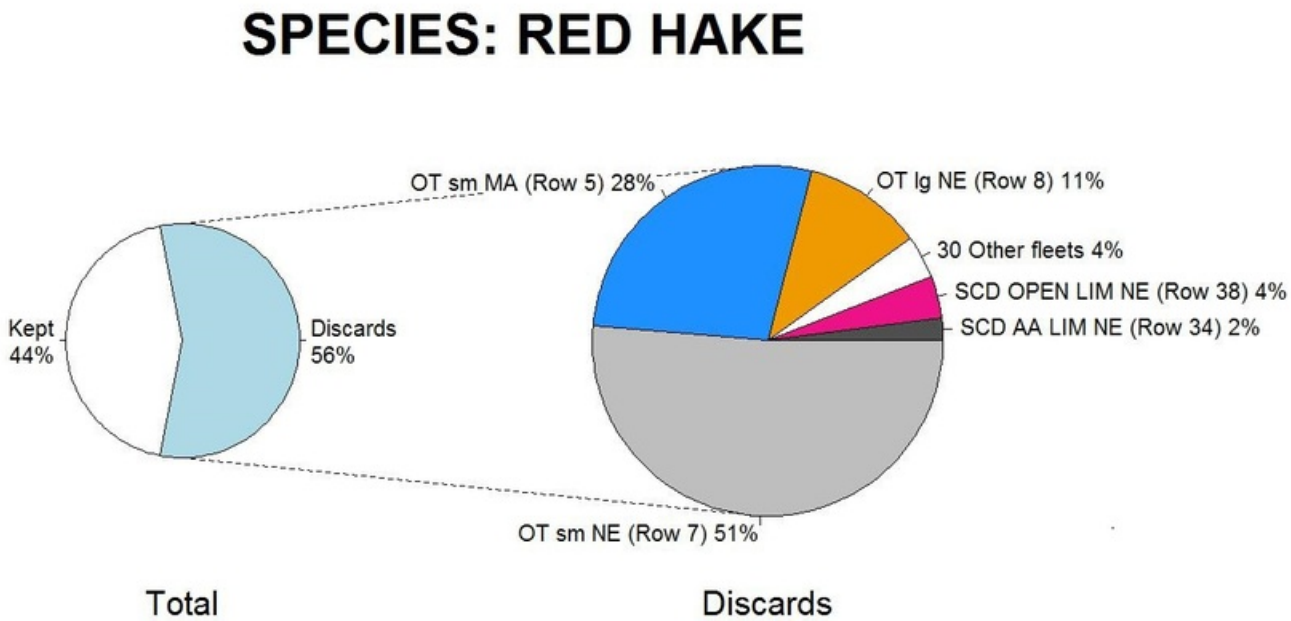
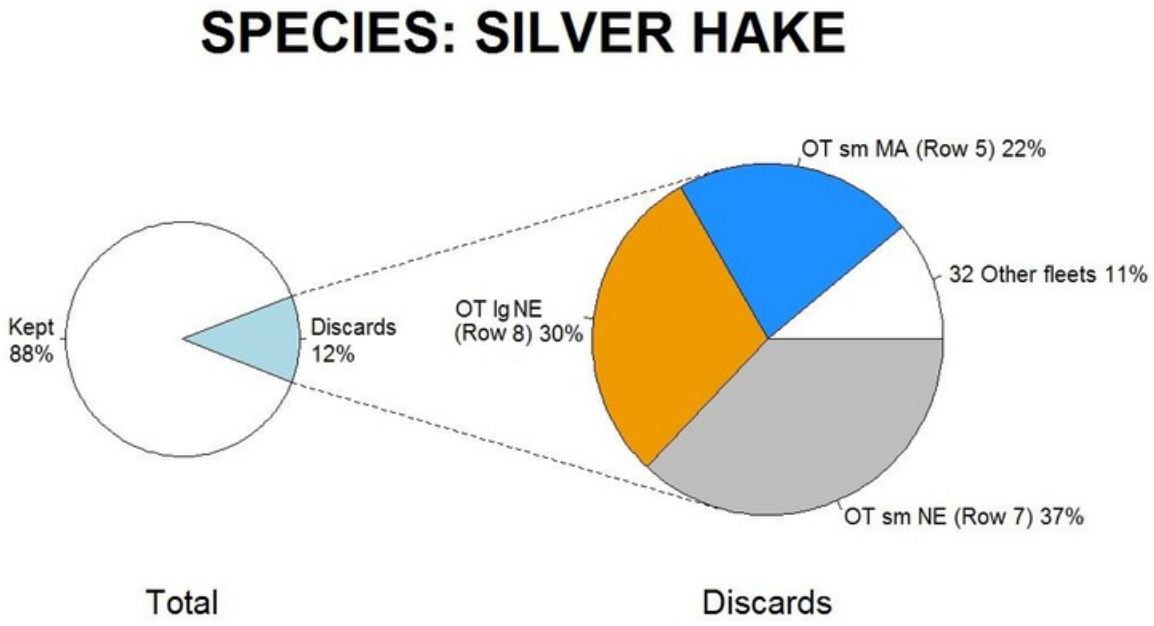


Figure 1B, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for the 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: offshore hake (*Merluccius albidus*); bottom: red hake (*Urophycis chuss*).



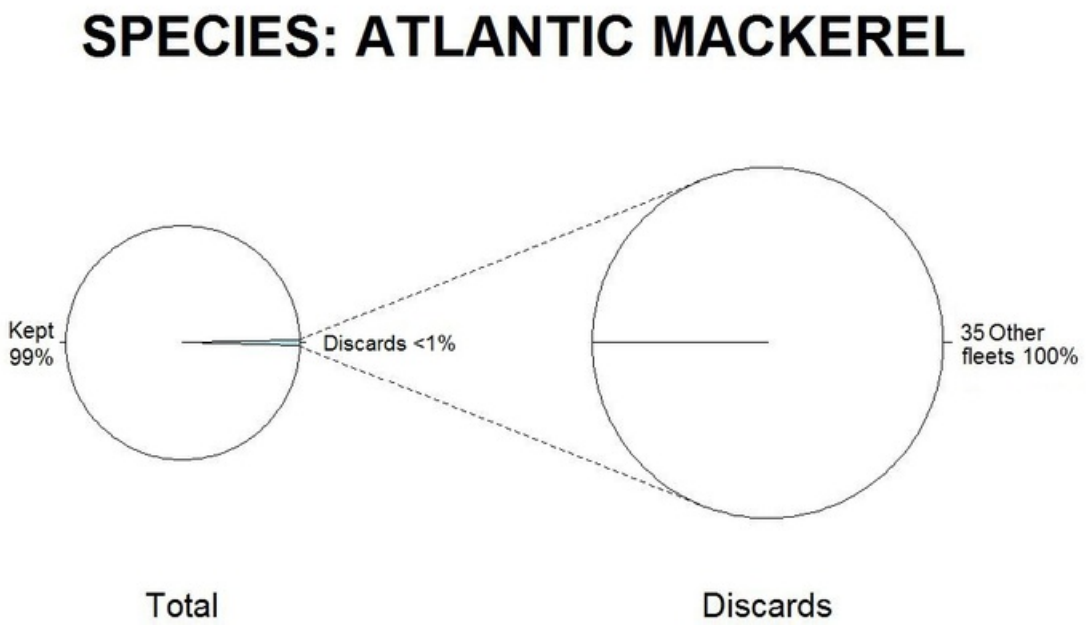


Figure 1B, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for the 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: silver hake (*Merluccius bilinearis*); bottom: Atlantic mackerel (*Scomber scombrus*).

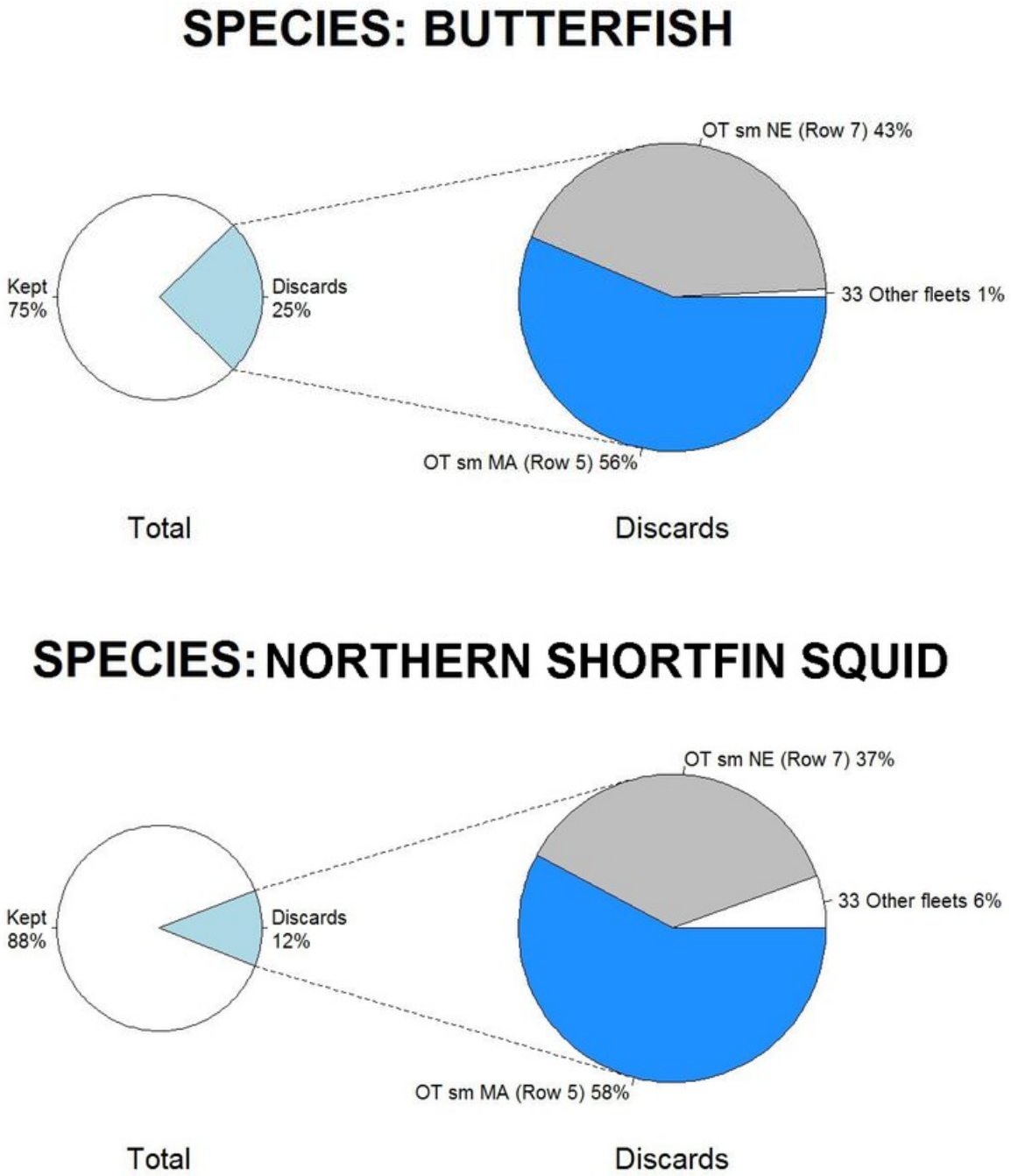


Figure 1B, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for the 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: butterfish (*Peprilus triacanthus*); bottom: northern shortfin squid (*Illex illecebrosus*).

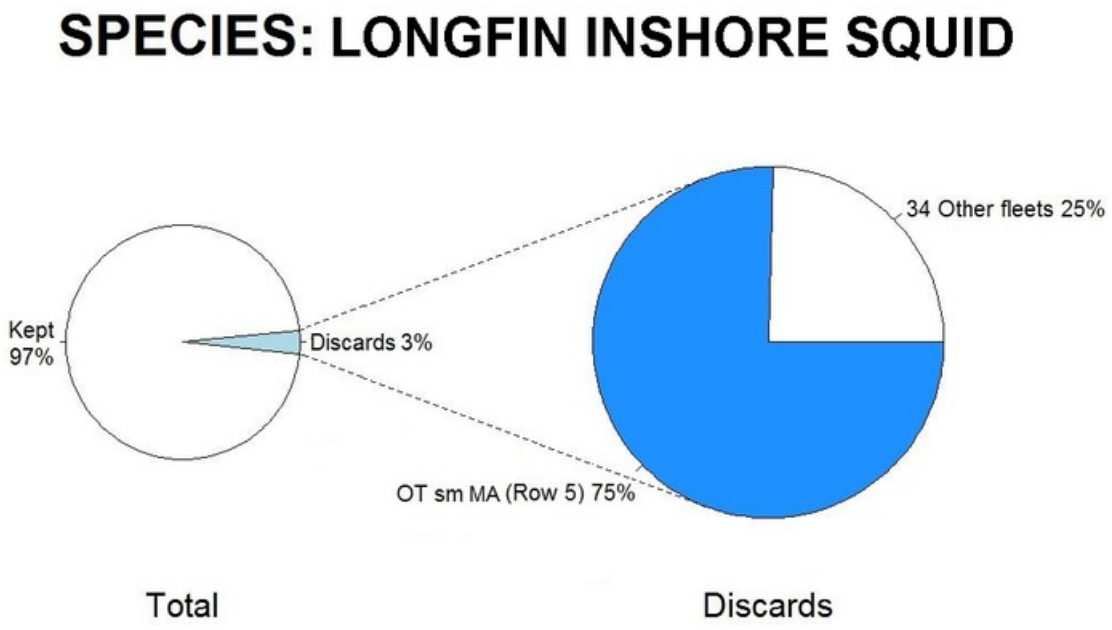


Figure 1B, continued. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by fleet (Discards, right pie) for the 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Appendix Table 4 for fleet abbreviations. Top: Longfin inshore squid (*Doryteuthis [Amerigo] pealeii*).

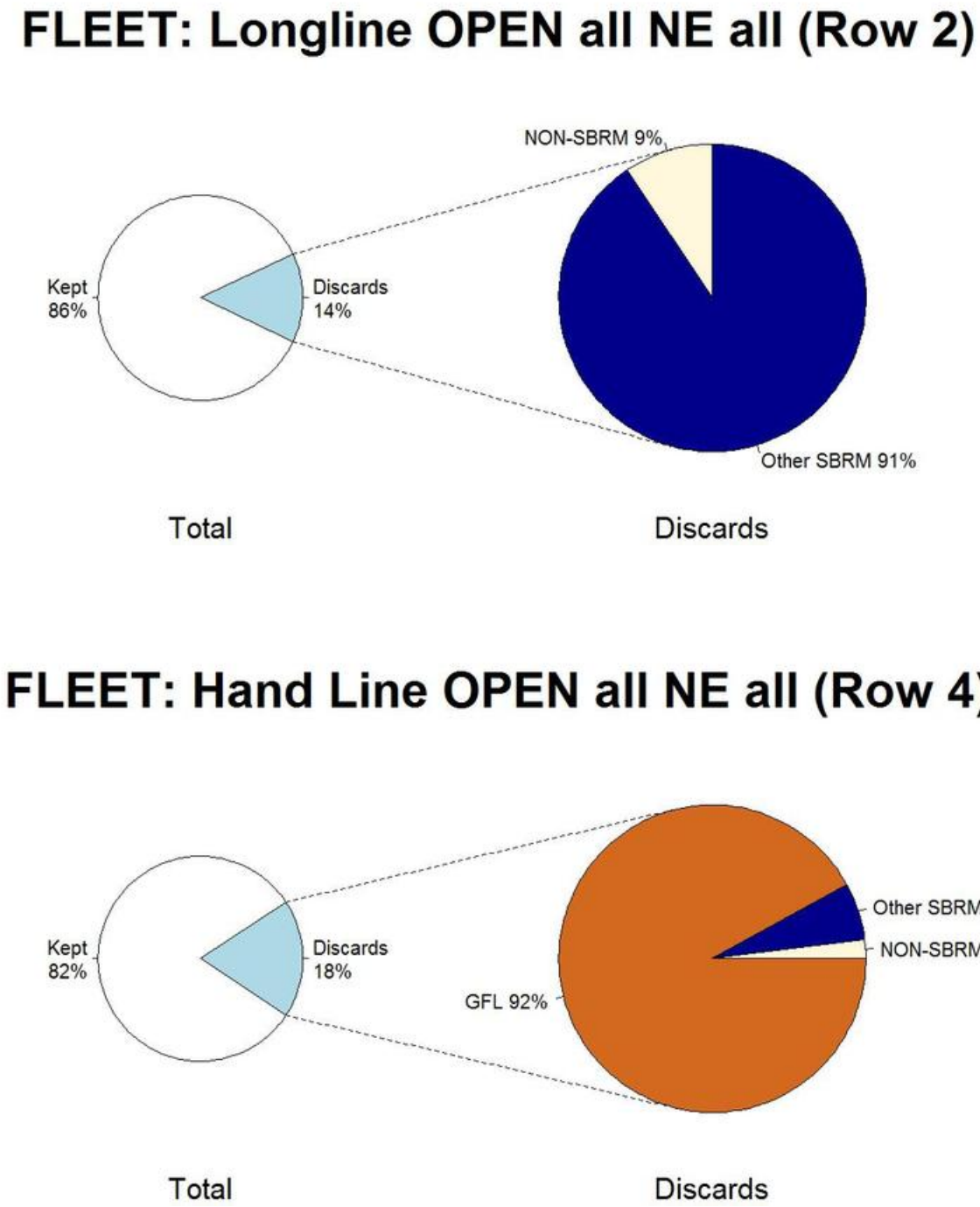
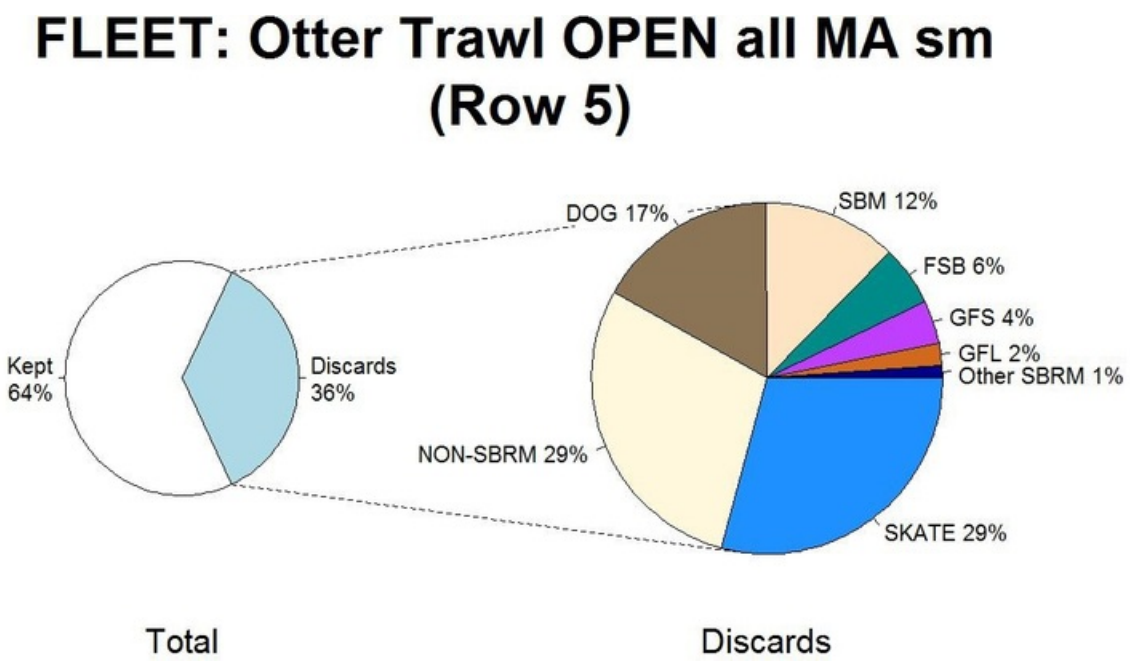
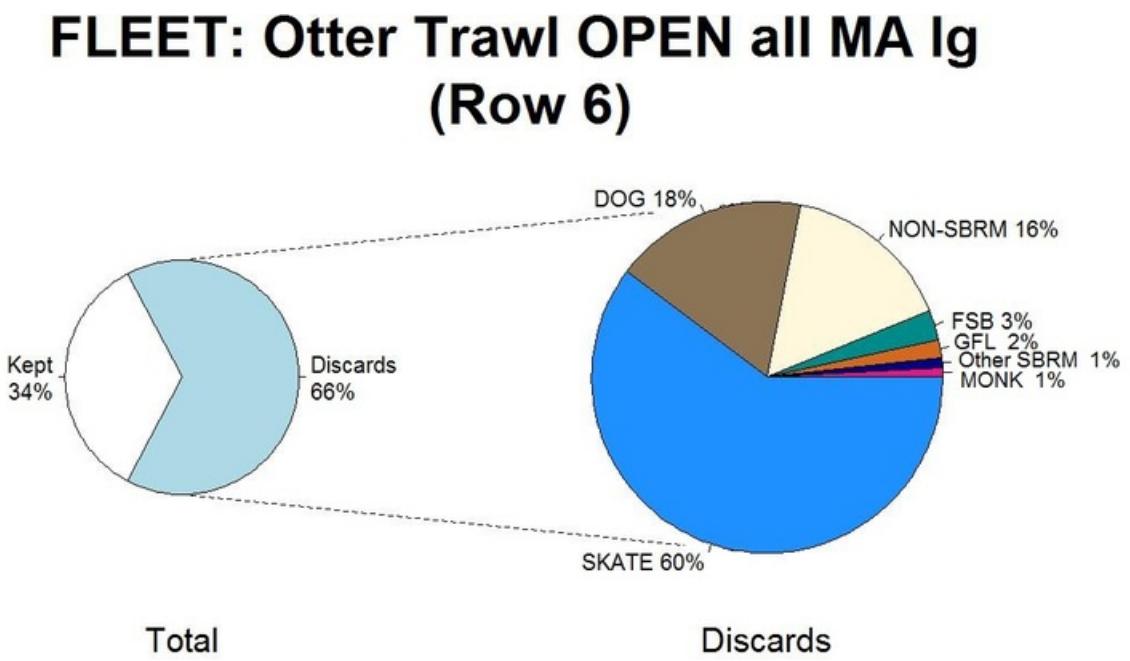


Figure 2. Percentage of Vessel Trip Report landings (kept) and estimated discards (Total, left pie) and the percentage of estimated discards by species groups (Discards, right pie) for 24 selected fleets, based on July 2013 through June 2014 data. Because percentages have been rounded, they may not always sum to 100%. See Table 1 for species group abbreviations; see text and Appendix Table 4 for fleet abbreviations. Standardized Bycatch Reporting Methodology (SBRM) species groups that were filtered out through the importance filter have been aggregated and labeled "Other SBRM;" non-SBRM species have been grouped and labeled "Non-SBRM." ***Note: Selected fleets include Rows 2, 4-8, 11, 18, 23-25, 27, 28, 30, 32-38, 41, 48, and 56; these represent fleets where discards were estimated in 2015 (Table 5A).***





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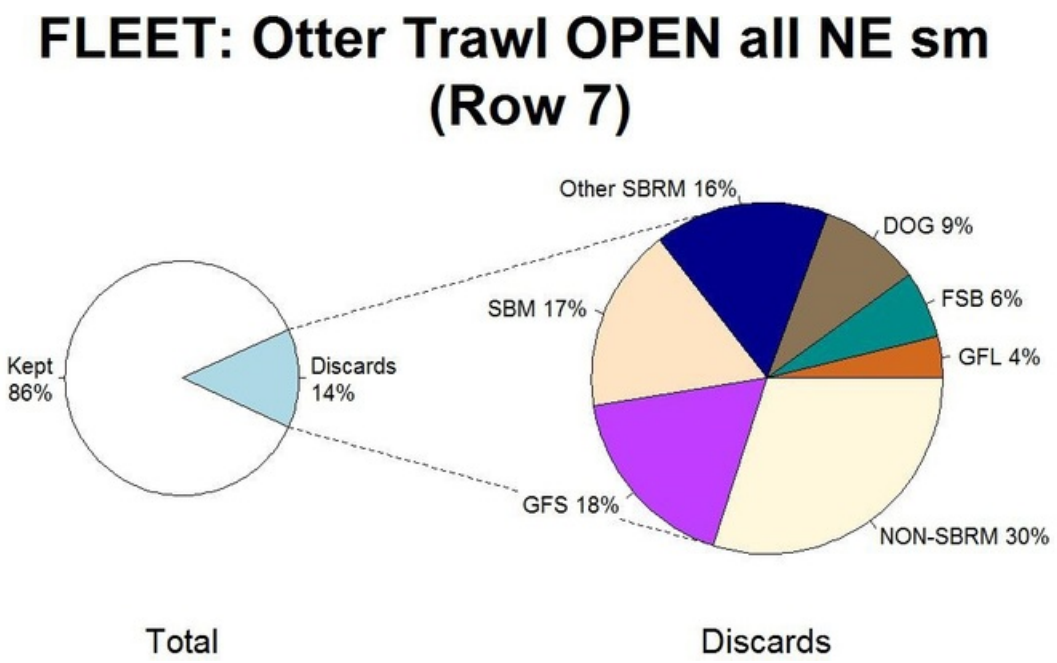

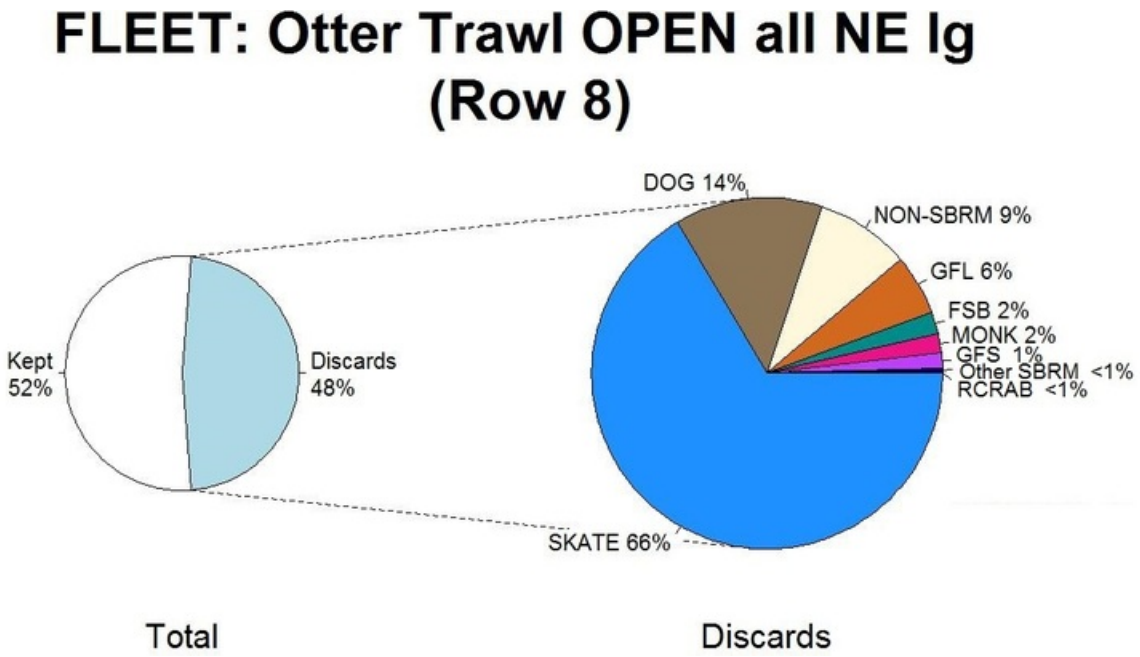

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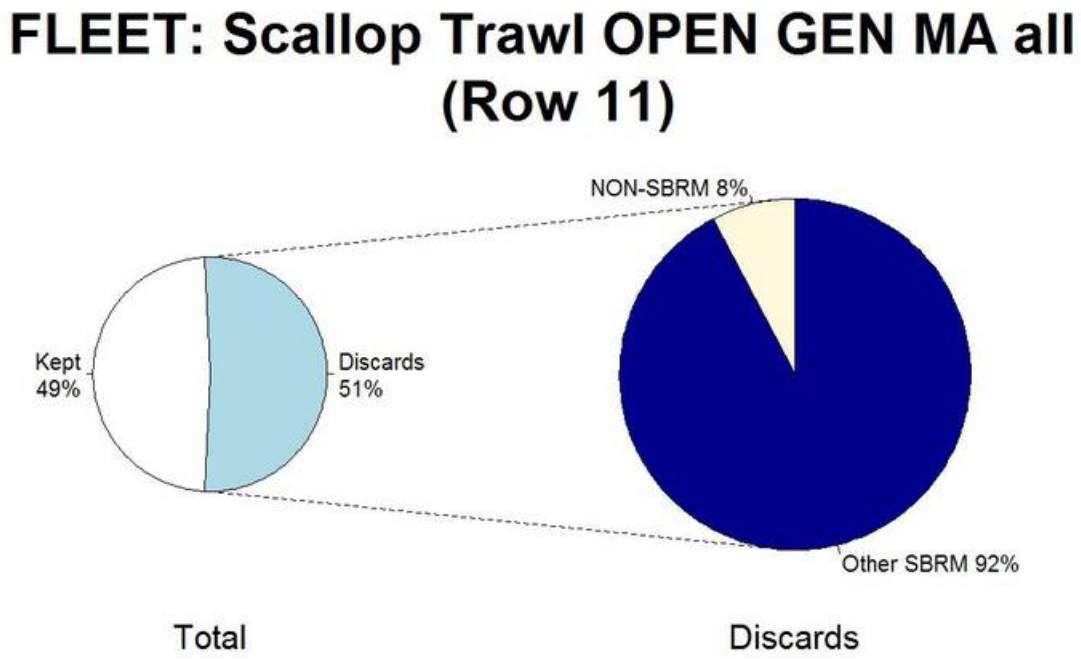

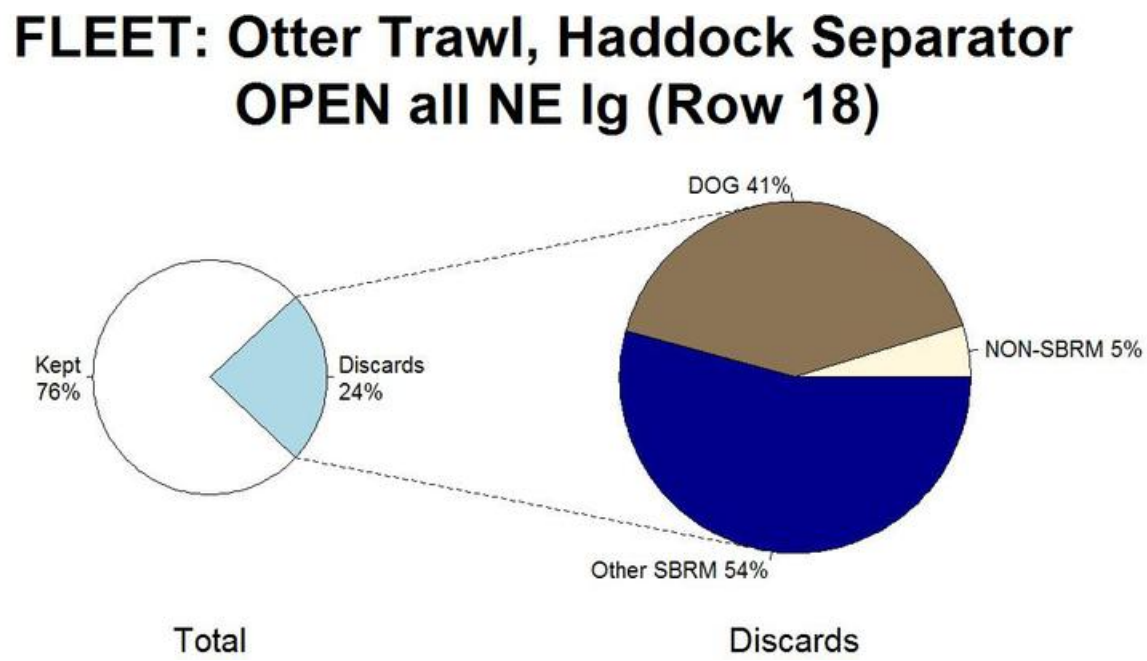

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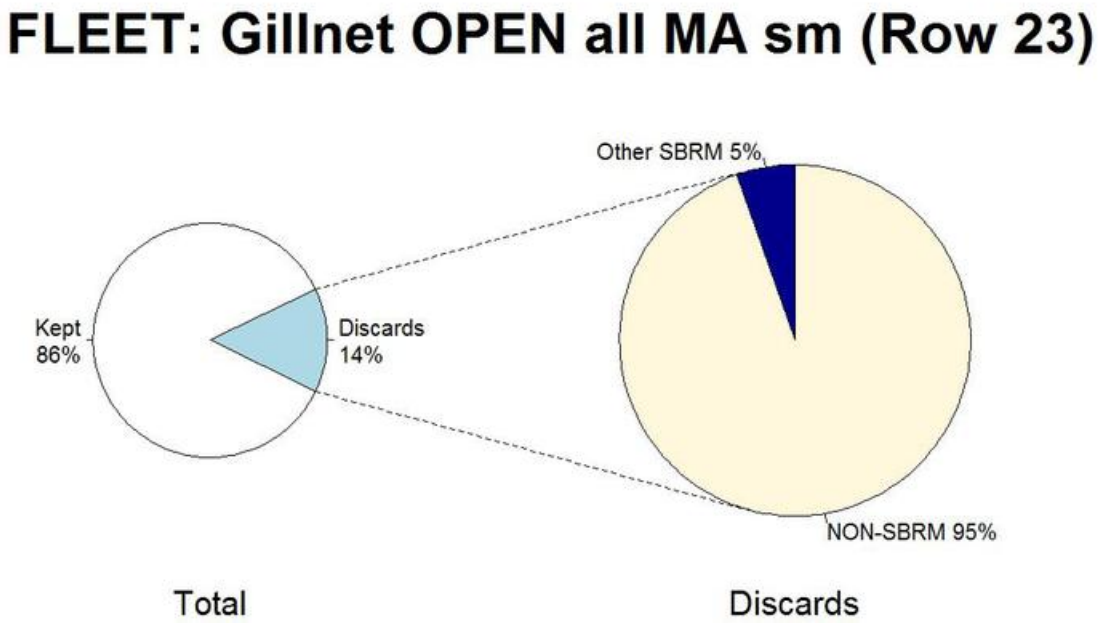

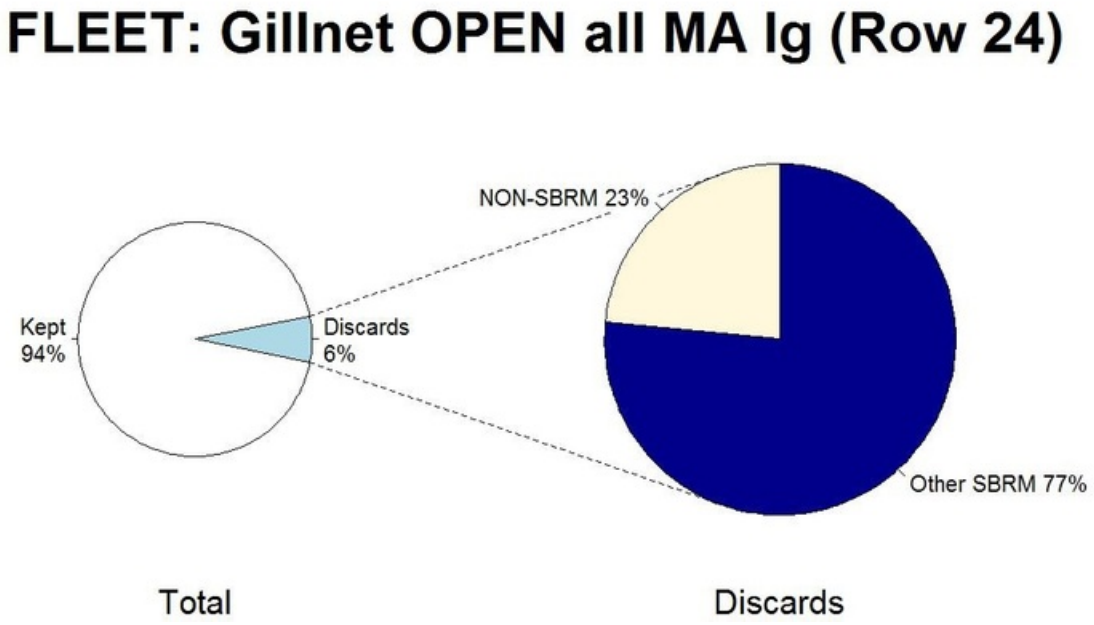

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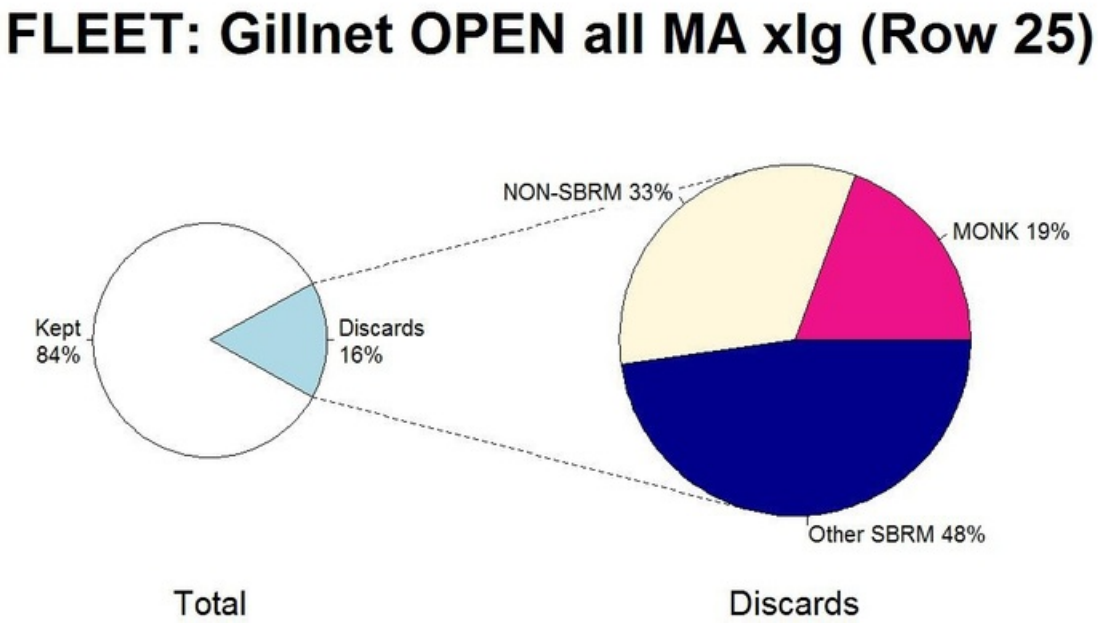

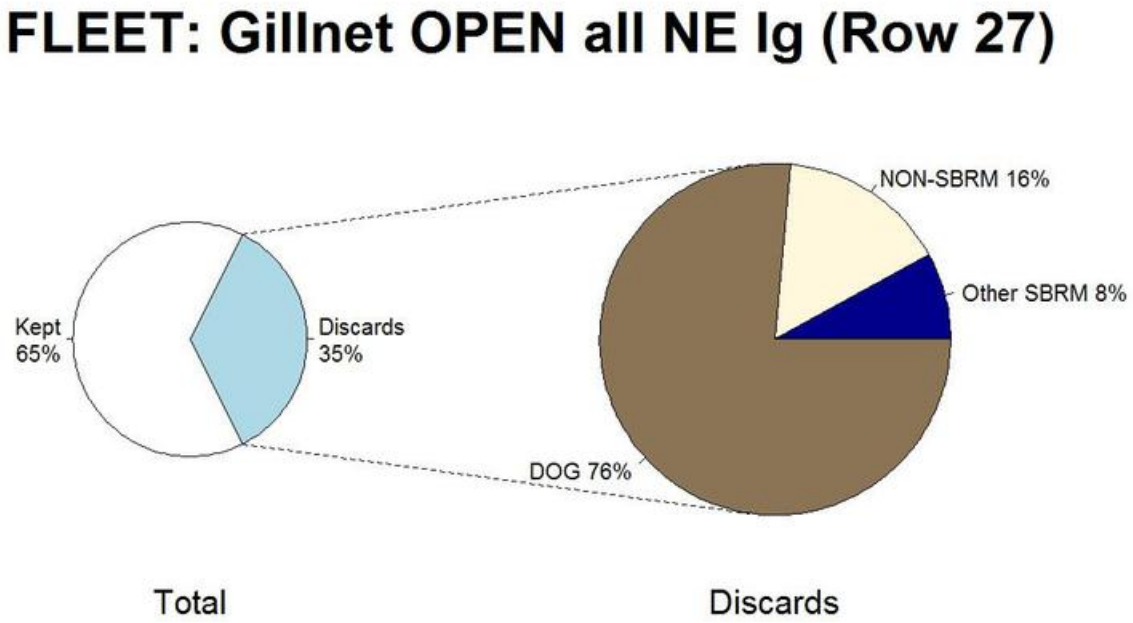

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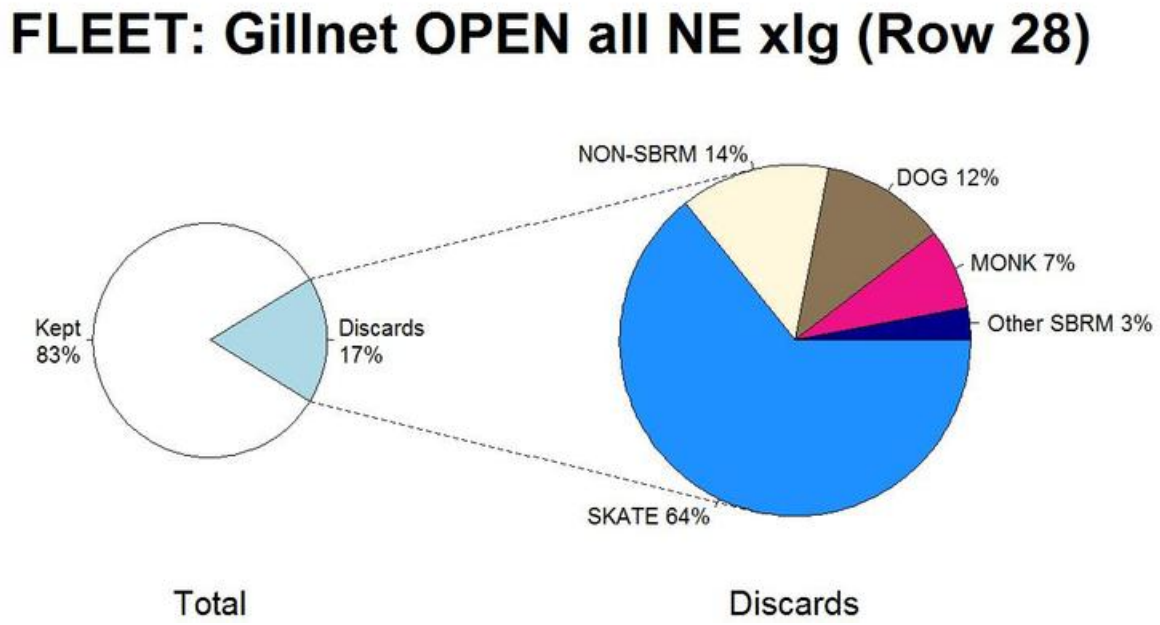

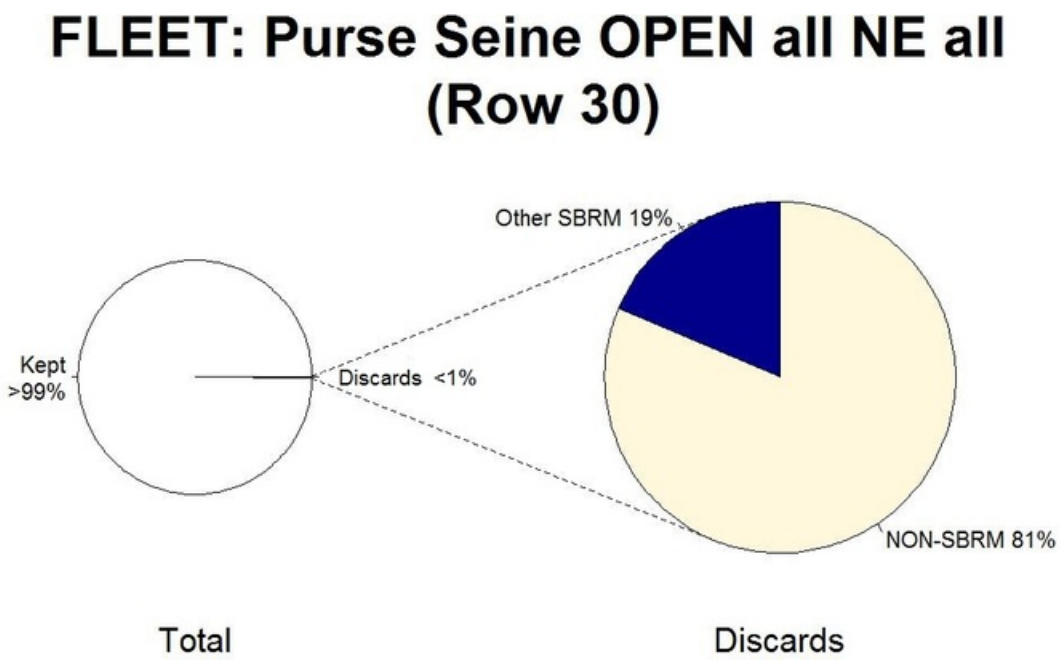

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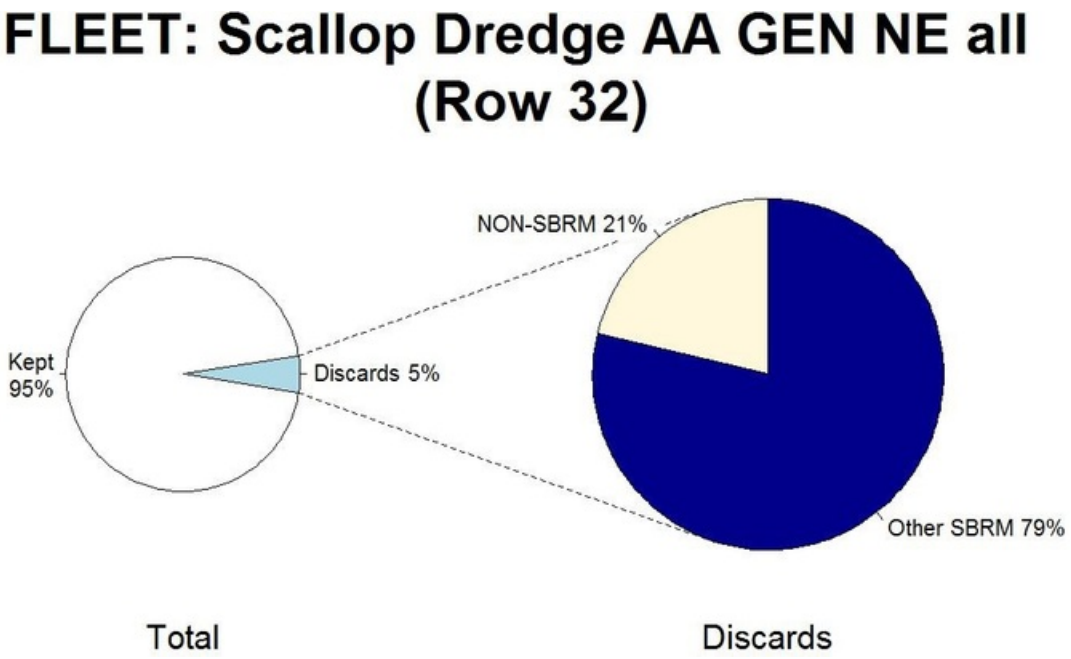

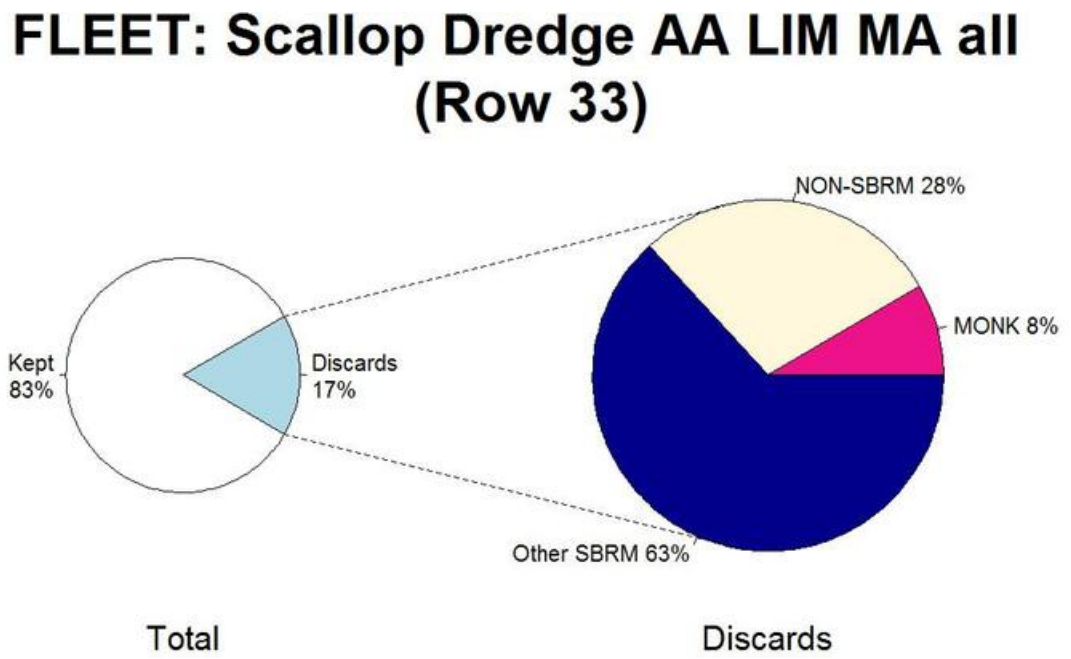

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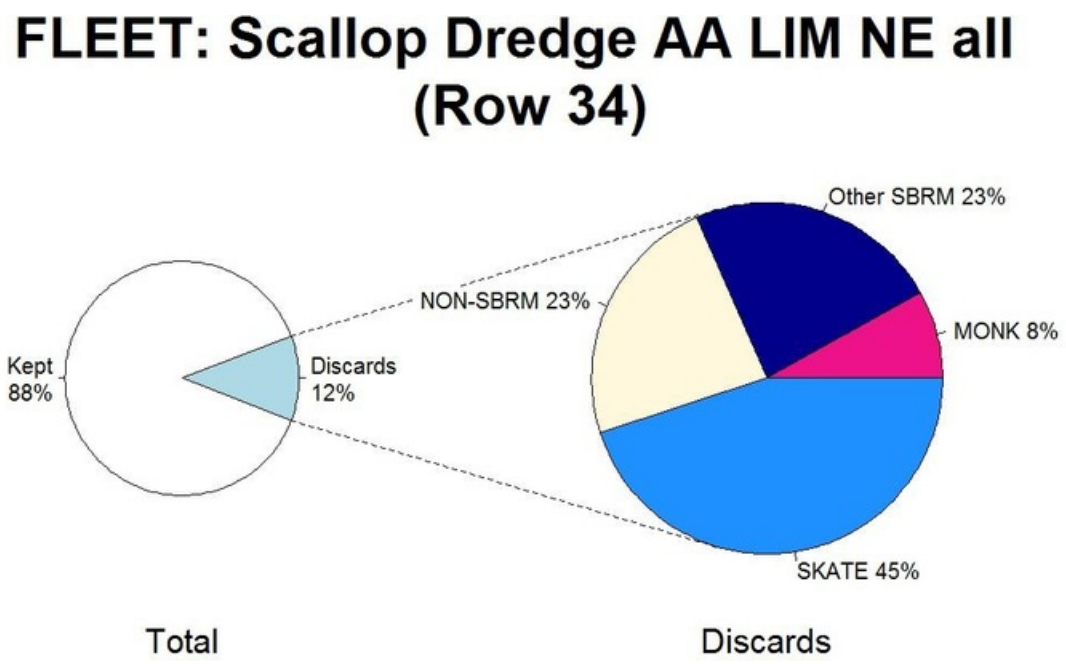

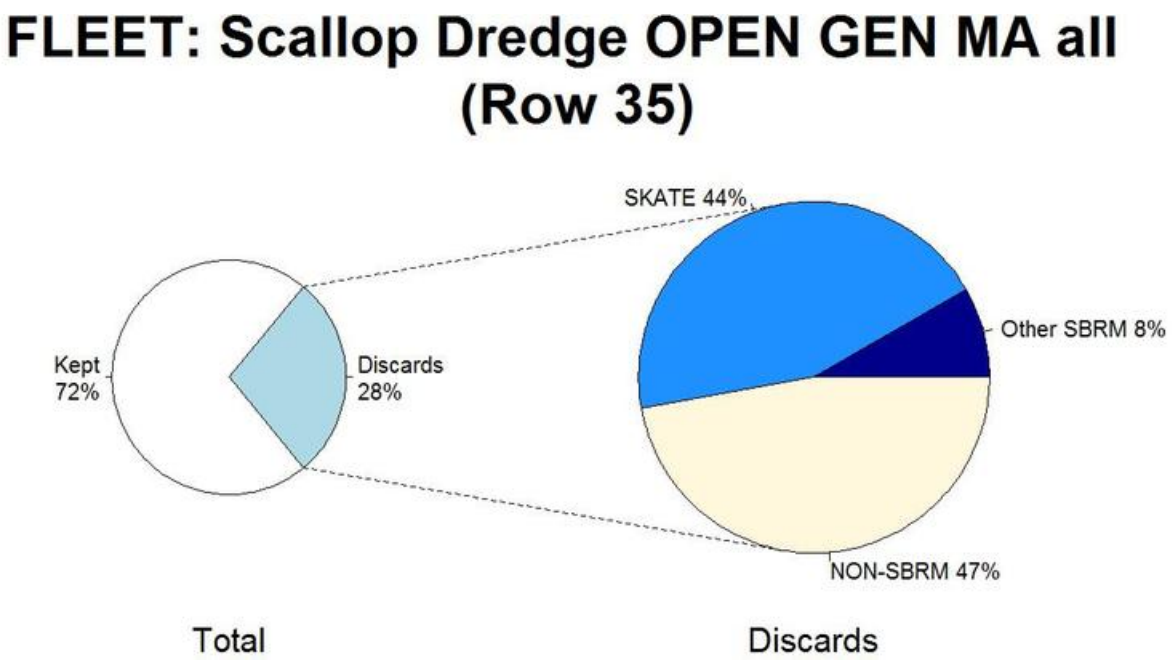

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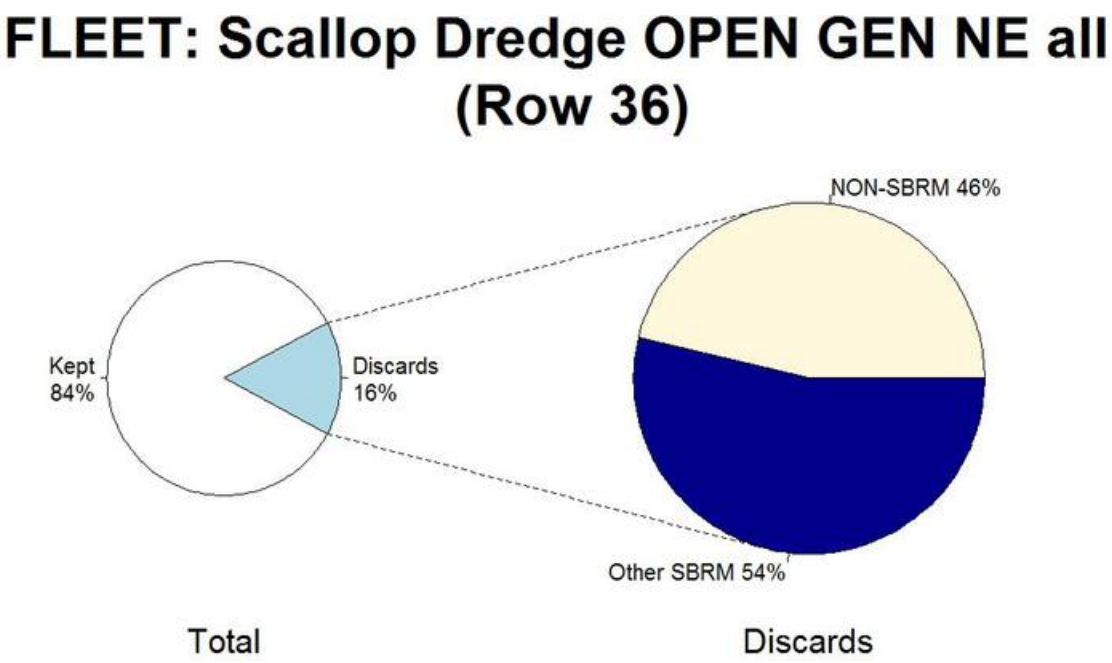

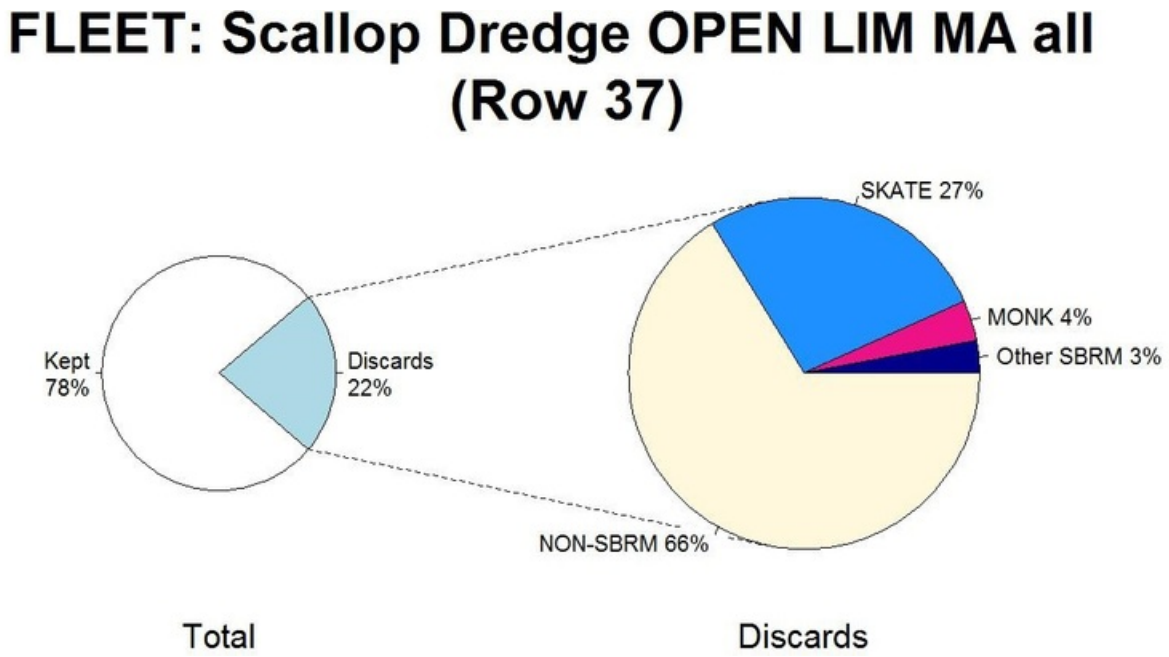

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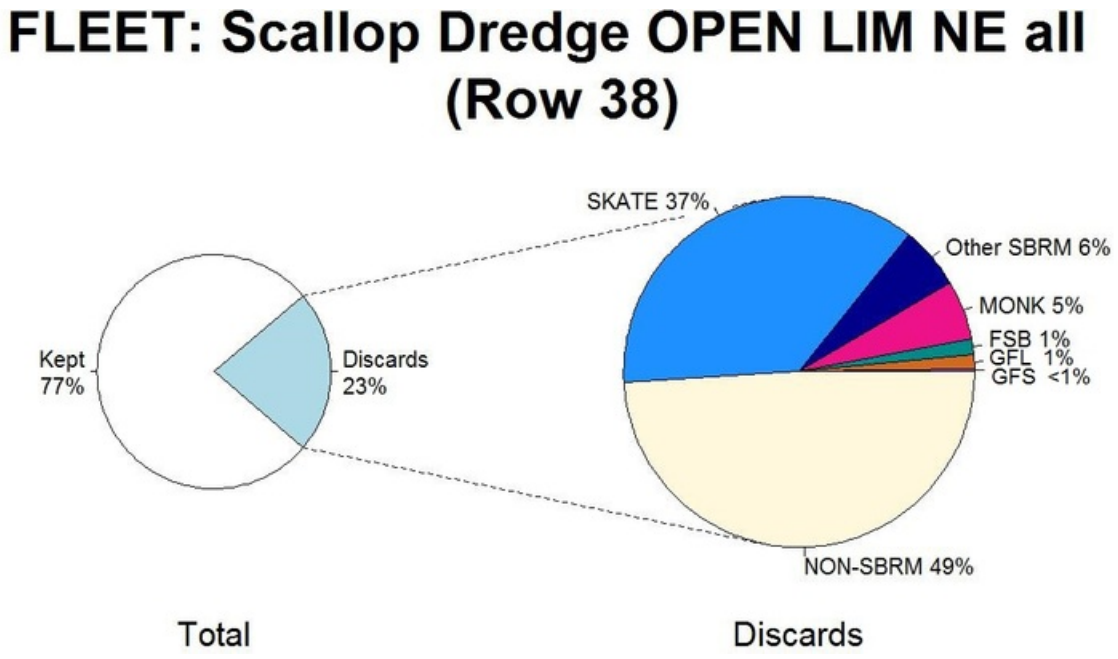

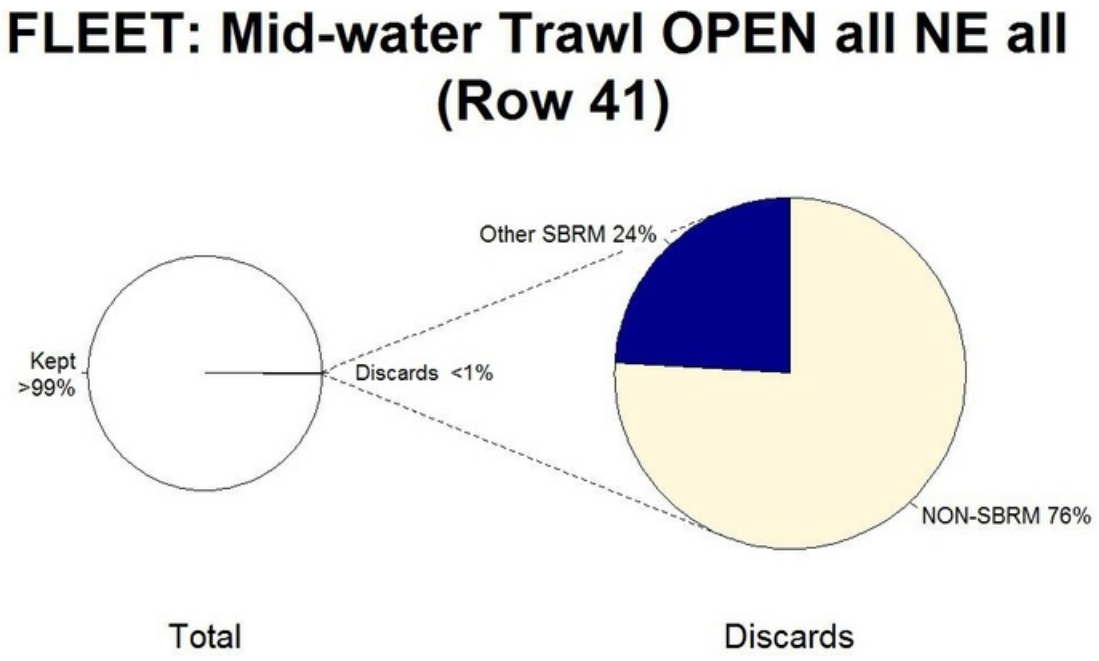

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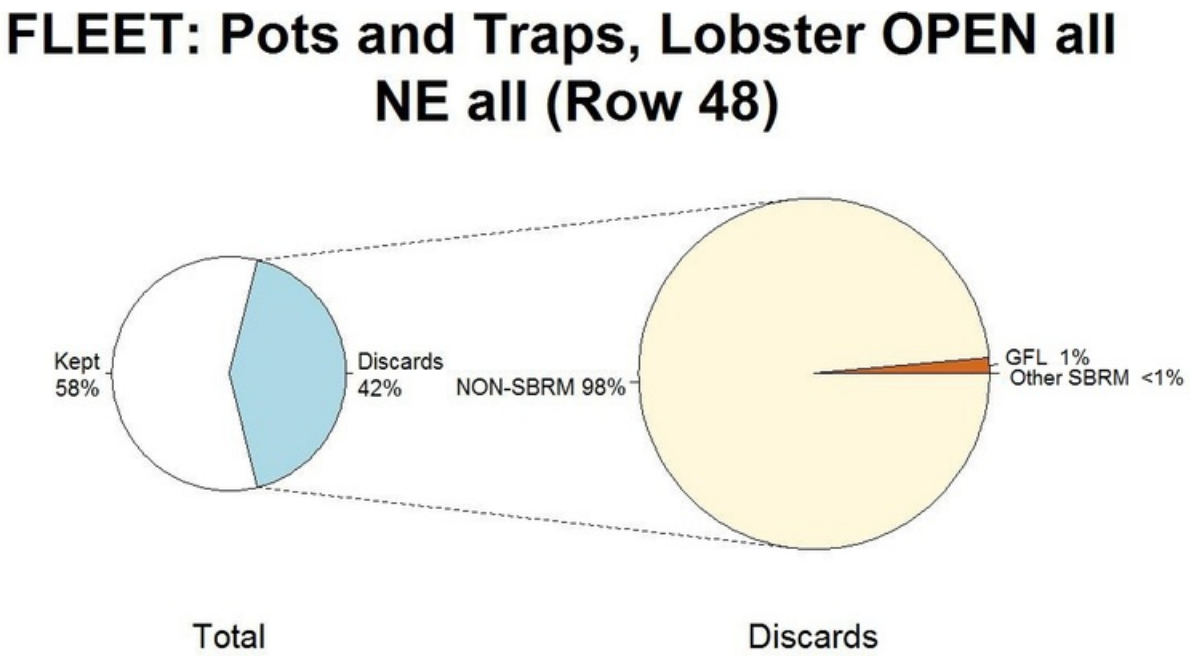

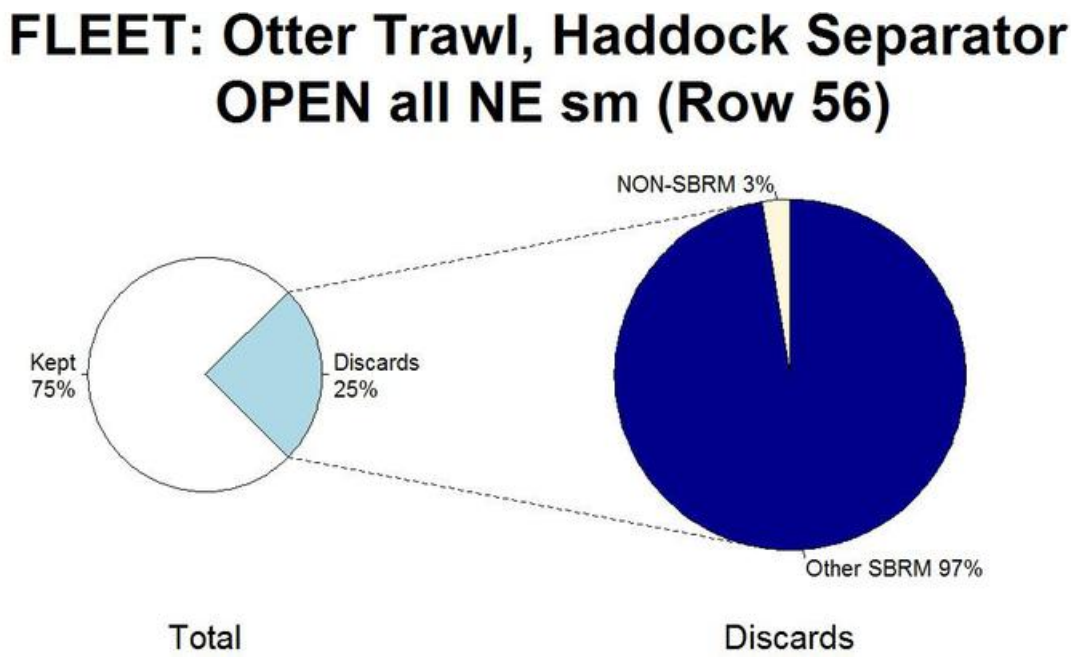

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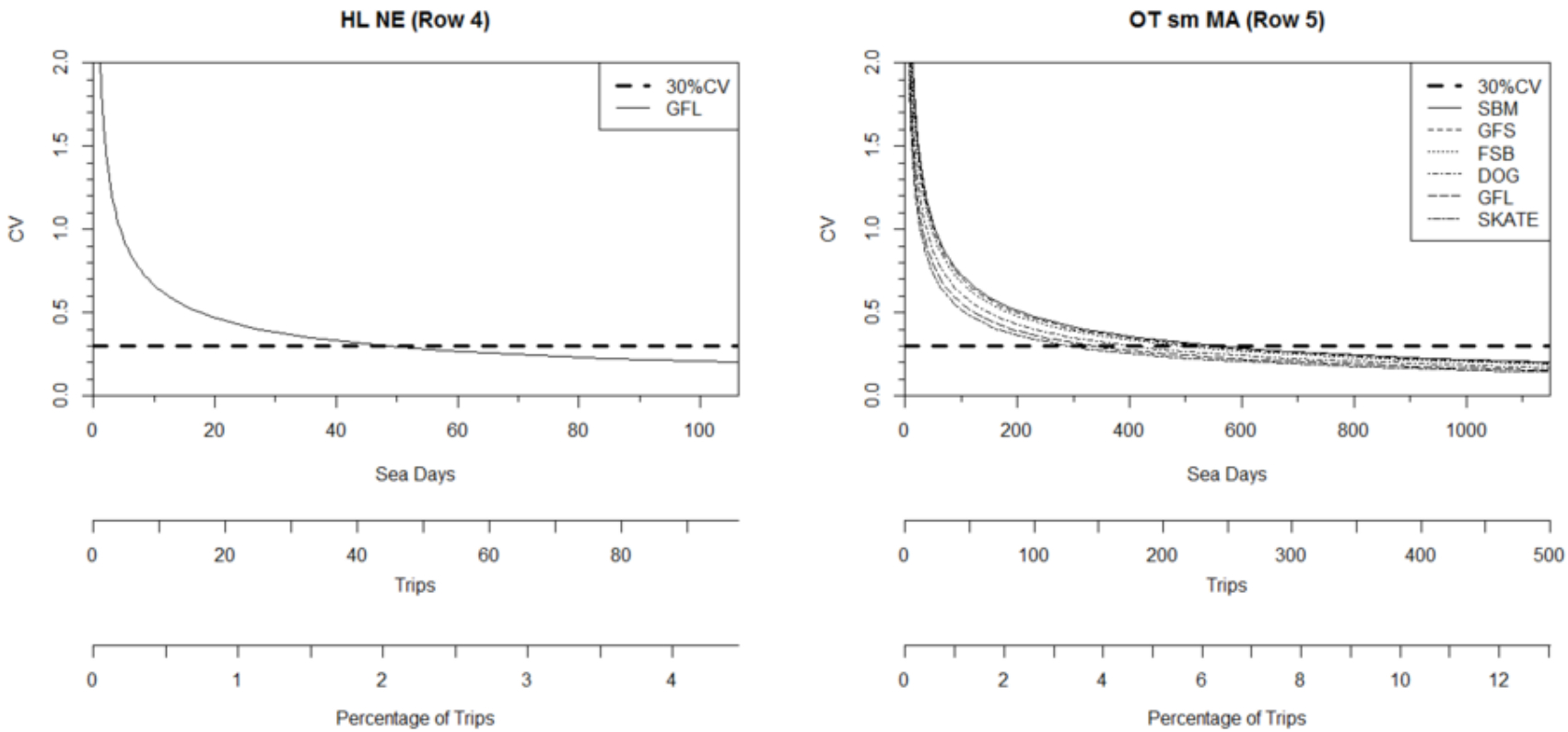
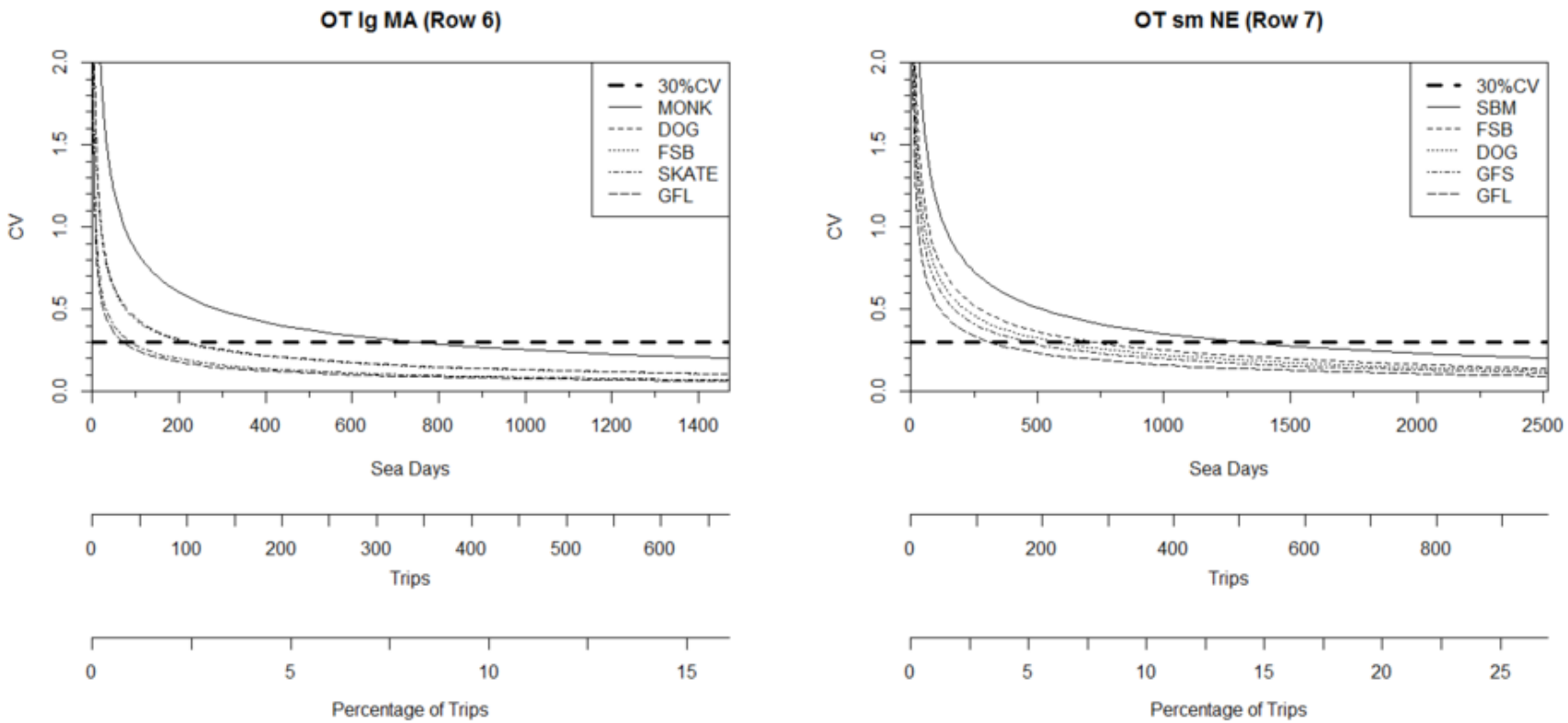


Figure 3. Results from the 2015 sample size analysis conducted for selected fleets. The curves represent the relationship between the coefficient of variance (CV) and the sample size (sea days, trips, and percent of trips) for each of the species groups that was not filtered out. The dash line is the 30% CV. For species group and fleet abbreviations, see Table 1 and Appendix Table 4, respectively.



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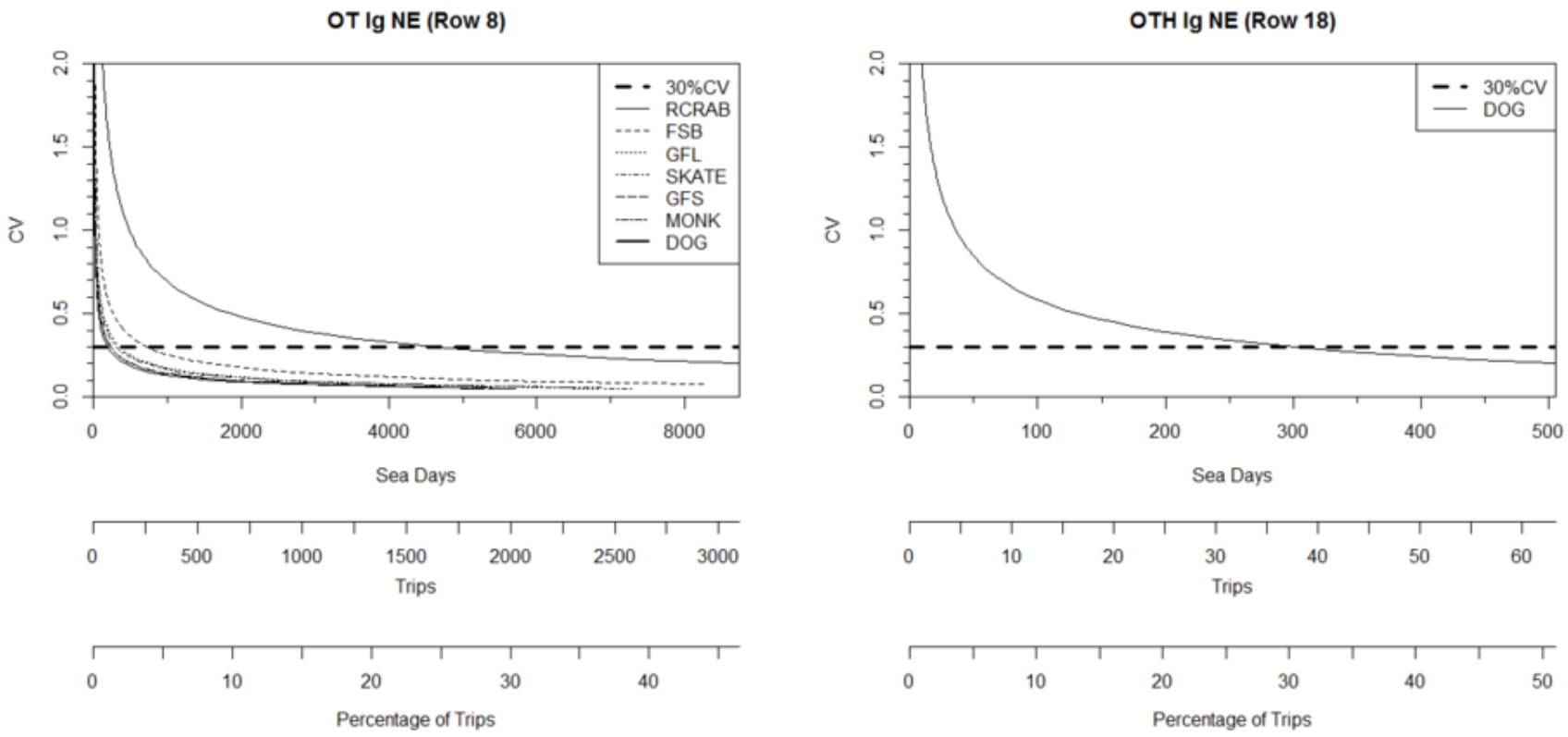

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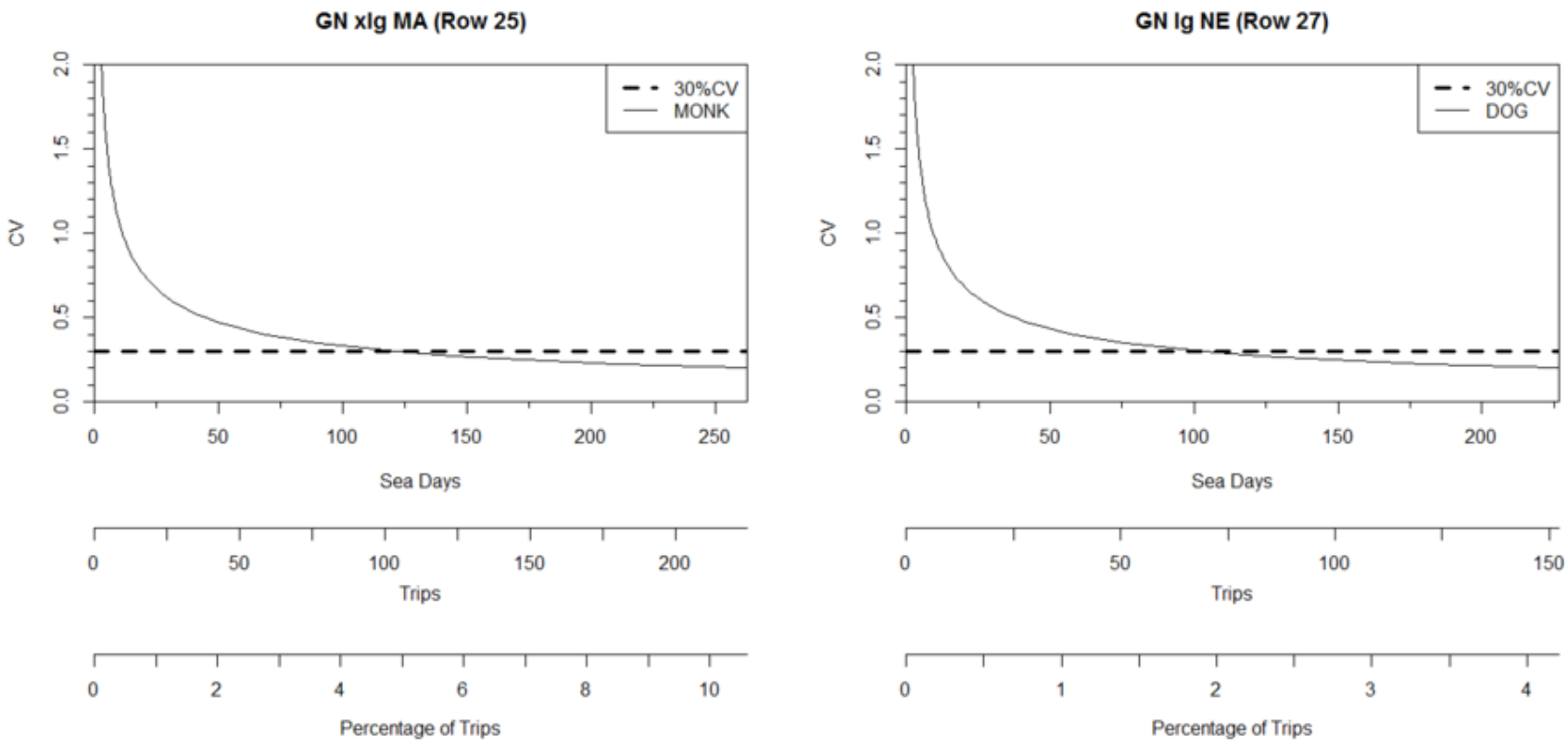

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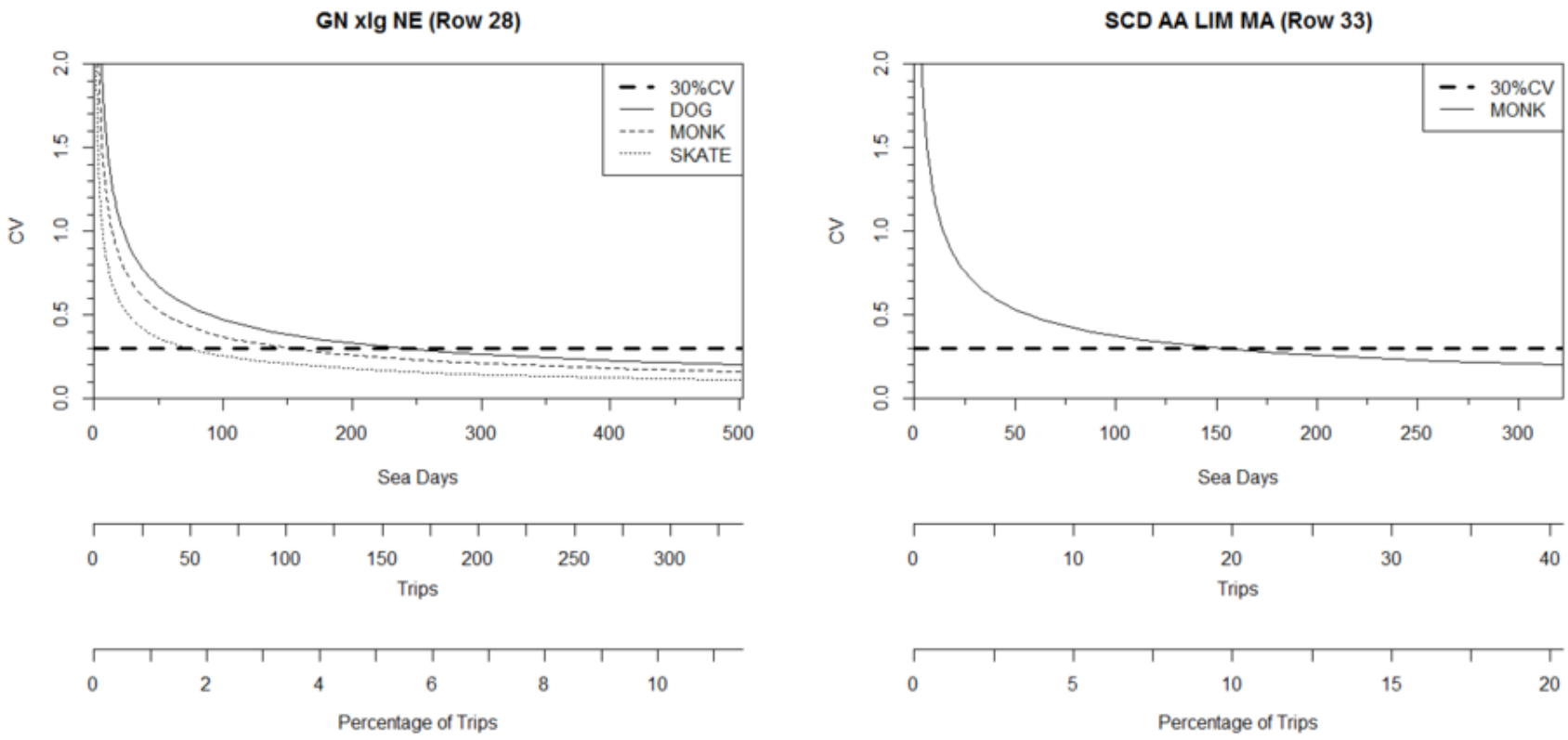

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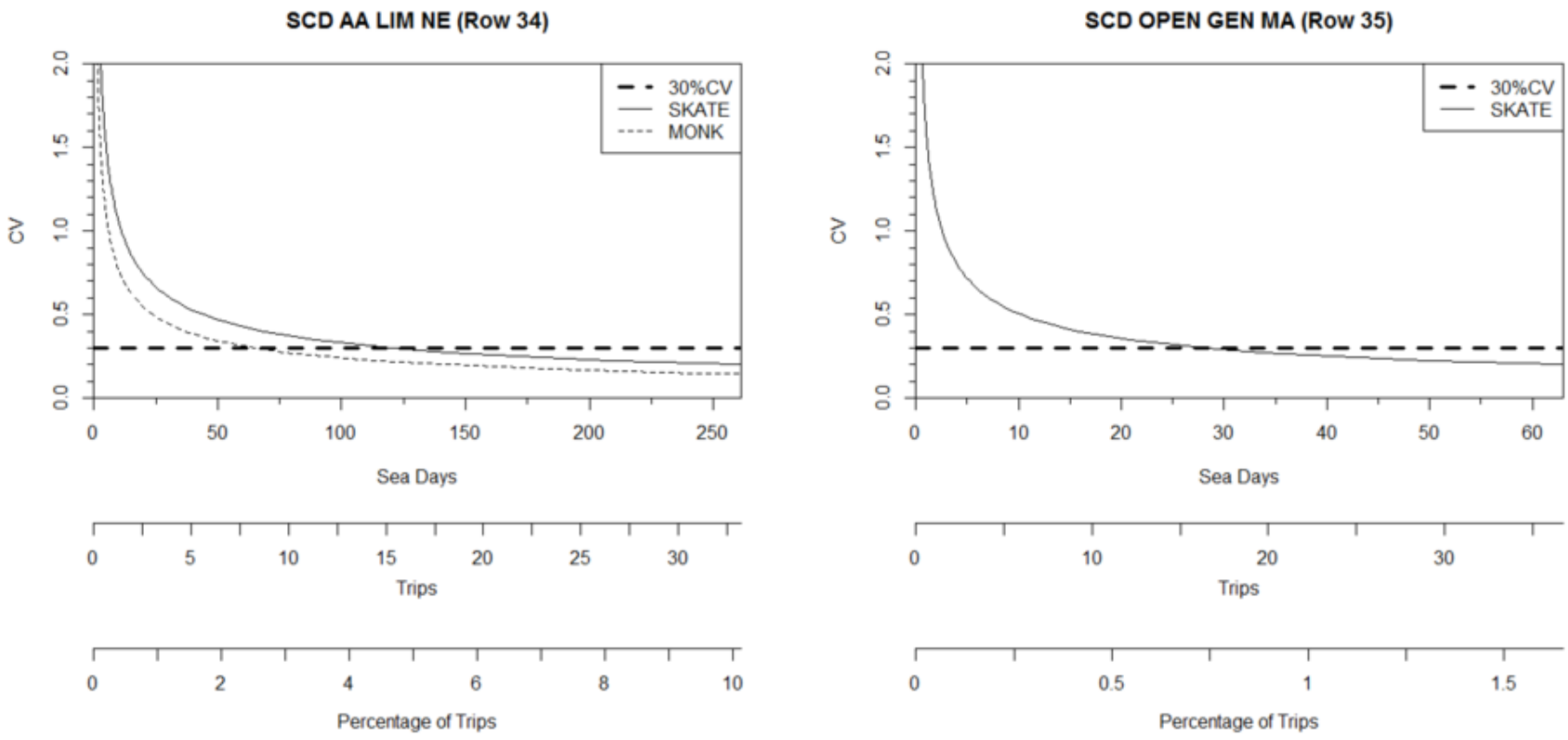

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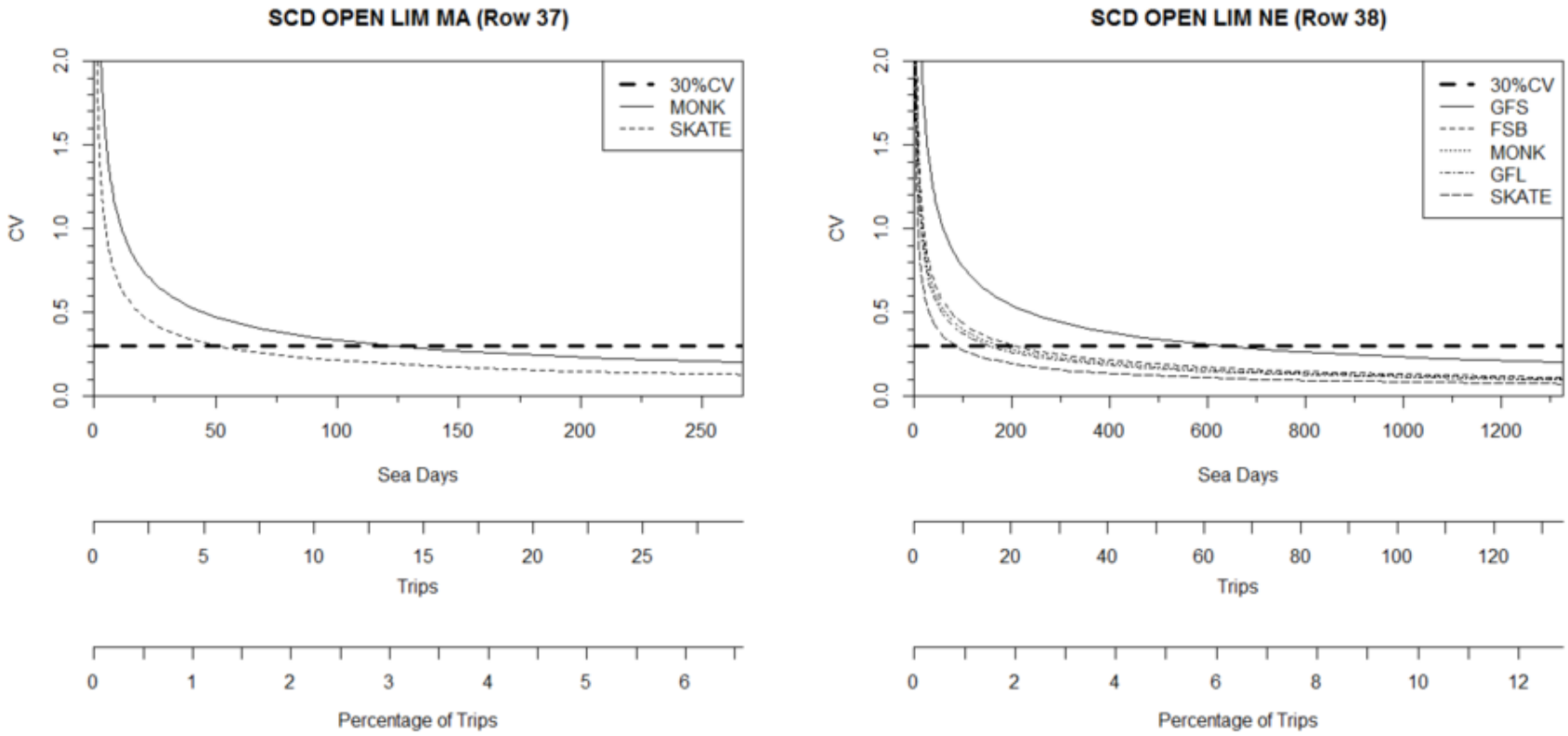

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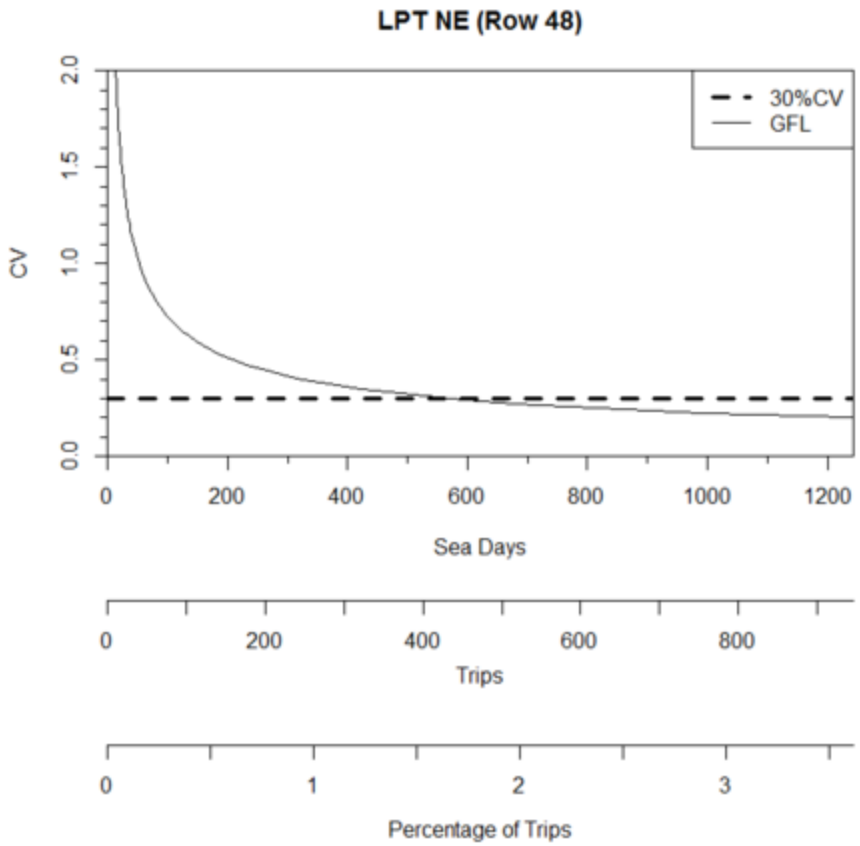

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Appendix Table 1. The number of fleets used in analyses and reported in the tables of this report.

```
56 fleets uniquely identified in Tables 2 & 3

   20 fleets with no observer coverage
       discard estimation not conducted
       pilot fleet designation for sample size analysis

         5 confidential fleets (Rows 9, 10, 15, 21, and 52)
            aggregated into “Confidential fleets” in Tables 4 & 5
        15 nonconfidential fleets

    12 fleets with sparse observer coverage
       discard estimation conducted
       pilot fleet designation for sample size analysis

         1 confidential fleet  (Row 14)
            aggregated into with “Other minor fleets”  in Tables 4 & 5.
            (This fleet is the only confidential fleets with some
            observer data, therefore this fleet cannot be aggregated into
            “Confidential fleets” [confidential information would be
            exposed])

         11 nonconfidential fleets

   24 fleets with sufficient observer coverage
       discard estimation conducted
       variance of discard used for sample size analysis
       nonpilot fleets

         0 confidential fleet
            aggregated into “Confidential fleets” in Tables 4 & 5
        24 nonconfidential fleets
```

```
Other minor fleets
     not uniquely identified
     includes 1 confidential fleet with sparse observer coverage
     aggregated into “Other minor fleets”  in Tables 4 & 5
```

Appendix Table 2. Discard reason categories used in Appendix Tables 3A and 3B and the associated discard fish dispositions.

Discard Reason Category	FISH DISPOSITIION Code	FISH DISPOSITIION Description
No Market	001	NO MARKET, REASON NOT SPECIFIED
	002	NO MARKET, TOO SMALL
	003	NO MARKET, TOO LARGE
	005	NO MARKET, WONT KEEP UNTIL TRIP END
	006	NO MARKET, BUT RETAINED BY VESSEL FOR ALTERNATE PROGRAM
	007	NO MARKET, BUT RETAINED FOR OBSERVER FOR SCIENTIFIC PURPOSES
	008	NO MARKET, BROUGHT ONBOARD ONLY FOR THE PURPOSE OF OBSERVER SAMPLING
Regulation (Size)	012	REGULATIONS PROHIBIT RETENTION, TOO SMALL
	013	REGULATIONS PROHIBIT RETENTION, TOO LARGE
Regulation (Quota)	004	NO MARKET, QUOTA FILLED
	014	REGULATIONS PROHIBIT RETENTION, QUOTA FILLED
	015	REGULATIONS PROHIBIT RETENTION, NO QUOTA IN AREA
	025	REGULATIONS PROHIBIT ANY RETENTION
Regulation (Other)	011	REGULATIONS PROHIBIT RETENTION, REASON NOT SPECIFIED
	022	REGULATIONS PROHIBIT RETENTION, V-NOTCHED
	023	REGULATIONS PROHIBIT RETENTION, SOFT-SHELL
	024	REGULATIONS PROHIBIT RETENTION, WITH EGGS
Poor Quality	031	POOR QUALITY, REASON NOT SPECIFIED
	032	POOR QUALITY, SANDFLEA DAMAGE
	033	POOR QUALITY, SEAL DAMAGE
	034	POOR QUALITY, SHARK DAMAGE
	035	POOR QUALITY, CETACEAN DAMAGE
	036	POOR QUALITY, HAGFISH DAMAGE
	037	POOR QUALITY, SHELL DISEASE
	038	POOR QUALITY, GEAR DAMAGE
Other	000	DISCARDED, UNKNOWN REASON
	040	NOT BROUGHT ON BOARD, OPERATIONAL DISCARDS
	041	NOT BROUGHT ON BOARD, REASON NOT SPECIFIED
	042	NOT BROUGHT ON BOARD, GEAR DAMAGE PREVENTED CAPTURE
	043	NOT BROUGHT ON BOARD, FELL OUT/OFF OF GEAR
	044	NOT BROUGHT ON BOARD, CONSIDERED TO HAVE NO MARKET VALUE
	045	NOT BROUGHT ON BOARD, SAFETY REASON
	046	NOT BROUGHT ON BOARD, MECHANICAL FAILURE
	047	NOT BROUGHT ON BOARD, SPINY DOG CLOGGING PUMP
	048	NOT BROUGHT ON BOARD, VESSEL CAPACITY FILLED
	049	NOT BROUGHT ON BOARD, NOT ENOUGH FISH TO PUMP ABOARD
	052	INCIDENTAL TAKE (MAMMAL, SEA TURTLE, SEA BIRD)
	053	DEBRIS
	054	EMPTY SHELLS
	062	UPGRADED
	063	RETAINING ONLY CERTAIN SIZE BETTER PRICE TRIP QUOTA IN EFFECT
	070	NOT BROUGHT ON BOARD, QUALITY OF FISH
	071	NOT BROUGHT ON BOARD, CLOGGED PUMP OTHER
	099	DISCARDED, OTHER

Note: Fish disposition code '039' = POOR QUALITY, PREVIOUSLY DISCARDED has been excluded from this report.

Appendix Table 3A. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2013 through June 2014 data.

Species Group: ATLANTIC SALMON (Salmo salar)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
	35 Other fleets filtered out					33	0.0	0.0	100.0	0.0	0.0	0.0	100.0
					Total	33	0.0	0.0	100.0	0.0	0.0	0.0	100.0

Species Group: BLUEFISH (Pomatomus saltatrix)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
	35 Other fleets filtered out					42,651	44.3	6.2	2.5	0.2	35.5	11.3	100.0
					Total	42,651	44.3	6.2	2.5	0.2	35.5	11.3	100.0

Species Group: FLUKE (Paralichthys dentatus) - SCUP (Stenotomus chrysops) - BLACK SEA BASS (Centropristis striata)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	1,221,866	10.3	60.1	20.7	1.4	0.3	7.2	100.0
6	Otter Trawl	OPEN	all	MA	lg	748,419	4.6	48.7	40.6	0.2	1.2	4.7	100.0
7	Otter Trawl	OPEN	all	NE	sm	552,711	9.6	36.1	42.5	0.0	1.4	10.3	100.0
8	Otter Trawl	OPEN	all	NE	lg	1,065,120	6.5	6.9	79.9	1.1	0.1	5.5	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	681,158	65.2	0.0	33.6	1.2	0.0	0.0	100.0
	30 Other fleets filtered out					668,887	41.4	14.0	32.7	0.1	3.5	8.3	100.0
					Total	4,938,161	20.3	29.7	42.3	0.8	0.9	6.0	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2013 through June 2014 data.

Species Group: HERRING, ATLANTIC (Clupea harengus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
	35 Other fleets filtered out					161,166	40.8	0.0	53.2	0.0	5.2	0.8	100.0
					Total	161,166	40.8	0.0	53.2	0.0	5.2	0.8	100.0

Species Group: LARGE MESH GROUNDFISH

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
4	Hand Line	OPEN	all	NE	all	226,376	0.0	100.0	0.0	0.0	0.0	0.0	100.0
5	Otter Trawl	OPEN	all	MA	sm	437,758	22.8	5.0	71.6	0.6	0.0	0.0	100.0
6	Otter Trawl	OPEN	all	MA	lg	457,016	37.9	3.9	57.3	0.2	0.0	0.7	100.0
7	Otter Trawl	OPEN	all	NE	sm	343,984	3.1	7.2	89.7	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	2,954,983	23.0	57.3	18.6	0.0	0.6	0.5	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	674,632	74.9	1.6	21.0	2.5	0.0	0.0	100.0
48	Pots and Traps, Lobster	OPEN	all	NE	all	301,425	58.4	0.0	41.6	0.0	0.0	0.0	100.0
	28 Other fleets filtered out					1,093,975	33.4	34.2	18.2	0.1	14.0	0.1	100.0
					Total	6,490,149	31.0	36.5	29.3	0.3	2.6	0.3	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2013 through June 2014 data.

Species Group: MONKFISH (Lophius americanus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
6	Otter Trawl	OPEN	all	MA	lg	233,350	13.4	43.7	38.7	0.0	0.0	4.1	100.0
8	Otter Trawl	OPEN	all	NE	lg	922,250	4.6	95.1	0.3	0.0	0.1	0.0	100.0
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	256,066	0.0	3.2	6.4	0.0	90.4	0.0	100.0
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	236,520	1.3	0.9	0.1	0.0	95.4	2.4	100.0
33	Scallop Dredge	AA	LIM	MA	all	266,789	63.8	15.6	20.6	0.0	0.0	0.0	100.0
34	Scallop Dredge	AA	LIM	NE	all	338,137	74.5	23.3	1.9	0.0	0.4	0.0	100.0
37	Scallop Dredge	OPEN	LIM	MA	all	590,872	73.1	26.2	0.1	0.0	0.7	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	2,640,687	79.2	16.2	2.7	0.0	0.5	1.3	100.0
	27 Other fleets filtered out					304,138	39.7	35.7	19.6	2.5	2.0	0.5	100.0
					Total	5,788,810	54.3	31.1	5.2	0.1	8.3	0.9	100.0

Species Group: RED DEEPSEA CRAB (Chaceon quinquedens)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
8	Otter Trawl	OPEN	all	NE	lg	81,977	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	34 Other fleets filtered out					19,501	71.4	0.0	28.6	0.0	0.0	0.0	100.0
					Total	101,478	94.5	0.0	5.5	0.0	0.0	0.0	100.0

Species Group: SEA SCALLOP (Placopecten magellanicus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
	35 Other fleets filtered out					5,239,579	77.8	0.0	7.2	0.2	12.3	2.5	100.0
					Total	5,239,579	77.8	0.0	7.2	0.2	12.3	2.5	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2013 through June 2014 data.

*Species Group: SKATE COMPLEX (*Rajidae*)*

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	6,478,280	91.4	0.0	7.7	0.3	0.0	0.5	100.0
6	Otter Trawl	OPEN	all	MA	lg	16,601,168	93.2	0.3	4.2	0.0	0.0	2.4	100.0
8	Otter Trawl	OPEN	all	NE	lg	34,975,028	90.0	0.1	9.6	0.0	0.0	0.3	100.0
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	2,064,308	44.3	0.6	38.8	0.0	14.5	1.8	100.0
34	Scallop Dredge	AA	LIM	NE	all	1,880,014	97.6	0.0	2.4	0.0	0.0	0.0	100.0
35	Scallop Dredge	OPEN	GEN	MA	all	1,723,487	80.7	0.0	19.3	0.0	0.0	0.0	100.0
37	Scallop Dredge	OPEN	LIM	MA	all	4,353,141	97.4	0.0	2.6	0.0	0.0	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	17,901,678	97.4	0.0	2.6	0.0	0.0	0.0	100.0
	27 Other fleets filtered out					4,433,493	87.1	0.0	12.6	0.0	0.3	0.0	100.0
					Total	90,410,596	91.3	0.1	7.6	0.0	0.3	0.6	100.0

Species Group: SMALL MESH GROUNDFISH

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	897,963	95.4	0.2	0.0	0.0	1.8	2.6	100.0
7	Otter Trawl	OPEN	all	NE	sm	1,568,100	71.3	4.9	14.1	0.0	5.3	4.4	100.0
8	Otter Trawl	OPEN	all	NE	lg	742,872	95.1	2.2	0.4	2.0	0.3	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	107,224	94.4	0.0	5.6	0.0	0.0	0.0	100.0
	31 Other fleets filtered out					271,896	92.6	0.2	3.8	0.0	3.3	0.0	100.0
					Total	3,588,055	84.6	2.6	6.7	0.4	3.1	2.6	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2013 through June 2014 data.

Species Group: SPINY DOGFISH (Squalus acanthias)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	3,710,470	85.5	0.0	0.1	0.5	0.0	13.8	100.0
6	Otter Trawl	OPEN	all	MA	lg	4,900,440	99.5	0.0	0.5	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	838,472	99.2	0.6	0.2	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	7,159,486	98.1	0.0	1.5	0.0	0.3	0.1	100.0
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	308,898	100.0	0.0	0.0	0.0	0.0	0.0	100.0
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	3,323,179	88.9	0.0	8.9	0.0	1.8	0.4	100.0
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	369,943	75.0	0.0	2.4	0.0	17.2	5.3	100.0
	28 Other fleets filtered out					1,039,064	88.7	0.1	8.6	0.0	0.4	2.1	100.0
					Total	21,649,953	94.1	0.0	2.5	0.1	0.7	2.7	100.0

Species Group: SQUID (Doryteuthis [Amerigo] pealeii, Illex illecebrosus)- BUTTERFISH (Peprilus triacanthus) - MACKEREL (Scomber scombrus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	2,729,625	84.9	13.9	0.1	0.0	1.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	1,517,028	77.3	8.4	2.6	0.0	1.7	10.1	100.0
	33 Other fleets filtered out					164,327	92.3	2.6	4.2	0.3	0.6	0.0	100.0
					Total	4,410,980	82.6	11.6	1.1	0.0	1.2	3.5	100.0

Species Group: SURFCLAM (Spisula solidissima) - OCEAN QUAHOG (Artica islandica)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
	35 Other fleets filtered out					23,214	94.4	0.0	5.6	0.0	0.0	0.0	100.0
					Total	23,214	94.4	0.0	5.6	0.0	0.0	0.0	100.0

See text for fleet abbreviations.

Appendix Table 3A, continued. Estimated discards (live lb) and percentage by discard reason category for 14 species groups, based on July 2013 through June 2014 data.

Species Group: TILEFISH (Lopholatilus chamaeleonticeps)

Fleet						Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
35 Other fleets filtered out						4,078	51.6	8.5	15.7	0.0	24.2	0.0	100.0
					Total	4,078	51.6	8.5	15.7	0.0	24.2	0.0	100.0

See text for fleet abbreviations.

Appendix Table 3B. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: BLACK SEA BASS (Centropristis striata)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	363,041	4.5	55.0	22.4	2.2	0.0	15.8	100.0
6	Otter Trawl	OPEN	all	MA	lg	195,427	0.2	61.7	37.1	0.8	0.0	0.1	100.0
7	Otter Trawl	OPEN	all	NE	sm	238,710	1.2	18.7	66.5	0.0	0.0	13.7	100.0
	32 Other fleets filtered out					238,340	29.6	17.2	30.5	0.3	0.0	22.3	100.0
					Total	1,035,518	8.7	39.2	37.2	1.0	0.0	13.9	100.0

Species: FLUKE (Paralichthys dentatus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	246,957	1.3	21.9	65.4	1.7	0.6	9.1	100.0
6	Otter Trawl	OPEN	all	MA	lg	417,711	2.0	37.2	50.5	0.0	1.9	8.5	100.0
8	Otter Trawl	OPEN	all	NE	lg	1,007,579	4.5	2.8	85.6	1.1	0.1	5.9	100.0
37	Scallop Dredge	OPEN	LIM	MA	all	160,469	63.3	2.8	33.8	0.0	0.1	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	660,475	64.6	0.0	34.2	1.2	0.0	0.0	100.0
	30 Other fleets filtered out					340,763	33.3	9.6	47.4	0.2	7.7	1.8	100.0
					Total	2,833,953	24.6	9.7	59.2	0.8	1.3	4.4	100.0

Species: SCUP (Stenotomus chrysops)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	611,868	17.1	77.7	2.7	0.9	0.4	1.3	100.0
7	Otter Trawl	OPEN	all	NE	sm	219,855	19.6	62.4	8.3	0.0	0.4	9.3	100.0
	33 Other fleets filtered out					236,967	24.8	63.6	8.6	0.0	2.9	0.0	100.0
					Total	1,068,690	19.3	71.4	5.1	0.5	0.9	2.7	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: AMERICAN PLAICE (Hippoglossoides platessoides)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
8	Otter Trawl	OPEN	all	NE	lg	200,291	1.8	96.4	0.0	0.0	1.8	0.0	100.0
	34 Other fleets filtered out					48,407	26.0	12.0	60.8	0.0	1.2	0.0	100.0
					Total	248,697	6.6	80.0	11.8	0.0	1.6	0.0	100.0

Species: ATLANTIC COD (Gadus morhua)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
4	Hand Line	OPEN	all	NE	all	84,524	0.0	100.0	0.0	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	102,329	0.0	99.0	0.0	0.0	1.0	0.0	100.0
48	Pots and Traps, Lobster	OPEN	all	NE	all	93,480	56.4	0.0	43.6	0.0	0.0	0.0	100.0
	32 Other fleets filtered out					96,965	6.0	57.9	11.9	0.2	23.6	0.4	100.0
					Total	377,299	15.5	64.1	13.9	0.0	6.3	0.1	100.0

Species: ATLANTIC HALIBUT (Hippoglossus hippoglossus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
8	Otter Trawl	OPEN	all	NE	lg	67,996	0.5	74.6	22.8	0.3	0.1	1.6	100.0
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	7,507	0.0	83.7	13.4	0.2	1.5	1.1	100.0
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	10,852	4.0	75.2	0.0	0.0	16.9	3.9	100.0
	32 Other fleets filtered out					2,827	11.9	45.1	43.0	0.0	0.0	0.0	100.0
					Total	89,182	1.3	74.5	19.9	0.2	2.3	1.8	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: ATLANTIC WOLFFISH (Anarhichas lupus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
2	Longline	OPEN	all	NE	all	2,369	5.5	0.0	94.5	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	28,886	3.5	0.0	96.4	0.0	0.0	0.1	100.0
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	2,428	0.0	0.0	100.0	0.0	0.0	0.0	100.0
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	3,992	3.5	0.0	96.5	0.0	0.0	0.0	100.0
	31 Other fleets filtered out					1,071	48.2	0.0	51.8	0.0	0.0	0.0	100.0
					Total	38,746	4.6	0.0	95.3	0.0	0.0	0.1	100.0

Species: HADDOCK (Melanogrammus aeglefinus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	50,419	42.1	22.9	34.9	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	88,286	0.3	15.6	84.1	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	524,739	0.2	99.0	0.0	0.0	0.8	0.0	100.0
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	166,569	0.0	99.4	0.0	0.0	0.6	0.0	100.0
	31 Other fleets filtered out					150,624	7.3	64.6	25.0	0.0	3.0	0.0	100.0
					Total	980,638	3.4	82.4	13.2	0.0	1.0	0.0	100.0

Species: OCEAN POUT (Zoarces americanus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	50,653	15.5	0.0	84.5	0.0	0.0	0.0	100.0
6	Otter Trawl	OPEN	all	MA	lg	14,250	83.6	0.0	16.4	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	73,449	43.3	0.0	56.7	0.0	0.0	0.0	100.0
	32 Other fleets filtered out					91,721	94.4	0.0	5.6	0.0	0.0	0.0	100.0
					Total	230,073	60.0	0.0	40.0	0.0	0.0	0.0	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: POLLOCK (Pollachius virens)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
8	Otter Trawl	OPEN	all	NE	lg	130,434	0.3	98.9	0.0	0.0	0.7	0.1	100.0
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	119,579	0.0	28.1	0.0	0.0	71.9	0.0	100.0
	33 Other fleets filtered out					135,669	0.4	91.2	4.3	0.0	4.1	0.0	100.0
					Total	385,682	0.2	74.2	1.5	0.0	24.0	0.0	100.0

Species: REDFISH (Sebastes fasciatus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
8	Otter Trawl	OPEN	all	NE	lg	966,322	44.2	54.8	0.0	0.0	0.2	0.9	100.0
	34 Other fleets filtered out					15,144	24.8	43.6	29.9	0.0	1.7	0.0	100.0
					Total	981,465	43.9	54.6	0.5	0.0	0.2	0.9	100.0

Species: WHITE HAKE (Urophycis tenuis)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
48	Pots and Traps, Lobster	OPEN	all	NE	all	201,847	61.1	0.0	38.9	0.0	0.0	0.0	100.0
	34 Other fleets filtered out					55,637	23.1	14.9	3.6	0.0	58.3	0.2	100.0
					Total	257,484	52.9	3.2	31.3	0.0	12.6	0.0	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: WINDOWPANE FLOUNDER (Scophthalmus aquosus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	177,081	28.3	1.0	70.1	0.6	0.0	0.0	100.0
6	Otter Trawl	OPEN	all	MA	lg	337,187	37.8	0.0	62.2	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	42,170	9.5	0.2	90.3	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	634,876	20.9	0.0	79.1	0.0	0.0	0.0	100.0
34	Scallop Dredge	AA	LIM	NE	all	41,515	59.8	0.0	40.2	0.0	0.0	0.0	100.0
35	Scallop Dredge	OPEN	GEN	MA	all	47,522	53.9	0.0	46.1	0.0	0.0	0.0	100.0
37	Scallop Dredge	OPEN	LIM	MA	all	76,025	88.2	0.0	11.8	0.0	0.0	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	236,075	81.3	0.0	18.7	0.0	0.0	0.0	100.0
	27 Other fleets filtered out					41,213	59.4	0.2	40.3	0.0	0.0	0.0	100.0
					Total	1,633,664	39.7	0.1	60.2	0.1	0.0	0.0	100.0

Species: WINTER FLOUNDER (Pseudopleuronectes americanus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	79,890	10.8	0.5	87.4	1.2	0.1	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	130,341	2.4	6.7	90.8	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	56,251	5.3	75.8	9.2	0.0	8.6	1.1	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	188,664	72.7	0.1	18.8	8.5	0.0	0.0	100.0
	31 Other fleets filtered out					96,791	46.6	1.9	48.1	0.8	0.6	2.1	100.0
					Total	551,938	35.7	9.7	49.9	3.2	1.0	0.5	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: WITCH FLOUNDER (Glyptocephalus cynoglossus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	54,345	19.1	0.3	80.4	0.2	0.0	0.0	100.0
6	Otter Trawl	OPEN	all	MA	lg	29,467	57.6	8.4	33.9	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	79,849	2.6	95.3	1.0	0.0	1.0	0.0	100.0
34	Scallop Dredge	AA	LIM	NE	all	12,270	48.1	0.0	51.9	0.0	0.0	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	30,149	81.4	0.0	18.6	0.0	0.0	0.0	100.0
	30 Other fleets filtered out					20,957	29.5	12.1	58.2	0.0	0.2	0.0	100.0
					Total	227,037	29.1	35.8	34.6	0.1	0.4	0.0	100.0

Species: YELLOWTAIL FLOUNDER (Limanda ferruginea)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
6	Otter Trawl	OPEN	all	MA	lg	30,228	0.0	30.3	67.0	0.3	0.0	2.5	100.0
7	Otter Trawl	OPEN	all	NE	sm	24,987	0.3	0.5	99.2	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	72,960	2.8	91.3	1.2	0.0	0.7	3.9	100.0
34	Scallop Dredge	AA	LIM	NE	all	52,262	53.8	14.5	31.7	0.0	0.0	0.0	100.0
37	Scallop Dredge	OPEN	LIM	MA	all	38,248	62.0	1.4	36.6	0.0	0.0	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	199,184	69.0	4.5	25.7	0.8	0.0	0.0	100.0
	29 Other fleets filtered out					70,375	38.8	15.4	43.4	1.6	0.7	0.0	100.0
					Total	488,244	44.8	21.3	32.4	0.6	0.2	0.7	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: OFFSHORE HAKE (Merluccius albidus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	12,013	87.9	12.1	0.0	0.0	0.0	0.0	100.0
6	Otter Trawl	OPEN	all	MA	lg	854	100.0	0.0	0.0	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	714	100.0	0.0	0.0	0.0	0.0	0.0	100.0
8	Otter Trawl	OPEN	all	NE	lg	709	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	31 Other fleets filtered out					62	100.0	0.0	0.0	0.0	0.0	0.0	100.0
					Total	14,353	89.9	10.1	0.0	0.0	0.0	0.0	100.0

Species: RED HAKE (Urophycis chuss)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	471,469	95.0	0.0	0.0	0.0	0.0	5.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	873,551	66.4	7.2	18.8	0.0	0.0	7.6	100.0
8	Otter Trawl	OPEN	all	NE	lg	186,619	95.9	3.0	1.1	0.0	0.0	0.0	100.0
34	Scallop Dredge	AA	LIM	NE	all	36,016	100.0	0.0	0.0	0.0	0.0	0.0	100.0
38	Scallop Dredge	OPEN	LIM	NE	all	65,326	91.9	0.0	8.1	0.0	0.0	0.0	100.0
	30 Other fleets filtered out					68,333	91.4	0.3	8.2	0.0	0.1	0.0	100.0
					Total	1,701,314	80.2	4.1	10.4	0.0	0.0	5.3	100.0

Species: SILVER HAKE (Merluccius bilinearis)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	414,480	96.1	0.1	0.0	0.0	3.8	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	693,835	77.3	2.0	8.5	0.0	11.8	0.4	100.0
8	Otter Trawl	OPEN	all	NE	lg	555,545	94.9	2.0	0.2	2.6	0.4	0.0	100.0
	32 Other fleets filtered out					208,529	93.0	0.2	2.5	0.1	4.3	0.0	100.0
					Total	1,872,389	88.4	1.4	3.5	0.8	5.8	0.2	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: ATLANTIC MACKEREL (Scomber scombrus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
	35 Other fleets filtered out					59,548	71.2	0.0	26.6	0.1	2.2	0.0	100.0
					Total	59,548	71.2	0.0	26.6	0.1	2.2	0.0	100.0

Species: BUTTERFISH (Peprilus triacanthus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	958,959	62.3	37.4	0.2	0.0	0.0	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	726,408	72.5	17.1	2.5	0.0	0.2	7.7	100.0
	33 Other fleets filtered out					13,876	88.5	7.6	0.5	3.4	0.0	0.0	100.0
					Total	1,699,244	66.9	28.5	1.2	0.1	0.1	3.3	100.0

Species: NORTHERN SHORTFIN SQUID (Illex illecebrosus)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	853,188	98.6	0.0	0.1	0.0	1.4	0.0	100.0
7	Otter Trawl	OPEN	all	NE	sm	539,734	98.3	0.0	0.1	0.0	1.7	0.0	100.0
	33 Other fleets filtered out					81,252	99.8	0.0	0.2	0.0	0.0	0.0	100.0
					Total	1,474,174	98.5	0.0	0.1	0.0	1.4	0.0	100.0

See text for fleet abbreviations.

Appendix Table 3B, continued. Estimated discards (live lb) and percentage by discard reason category for 23 individual species that compose the 14 species groups, based on July 2013 through June 2014 data.

Species: LONGFIN INSHORE SQUID (Doryteuthis [Amerigo] pealeii)

Fleet							Percentage by Discard Reason Category						
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total
5	Otter Trawl	OPEN	all	MA	sm	882,821	97.2	0.8	0.0	0.0	2.0	0.0	100.0
	34 Other fleets filtered out					287,836	56.2	2.4	3.1	0.0	4.8	33.7	100.0
					Total	1,170,657	87.1	1.2	0.8	0.0	2.7	8.3	100.0

See text for fleet abbreviations.

Appendix Table 4. Fleet abbreviations used in Figures 1A, 1B, 2, and 3. Fleets that were filtered out through the importance filter and fleets designated as in need of pilot coverage have been aggregated into "Other fleets."

Row	Fleet Gear Type	Access Area	Trip Category	Region	Mesh Group	Fleet Abbreviation
1	Longline	OPEN	all	MA	all	LL MA (Row 1)
2	Longline	OPEN	all	NE	all	LL NE (Row 2)
3	Hand Line	OPEN	all	MA	all	HL MA (Row 3)
4	Hand Line	OPEN	all	NE	all	HL NE (Row 4)
5	Otter Trawl	OPEN	all	MA	sm	OT sm MA (Row 5)
6	Otter Trawl	OPEN	all	MA	lg	OT lg MA (Row 6)
7	Otter Trawl	OPEN	all	NE	sm	OT sm NE (Row 7)
8	Otter Trawl	OPEN	all	NE	lg	OT lg NE (Row 8)
9	Scallop Trawl	AA	GEN	MA	all	SCT AA GEN MA (Row 9)
10	Scallop Trawl	AA	LIM	MA	all	SCT AA LIM MA (Row 10)
11	Scallop Trawl	OPEN	GEN	MA	all	SCT OPEN GEN MA (Row 11)
12	Scallop Trawl	OPEN	LIM	MA	all	SCT OPEN LIM MA (Row 12)
13	Otter Trawl, Twin	OPEN	all	MA	all	OTT MA (Row 13)
14	Otter Trawl, Twin	OPEN	all	NE	all	OTT NE (Row 14)
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	OTR lg MA (Row 15)
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	OTR sm NE (Row 16)
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	OTR lg NE (Row 17)
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	OTH lg NE (Row 18)
19	Shrimp Trawl	OPEN	all	MA	all	SHT MA (Row 19)
20	Shrimp Trawl	OPEN	all	NE	all	SHT NE (Row 20)
21	Floating Trap	OPEN	all	MA	all	FT MA (Row 21)
22	Floating Trap	OPEN	all	NE	all	FT NE (Row 22)
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	GN sm MA (Row 23)
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	GN lg MA (Row 24)
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	GN xlg MA (Row 25)
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	GN sm NE (Row 26)
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	GN lg NE (Row 27)
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	GN xlg NE (Row 28)
29	Purse Seine	OPEN	all	MA	all	PS MA (Row 29)
30	Purse Seine	OPEN	all	NE	all	PS NE (Row 30)
31	Scallop Dredge	AA	GEN	MA	all	SCD AA GEN MA (Row 31)
32	Scallop Dredge	AA	GEN	NE	all	SCD AA GEN NE (Row 32)
33	Scallop Dredge	AA	LIM	MA	all	SCD AA LIM MA (Row 33)
34	Scallop Dredge	AA	LIM	NE	all	SCD AA LIM NE (Row 34)
35	Scallop Dredge	OPEN	GEN	MA	all	SCD OPEN GEN MA (Row 35)
36	Scallop Dredge	OPEN	GEN	NE	all	SCD OPEN GEN NE (Row 36)
37	Scallop Dredge	OPEN	LIM	MA	all	SCD OPEN LIM MA (Row 37)
38	Scallop Dredge	OPEN	LIM	NE	all	SCD OPEN LIM NE (Row 38)
39	Danish Seine	OPEN	all	MA	all	DS MA (Row 39)
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	MWT MA (Row 40)
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	MWT NE (Row 41)
42	Pots and Traps, Fish	OPEN	all	MA	all	FPT MA (Row 42)
43	Pots and Traps, Fish	OPEN	all	NE	all	FPT NE (Row 43)

See text for fleet abbreviations.

Appendix Table 4, continued. Fleet abbreviations used in Figures 1A, 1B, 2, and 3. Fleets that were filtered out through the importance filter and fleets designated as in need of pilot coverage have been aggregated into "Other fleets."

Row	Fleet Gear Type	Access Area	Trip Category	Region	Mesh Group	Fleet Abbreviation
44	Pots and Traps, Conch	OPEN	all	MA	all	CPT MA (Row 44)
45	Pots and Traps, Conch	OPEN	all	NE	all	CPT NE (Row 45)
46	Pots and Traps, Hagfish	OPEN	all	NE	all	HPT NE (Row 46)
47	Pots and Traps, Lobster	OPEN	all	MA	all	LPT MA (Row 47)
48	Pots and Traps, Lobster	OPEN	all	NE	all	LPT NE (Row 48)
49	Pots and Traps, Crab	OPEN	all	MA	all	CRPT MA (Row 49)
50	Pots and Traps, Crab	OPEN	all	NE	all	CRPT NE (Row 50)
51	Beam Trawl	OPEN	all	MA	all	BT MA (Row 51)
52	Beam Trawl	OPEN	all	NE	all	BT NE (Row 52)
53	Dredge, Other	OPEN	all	MA	all	DRO MA (Row 53)
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	CDR MA (Row 54)
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	CDR NE (Row 55)
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	OTH sm NE (Row 56)
	Other fleets filtered out					Other fleets

See text for fleet abbreviations.

APPENDIX: EQUATIONS USED IN DISCARD ESTIMATION AND SAMPLE SIZE ANALYSES

Total discarded pounds for species *j* is defined as:

(1) $$\hat{D}_j = \sum_{h=1}^{Q} K_h r_{c,j}$$

where

(2) $$r_{c,j} = \frac{\sum_{h=1}^{Q} N_h \sum_{i=1}^{n_h} \frac{d_{jih}}{n_h}}{\sum_{h=1}^{Q} N_h \sum_{i=1}^{n_h} \frac{k_{ih}}{n_h}}$$

Where $\hat{D}_j$ is total discarded pounds for species *j*; K_h is vessel trip report (VTR) total kept pounds of all species in stratum *h*; $r_{c,j}$ is the combined ratio of species *j*; d_{jih} is discards of species *j* from trip *i* in stratum *h*; k_{ih} is kept pounds of all species on trip *i* in stratum *h*; N_h is the number of VTR trips in stratum *h*; n_h is the number of observed trips in stratum *h*. A stratum represents a fleet (i.e., gear type, access area, trip category, region, mesh group combination). In Eq. 2 the summation over strata *h* = 1 to *Q* is over calendar quarters, and the other strata values are held constant. Equation 3 (below) requires a more explicit definition of the stratum designation since the summation over quarter relies on an annual average ratio defined in Eq. 2.

Variance of $\hat{D}_j$ for species *j* is defined as:

(3) $$V(\hat{D}_j) = \sum_{q=1}^{4} K_{qh}^2 \left(\frac{N_{qh} - n_{qh}}{n_{qh} N_{qh}} \right) \frac{1}{\left(\frac{\sum_{i=1}^{n_{qh}} k_{iqh}}{n_{qh}} \right)^2} \left[\frac{\sum_{i=1}^{n_{qh}} \left(d_{jiqh}^2 + \left(r_{c,j}\right)^2 k_{iqh}^2 - 2 r_{c,j}\, d_{jiqh} k_{iqh} \right)}{n_{qh} - 1} \right]$$

where $\hat{D}_j$ is total discarded pounds for species *j*; K_{qh} is VTR total kept pounds of all species in quarter *q* and stratum *h*; $r_{c,j}$ is the combined ratio of species *j* ; d_{jiqh} is discards of species *j* from trip *i* in quarter *q* and stratum *h*; k_{iqh} is kept pounds of all species on trip *i* in quarter *q* and stratum *h*; N_{qh} is the number of VTR trips in quarter *q* and stratum *h*; n_{qh} is the number of observed trips in quarter *q* and stratum *h*.

Standard Error of the discard estimate is defined as:

(4) $$SE(\hat{D}_j) = \sqrt{V(\hat{D}_j)}$$

Coefficient of variation (CV) of $\hat{D}_j$ is defined as:

(5) $$CV(\hat{D}_j) = \frac{\sqrt{V(\hat{D}_j)}}{\hat{D}_j}$$

The number of sea days and trips needed to achieve a 30% coefficient of variation (CV) is derived based on the variance of the total discards using the combined ratio method and the d/k discard ratio (Eq. 3).

From Eq. 3, let

(6) $$\hat{S}^2_{jqh} = \left[\frac{\sum_{i=1}^{n_{qh}} \left(d^2_{jiqh} + \left(r_{c,jh}\right)^2 k^2_{iqh} - 2r_{c,j}\ d_{jiqh} k_{iqh} \right)}{n_{qh} - 1} \right]$$ and

(7) $$\delta_{qh} = \frac{n_{qh}}{\sum_{q=1}^{4} n_{qh}}$$

where δ_{qh} is the fraction of the trips in quarter *q* in stratum *h*; $r_{c,jh}$ is the combined annual ratio of species *j* in stratum *h*; d_{jiqh} is discards of species *j* from trip *i* in stratum *h* in quarter *q*; k_{iqh} is kept pounds of all species on trip *i* in stratum *h* in quarter *q*; and n_{qh} is the number of observed trips in stratum *h* in quarter *q*. The $r_{c,jh}$ in Eq. 6 is defined in Eq. 2 where the summation is over quarters within a given stratum defined by gear, region, access area, trip type, and so forth.

The number of trips necessary to achieve a 30% CV based on the variance of the composite annual total discards for species group *j* in stratum *h* is defined as:

(8) $$\hat{T}D_{30\,jh} = \frac{\sum_{q=1}^{4} \left(\frac{K^2_{qh}}{\bar{k}^2_{qh}} \hat{S}^2_{jqh} \frac{1}{\delta_{qh}} \right)}{(0.09)\hat{D}_{jh}{}^2 + \frac{\sum_{q=1}^{4} \frac{K^2_{qh}}{\bar{k}^2_{qh}} \hat{S}^2_{jqh}}{N_h}}$$

where $0.09 = 0.30^2$, the square of the 30% CV, the given precision level.

The number of sea days necessary to achieve a 30% CV based on the variance of the composite annual total discards for species group *j* in stratum *h* is defined as:

(9) $$\hat{S}D_{30\,jh} = \hat{T}D_{30\,jh} * \overline{DA_h}$$

where $\overline{DA_h}$ is the weighted average trip length of VTR trips in stratum *h* (weighted by the number of VTR trips in each quarter).

When total discards could not be estimated because of little or no observer coverage (no data) or when total discards are zero (no variance), sample size was determined by pilot cover, where 2% of the quarterly VTR trips for a fleet were multiplied by the quarterly mean VTR trip length.

(10) $\hat{S}_{30,jhq} = \hat{T}_{hq} * \overline{DA_{hq}}$

where $\hat{T}_{hq}$ is 2% of the VTR trips in stratum *h* and quarter *q*, and 3 <= $\hat{T}_{hq}$ <= 100 trips; $\overline{DA}_{hq}$ is the average trip length of VTR trips in stratum *h* and quarter *q*. The quarterly trips and sea days were then summed for annual number of trips and sea days.

The achieved precision resulting from the number of funded sea days can be derived by converting funded sea days into funded trips. The number of funded trips, $\hat{TF}_h$ for stratum *h* is defined as:

(11) $\hat{TF}_h = \hat{SF}_h / \overline{DA_h}$

where $\hat{SF}_h$ is the number of funded sea days in stratum *h* and $\overline{DA}_h$ is the weighted average trip length of VTR trips in stratum *h* (weighted by the number of VTR trips in each quarter).

The achieved coefficient of variation (CV) of $\hat{D}_j$ is based on the variance of the composite annual total discards for species group *j* in stratum *h* and the number of funded trips in stratum *h* and rewriting Eq. 8.

From Eq. 8, let

(12) $$CV(\hat{D}_{jh}) = \sqrt{\frac{\sum_{q=1}^{4}\left(\frac{K_{qh}^2}{\bar{k}_{qh}^2}\hat{S}_{jqh}^2\frac{1}{\delta_{qh}}\right) - \hat{TF}_h\left[\frac{\sum_{q=1}^{4}\left(\frac{K_{qh}^2}{\bar{k}_{qh}^2}\hat{S}_{jqh}^2\right)}{N_h}\right]}{\hat{TF}_h * \hat{D}_{jh}^{\ 2}}}$$

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2015
Standardized Bycatch Reporting Methodology
Annual Discard Report with Observer Sea Day Allocation

by

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Introduction

The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment was implemented on 27 February 2008 (NMFS 2008, NEFMC 2007) and later vacated by the US District Court for the District of Columbia and remanded back to National Marine Fisheries Service (NMFS) on 15 September 2011 due to a deficiency associated with the prioritization process, an element of the amendment. On 29 December 2011, NMFS removed the regulations implementing the SBRM (NMFS 2011). A revised SBRM Omnibus Amendment (NEFMC 2015), hereafter referred to as the 2015 SBRM amendment, was approved on 13 March 2015 and a final rule is pending.

The 2015 SBRM amendment requires an annual discard report utilizing information obtained from the Northeast Fisheries Observer Program[1] (NEFOP) for 14 federally managed species and sea turtles (Table 1). Specifically, the SBRM annual discard report requirements include: "…*summaries of the trips observed, fishing modes in the relevant time period, funding issues and other related issues and developments, and projections of coverage across fisheries for upcoming time period. More detailed information would be provided in tables and figures that addressed: The number of observer trips and sea days scheduled that were accomplished for each fishing mode and quarter, as well as the number of trips and sea days of industry activity; the kept weight from unobserved quarters and statistical areas summarized by fishing mode; the amount kept and estimated discards of each species by fishing mode; and the relationship between sample size and precision for relevant fishing modes." (NEFMC 2015, pages 237-238).*

This document contains a compilation of the information to meet the 2015 SBRM annual discard report requirements. For fish and invertebrate species groups, several of the required annual discard report elements can be found in Wigley et al. 2015, along with a description of the data sources, methods, results, and discussion. Similarly, for sea turtles, further information can be found in Murray 2012, 2013, and in review. This document also presents the number of sea days needed to monitor the 15 species groups, the funding available for observer coverage, and the numbers of sea days allocated by fleet[2] (where a fleet represents gear type, access area, trip category, region, and mesh group combinations) for the April 2015 through March 2016 period.

Summary of Observer Coverage

A total of 3,508 trips (10,800 days) was observed during the July 2013 through July 2014 time period. When these trips were stratified by fleet and quarter, some trips were partitioned between fleets resulting in 3,729 trips (11,335 days). See Tables 2 and 3 in Wigley et al. 2015 for a summary of the number of observed trips and industry trips by fleet and calendar quarter and a summary of the number of observed sea days and industry sea days by fleet and calendar quarter, respectively. There were 56 fleets uniquely identified in the July 2013 through June 2014 data. Based upon the industry activity during this time period, the Mid-Atlantic (MA) and New England (NE) twin trawl

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[1] Further information on the Northeast Fisheries Science Center's Northeast Fisheries Observer Program is available at http://www.nefsc.noaa.gov/fsb/

[2] Fleets are synonymous with "fishing modes".

fleets (Rows 13 and 14, respectively) and the NE haddock separator trawl small mesh exempted fleet (Row 56) were added to the collection of fleets analyzed.

A spatial and temporal analysis of the kept weight of all species from statistical areas and calendar quarter was conducted. Over all fleets, 52% of kept weight of all species occurred in statistical areas and calendar quarters that had observer coverage. For a summary of the percentage of kept weight with observer coverage by fleet for the July 2013 through June 2014 time period, see Table 4 in Wigley et al. 2015.

Summary of Discard Estimates

For fish/invertebrate species, the total catch, kept, and estimated discards (in live weight) and their associated coefficient of variation (CV) were derived for fleets using data collected during the July 2013 through June 2014 time period (Wigley et al. 2015). Based upon that discard estimation analysis, an estimated 64,795 mt (142,848,902 pounds) of federally regulated species were discarded (Table 2). Fleet abbreviations used in this report are described in Appendix Table 1. See Table 5A and 5B in Wigley et al. 2015 for summaries by fleet and SBRM species group and by fleet and individual species that compose these 14 species groups, respectively.

The most recent average annual estimates of sea turtle interactions in U.S. Mid-Atlantic commercial fisheries are listed in Table 3. Estimates are summarized by gear type, and estimates with associated CVs allocated across managed fish species can be found in the references cited. The CVs around the estimates allocated across managed fish species were used to estimate coverage needs in 2015, per methods used in Murray (2012).

Summary of Sea Days Needed

For fish/invertebrate species groups, the number of sea days needed to achieve a 30% CV of total discards for each species group was derived for 56 fleets by using data collected during July 2013 through June 2014 (Wigley et al. 2015). Based on that sample size analysis, a total of 11,204 sea days is needed for the 14 fish and invertebrate species groups. Table 4 presents the number of sea days needed for each of the 14 species groups, number of pilot coverage days, and number of minimum pilot days. Total number of sea days needed for fish/invertebrate groups for each fleet is also given in Table 5 (Step 1).

The use of pilot coverage in the sample size analysis may result in too much coverage in cases where little or no observer coverage may actually be needed, when effort changed sharply between years, or when the fleet effort comprises only a few trips. For example, there are 12 fleets for which there were fewer than 3 Vessel Trip Report (VTR) trips per quarter for at least 1 quarter (Rows 10, 13-17, 22, 26, 30, 32, 40, and 43; Appendix Table 2). To allocate sea days based on pilot coverage to these fleets for these quarters would result in coverage rates exceeding 100%. Additionally, there are several fleets for which activity is greater than 3 VTR trips per quarter, but overall trip activity is low (e.g., Rows 9, 12, 21, 31, 39, and 46; Appendix Table 2). To allocate sea days based on pilot coverage to these fleets would result in coverage rates that generally exceed those derived from observer data. For fleets with low quarterly trip activity, there are 2 scenarios: (1) fleets for which

significant activity occurs in other quarters (e.g., Rows 19, 30, and 43; Appendix Table 2); and (2) fleets for which overall activity is low (e.g., Rows 9, 10, 12-17, 22, 26, 40, and 56; Appendix Table 2). In the first scenario, the use of pilot coverage is warranted for these fleets. In the second scenario, pilot coverage is not warranted.

A refinement to the sample size analysis was developed in 2014 to address the potential for excessive observer coverage created by using a pilot coverage policy for fleets with overall low activity. Pilot coverage had been designed to provide the minimum number of trips sufficient to compute the variance of discard estimates and subsequently the derivation of sea days needed. The number of sea days per quarter could not be reduced further without omitting the fleet from the sample size analysis. A standardized approach, similar to the 2 filters used in the importance filter (Wigley et al. 2007), was employed to remove fleets with overall low trip activity. This approach hereafter is referred to as the trip filter. In the trip filter, the percentage of VTR trips for a fleet was derived by dividing the number of VTR trips in a fleet by the total number of VTR trips across all fleets. The fleets were then ranked (smallest to largest) by the percentage of trips in a fleet and the cumulative percentage for each fleet was then derived. A cut point of 1% was selected to remove fleets that contained the lowest cumulative 1% of the total trips. Thus the trip filter excludes those fleets, which in aggregate, constitute less than 1% of all commercial fishing activity. Fleets which constitute the upper cumulative 99% of all trips remain in the analysis.

Before the trip filter was applied, trips associated with the MA shrimp trawl fleet (Row 19) were partition into two groups: trips fishing in Pamlico Sound and trips fishing in ocean waters. This partitioning was needed because the Southeast Region has mandatory observer coverage of the southeastern shrimp fishery and allocates observer coverage to trips fishing in Pamlico Sound (Scott-Denton 2012). Of the 405 trips in the MA Shrimp trawl fleet (Appendix Table 2, Row 19), 12 trips occurred in ocean waters. The total number of trips for the MA shrimp trawl fleet (Row 19) was adjusted from 405 trips to 12 trips before the trip filter was applied. When the trip filter was applied, 21 of the 56 fleets were removed (Rows 9, 10, 12-17, 19, 21, 22, 26, 31, 32, 39, 40, 46, 49, 50, 52, and 56; Appendix Table 2; Table 5, Step 2). For the remaining 35 fleets (28 agency-funded and 7 industry-funded fleets), a total of 10,365 sea days is needed for the 14 fish/invertebrate species groups (Table 5; Step 2). It is useful to note that the trip filter does not remove sea days associated with fleets that have discards determined to be important. Implications of the trip filter are discussed later.

For loggerhead turtles, the numbers of sea days needed to achieve a 30% CV of turtle discards were estimated by fishery, defined as a managed fish or invertebrate species landed on vessels using bottom otter trawl, sink gillnet, or scallop dredge gear in the Mid-Atlantic region (see Murray 2012, and Murray 2013). The maximum amount of projected coverage across all the fisheries was considered the desired level of sampling to monitor turtle discards for that gear type. Roughly 3,300 days are needed across bottom trawl fisheries (Murray in review, and sea day estimation methods in Murray 2012), roughly 2,600 days are needed across sink gillnet fisheries (based on CVs in Murray 2013 and sea day estimation methods in Murray 2012), and approximately 1,300 days are needed in the scallop dredge fishery, based on loggerhead bycatch precision levels after chain mats were implemented in the fishery (Murray 2012). Estimates of sea day needs for turtles are revised when new bycatch estimates are published for a particular gear type (approximately every 5 years).

Recent estimates of loggerhead interactions (i.e., "takes") and coverage needs in the scallop dredge fishery are currently being evaluated. Since May 2013, the use of turtle deflector dredges (TDDs) with chain mats have been required on scallop dredges in times and areas where loggerheads are known to be most common. These modifications are intended to reduce those interactions in which animals are landed or observed from the deck, although other "unobservable" interactions may still be occurring (i.e., those in which animals escape from the gear or come in contact with the gear but are not captured and brought to the surface where they can be observed; Warden and Murray 2011). Owing to the fairly recent implementation of TDDs and the possibility of large interannual availability of turtles to scallop fishing areas, more time is needed to confirm the apparent effectiveness of TDDs and chain mats in eliminating observable interactions. Therefore, in 2015 observers will continue to be used to monitor the dredge fleets for turtle interactions. However, further work is being conducted to examine the utility of observers for monitoring turtle interactions in these fleets, particularly if it becomes clear that all or most of the interactions are "unobservable." If additional filters are applied in future cases where turtle interactions are successfully eliminated or become unobservable, coverage levels in the affected fleet will be driven by other species groups.

Sea day requirements for non-loggerhead turtle species (i.e., greens, Kemp's ridleys, and leatherbacks) are not currently estimated because too few have been observed to estimate total bycatch and CVs for these species (Murray 2012). Because observers document all protected species interactions on trips, monitoring of other turtles species will still occur via days intended to monitor fish or loggerheads.

The numbers of sea days needed to achieve a 30% CV associated with the Mid-Atlantic[3] turtle gear types and fish/invertebrate fleets are given below and in Table 5, Steps 2 and 3.

Turtle Gear Types and Fish/Invertebrate Fleets	**Sea Days Needed**	
	Loggerhead Turtles	**Fish/Invertebrate Species Groups**
MA Otter Trawl, MA Scallop Trawl, MA Ruhle Trawl, and MA Haddock Separator Trawl Rows 5, 6, 9-12, and 15	3,309	1,323
MA Gillnet Rows 23-25	2,593	147
MA Scallop Dredge Rows 31, 33, 35, and 37	1,293	304

[3] In the sea turtle sample size analysis, Mid-Atlantic refers to areas fished west of 70°W. In the fish/invertebrate sample size analysis, Mid-Atlantic refers to region based on port of departure from Connecticut and southward. Although it is recognized that port of departure may differ from the area fished, an odds ratio analysis conducted to evaluate broad-scale spatial coherence indicated a strong relationship between area fished (statistical area) and port of departure (region). Based upon this analysis, the "Mid-Atlantic" stratifications used in the 2 analyses were considered similar.

The numbers of sea days needed for the combined fish/invertebrate and turtle species groups were derived as followed:

- If the sum of the sea days needed for fish/invertebrate species groups of the corresponding fish/invertebrate fleets exceeded the sea days needed for the turtle gear type, then the sea days needed for fish/invertebrate was used.

- If the number of sea days needed for turtles for the gear type exceeded the sum of the sea days needed for fish/invertebrate groups of the corresponding fish/invertebrate fleets, then the sea days needed for turtles were distributed according to the proportion of VTR sea days[4] corresponding to fish/invertebrate fleets (Table 5; Steps 4a - 4c). The number of VTR sea days by fleet is taken from Table 3 in Wigley et al. 2015 and reflects industry activity during the July 2013 through June 2014 time period.

A total of 15,786 sea days is needed for fish/invertebrates and loggerhead turtles (COMBINED; Table 5; Step 5) during the April 2015 through March 2016 period. Of the 15,786 sea days, 13,630 sea days are needed for agency-funded fleets and 2,156 sea days are needed for industry-funded fleets (Table 5, Step 6).

Summary of Funding available for the April 2015 through March 2016 period

The funds available to the NEFSC's Northeast Fisheries Sampling Branch in fiscal year (FY) 2015 are estimated to provide support for 9,415 days and 1,850 days are carried over (i.e., bought ahead) from FY2014 funds for a total of 11,265 (9,415 + 1,850) days for the April 2015 through March 2016 time period. Based upon an observer set-aside compensation rate analysis for the Industry Funded Scallop program, there is industry funding for 2,512 days. Hence, 13,777 (11,265 + 2,512) days are available for observer coverage during April 2015 through March 2016.

Below is a summary of the 2 funding source categories: agency-funded and industry-funded. Within the agency-funded category, there are 6 sub-categories: Atlantic Coast, National Catch Share Program, National Observer Program, Northeast Fisheries Observers, Marine Mammal Protection Act, and Reducing Bycatch.

- **Agency-funded**: The funding sources for the 11,265 agency-funded sea days include: Atlantic Coast (1,152 days), Northeast Fisheries Observers (3,827 days), National Observer Program (2,310 days and 1,465 days), Reducing Bycatch (73 days), and 650 carryover/bought ahead days collectively fund the sea days for prioritization (9,477 days; Table 5, Step 7); National Catch Share Program funds support the infrastructure (data processing and training) and the FY2014 National Observer Program funding (remaining in At-Sea Monitoring [ASM] contracts) collectively fund the sea days for At-Sea Monitoring (1,100 days; Table 5, Step 7); and Marine Mammal Protection Act (MMPA; 588 days) and

[4] The use of VTR sea days represents a refinement to the sea day allocation methods used in 2012, 2013, 2014, and those described in the 2015 SBRM Omnibus Amendment. This refinement results in the sea days needed to monitor turtles to be distributed among fish/invertebrate fleets based on industry activity. Additionally, this refinement preserves the number of TURS days within each turtle gear type group. These two features were not present in the previous method in which the numbers of day needed for fish/invertebrates were used.

FY14 carryover/bought ahead (100 days) collectively fund the sea days to monitor protected species (688 days; Table 5, Step 7).

- 688 agency-funded days are applicable to protected species[5] only.

  The 688 MMPA days are associated with trips having sampling protocols that are specific to protected species (marine mammals, sea turtles, Endangered Species Act [ESA] listed fish species) and are not applicable for non-ESA listed fish and invertebrates. Owing to the extra demands of monitoring protected species, information on finfish and shellfish is not collected on these trips. However, these days will provide observer coverage for sea turtles and ESA-listed fish species above that which is allocated.

- 10,577 (11,265 - 688) agency-funded days are applicable for all species.

  - 9,477 days are subject to the prioritization process across all fleets. The prioritization approach is described in the next section and given in Table 6.

  - 1,100 days are associated with At-Sea Monitoring and have been provisionally allocated among fleets associated with New England groundfish based on previous year industry activity. Actual allocation will be based on industry activity during April 2015 through March 2016.

  - No sea days have been set aside to support the training of new observers or as discovery days to address emerging questions of scientific and management interest as the year progresses.

- Projected costs (i.e., an estimated rate that includes fixed and variable costs for operations, training, and data processing infrastructure and at-sea costs based on realized cost in FY14): $1227 for NEFOP days ($712 for the costs associated with the sea days and $515) and $1241 for ASM days ($711 for the sea day portion and $530 from the infrastructure).

- **Industry-funded**: The number of industry-funded sea days available for scallop fleets is determined by taking 1 percent of the total acceptable biological catch/annual catch limit set for the year. The Industry Funded Scallop (IFS) program allows the vessels an increase in landings to help defray the costs of carrying an observer (i.e., the compensation rate). The sale of the additional scallops allocated to each boat supplies the funding for the at-sea costs of observer coverage. Based upon projected landings and expected prices, the IFS program generates funds in support of discard monitoring of the scallop fleets. A compensation rate analysis was undertaken to support observer coverage of the 12 industry-funded scallop fleets (Rows 9-12 and 31-38; Table 5).

[5] In this document, protected species refers to marine mammals, sea turtles, and ESA-listed fish.

- Based upon the compensation rate analysis, a total of 2,512 sea days can be funded: 1,346 days for Open areas, 1,149 days for Mid-Atlantic Access Areas, 10 days for Closed Area II (CAII), and 7 days in the Nantucket Lightship Access Area (NLAA).

    - The industry-funded schedule runs March through February, a 12-month period that is shifted 1 month from the NEFOP sea day schedule of April to March.

    - Bulletins describing the 2015 set-aside compensation rate calculations and scallop management measures are available at:

      http://www.greateratlantic.fisheries.noaa.gov/nr/2015/April/15scalobsercomratephl.pdf

      http://www.greateratlantic.fisheries.noaa.gov/nr/2015/February/15scalfy2015measuresphl.pdf

- Of the 1,346 days for the Open areas, there are 193 days for Limited Access General Category fleets (Rows 11, 35, and 36; Table 7) and 1,153 days for Limited Access fleets (Rows 12, 37, and 38; Table 7).

- Coverage of the 12 fleets depends on industry activity among these fleets during April 2015 through March 2016; the sea days represent the maximum coverage (i.e., caps).

- Projected costs: the cost to industry for at-sea portion is $675/day for industry-funded fleets. Additional agency funds are needed for training and certification of observers and data processing.

Below is a summary of sea days based on the agency budget and the compensation rate analysis, by funding source for April 2015 through March 2016.

Funding Source	**Sea Days**
Agency-funded Total	**11,265**
Agency-funded applicable to all species (prioritized days)	9,477
Agency-funded applicable to all species (non-prioritized days)	1,100
Agency-funded applicable to protected species only (non-prioritized days)	688
Industry-funded Total applicable to all species	**2,512**
Total	**13,777**

Prioritization Trigger and Details of the Allocation of Sea Days to Fleets

Within the agency-funded fleets and prioritization-applicable funding, a funding shortfall of 4,153 (13,630 – 9,477) days is expected (Table 5). The 2015 funding shortfall triggers the SBRM prioritization approach; the prioritization approach is utilized with a portion of the agency funds.

The following describes the steps taken to allocate the 13,777 funded sea days to 41 fleets (Tables 5, 6, and 7).

Step 1. Derive the number of sea days needed for the 14 fish/invertebrate species groups (see Wigley et al. 2015, same method as Wigley et al. 2014; Table 5).

Step 2. Apply the trip filter and remove sea days from fleets that comprise 1% or less of the cumulative percentage of trips across all fleets. A total of 10,365 days is needed across 35 fleets (28 agency-funded fleets and 7 industry-funded fleets; Table 5).

Step 3. Derive the number of sea days needed for sea turtles (see Murray 2012, 2013, in review; Table 5).

Step 4. To support the penultimate prioritization approach, derive the number of sea days needed for loggerhead turtles for each of the fish/invertebrate fleets associated with the turtle gear type group (Table 5).

a. Summarize the number of VTR sea days corresponding to each fish/invertebrate fleet (see Table 3 in Wigley et al. 2015). The VTR sea days are zero for the fish/invertebrate fleets that have been filtered out via the trip filter.

b. Derive the percentage of VTR sea days for each fish/invertebrate fleet within a turtle gear type group. For each fish/invertebrate fleet associated with a turtle gear type, divide the VTR sea days by the sum of the VTR sea days for the gear type group.

c. Derive the number of sea days needed for loggerhead turtles by fish/invertebrate fleet. Multiply the number of turtle sea days needed for the gear type by the percentage of VTR sea days for each fish/invertebrate fleet within the turtle gear type group.

Step 5. Derive the number of sea days needed for fish/invertebrates and turtles COMBINED; select the largest of the 2 sea days (i.e., sea days needed for the 14 fish/invertebrate species groups with the trip filter applied [Step 2] and sea days needed for loggerhead turtles [Step 4c]) within the fleet.

A total of 15,786 days is needed to achieve a 30% CV on the discards of the 15 species groups in 2015; Table 5).

Step 6. Partition fleets into funding source categories and sum the number of sea days needed, by funding source.

There were 13,630 days and 2,156 days needed to achieve a 30% CV for the 15 species groups for agency-funded and industry-funded fleets, respectively (Table 5).

Step 7. Obtain funded sea days, by funding source category. For agency-funded sea days, calculate the number of sea days applicable to the prioritization process (prioritized versus non-prioritized days).

There are 9,477 agency-funded days applicable to the prioritization process (Table 5).

Step 8. Evaluate needed sea days versus funded sea days for each funding category and calculate shortfall or surplus sea days associated with the prioritization process.

A shortfall of 4,153 days is expected for agency-funded fleets (Table 5).

Step 9. Apply the penultimate approach algorithm to allocate sea days to fleets for agency-funded days that are applicable to prioritization process.

As described in the 2015 SBRM Amendment, the number of agency-funded sea days applicable to the prioritization process is assigned to each fleet (fishing mode) after sequentially removing the sea days needed for the species group/fleet with the highest sea day difference between adjacent species groups within a fleet until the sea day shortfall is removed.

The following describes the steps taken to assign the agency-funded sea days applicable to the prioritization process using the penultimate approach (Table 6).

Step 9.1. For each agency-funded fleet where sea days are needed, list the sea days needed for the 15 species groups (fish/invertebrates and loggerhead turtles) in descending order within a fleet (Table 6). Use the minimum pilot days (Table 4) as the minimum sea days needed for fleets that are not filtered out via the trip filter.

Step 9.2. Calculate the differences in sea days between adjacent species groups within each agency-funded fleet (Table 6).

Step 9.3. Within the resulting matrix of sea day differences (Step 9.2), identify the largest difference and remove the sea days associated with the species group accounting for this difference (Table 6).

Repeat this process for the next largest difference, with the constraint that the differences are taken in penultimate order (from left to right in the matrix) within a fleet, until the cumulative reduction of sea days equals the sea day shortfall (Step 8). If the reduction in sea days using the next largest (penultimate) value is greater than the shortfall, reduce the number of sea days only enough to remove the shortfall.

The 2015 sea day shortfall is 4,153 days. The 4,647 days (red deepsea crab [RCRAB] in Row 8; Tables 4 and 6) associated with the largest sea day difference (3,916 days) between adjacent species groups is removed first (Table 6). The penultimate value in Row 8 is associated with Fluke-scup-black sea bass (731 days; Tables 4 and 6). The 1,577 days (loggerhead turtle [TURS] in Row 5; Tables 5 and 6) are associated with the next largest sea day difference (1,021 days) between adjacent species groups. Removing 1,577 days associated with TURS would remove more sea days than needed to reach the shortfall amount of

4,153 days (Table 6). Thus, only 237 of the 1,021 sea day difference between adjacent species groups (1,577 days for TURS and 566 days for squid-butterfish-mackerel [SBM]) are needed (Table 6). The penultimate value for Row 5 becomes 1,340 (1,577 – 237) days for TURS.

Step 9.4. After the removal of sea days within a fleet (Step 9.3), the remaining highest sea days (i.e., the penultimate or the left-hand-most value in Step 9.1) becomes the "PRIORITIZED" sea days required for that fleet.

The 9,477 prioritized sea days provide observer coverage to all 28 agency-funded fleets. There are 26 fleets for which no reduction in sea days occurred and there are 2 fleets (Rows 5 and 8) for which the numbers of sea days allocated are less than the days needed to achieve a 30% CV. The prioritized sea days for Row 5 become 1,340 days and the prioritized sea days for Row 8 become 731 days (Table 6). For Row 5, all fish/invertebrate species groups have an expected CV of 30% or less; however, the CV for TURS in the MA otter trawl gear type group is expected to exceed 30%. For Row 8, the CV for the RCRAB species group is expected to exceed 30% while all other species groups within this fleet have an expected CV of 30% or less.

Step 9.5. Identify fleets that cannot be covered by NEFOP this year.

In 2015, there are no practical limitations that prevent the NEFOP from covering these fleets. The sea days in Step 9.5 equal the sea days in Step 9.4 (Table 7).

Step 10. Allocate agency-funded non-prioritized sea days: ASM and MMPA days.

There are 1,788 agency-funded days that are not applicable to the prioritization process (non-prioritized days: 1,100 ASM days and 688 MMPA days; Table 7).

The 1,100 ASM sea days will be assigned to trips via the Pre-Trip Notification System (PTNS; Palmer et al. 2013). This means that the observer coverage within each of these fleets will depend upon industry activity during the April 2015 through March 2016 period. The ASM sea days have been proportionally allocated based on previous year industry activity, and thus the allocation presented in this report should be considered provisional (Table 7).

The 688 MMPA sea days, all assumed to have limited sampling protocols, are allocated to a row designated as "MMPA coverage" and will be associated with the NE and MA gillnet fleets (Rows 23-28; Table 7).

Step 11. Allocate industry-funded days. The sea days for the industry-funded fleets are assigned to trips via the call-in system[6]. Similar to the ASM non-prioritized sea days, the sea day

[6] For more information on the call-in system for the industry-funded scallop program, see http://www.nefsc.noaa.gov/fsb/scallop/Industry_Scallop_Call_in_Guide.pdf

coverage for industry-funded fleets will depend on industry activity during the April 2015 through March 2016 period and will be capped as described above. The 2,512 industry-funded sea days have not been allocated to individual fish/invertebrate fleets, but rather to groups of fish/invertebrate fleets that correspond to the stratification used in compensation rate analysis: Mid-Atlantic access area fleets (Rows 9, 10, 31, and 33; Table 7); Open areas fleets (Rows 11, 35 and 36 for Limited Access General Category fleets and Rows 12, 37, and 38 for Limited Access; Table 7); and New England access area fleets (Rows 32 and 34; Table 7). The allocated sea days represent the maximum coverage (i.e., caps).

Industry-funded sea days are expected to meet or exceed the SBRM required sea days for each fleet group corresponding to the stratification used in the compensation rate analysis except for New England access areas (Table 7). The 2015 sea day analyses estimated a total of 121 days needed for the New England access areas (Rows 32 and 34) for the upcoming year based on the July 2013 through June 2014 data; however, the New England access areas are closed for 2015 and fishing activity will not be allowed in these access areas after April 2015. Hence only a portion of the 121 days will be required for this group to cover 2014 compensation fishing trips. It was estimated that a total of 17 days would provide sufficient coverage between the beginning of the sea day schedule (April 2015) and the implementation of the 2015 scallop regulations.

Step 12. The sea days allocated for the April 2015 – March 2016 (TOTAL) is the sum of the prioritized days (Step 9.5), non-prioritized days (Step 10), and industry-funded days (Step 11). A total of 13,777 days is allocated across 41 fleets (Table 7).

The agency-funded fleets with an * or ** (Table 7) indicate that some or all of the observer coverage will be assigned via the PTNS or the scallop call-in program. This means that some or all of the observer coverage within each of these fleets will depend upon industry activity during the April 2015 through March 2016 period. The sea days for agency-funded fleets have been proportionally allocated based on previous year industry activity, and thus should be considered provisional. All other fleets will have sea days assigned to trips via the NEFOP sea day schedule.

Discussion

Although the trip filter removes the fleets with overall low activity from the sample size analysis, some of these fleets may have observer coverage assigned via the PTNS or the call-in program. For example, 5 of the 21 fleets that are removed by the trip filter are scallop fleets (Rows 9, 10, 12, 31, and 32) that have a call-in program such that coverage could be assigned based on industry activity. Similarly, those fleets associated with groundfish (e.g., Row 17) could be assigned observer coverage via the PTNS, depending upon industry activity. Because the sea days needed for these fleets have been excluded, the needed sea days may be slightly underestimated. However, it is important to note that these fleets have very low trip activity and the activity is expected to remain low. As a practical matter, fleets with low trip activity within a quarter or overall are very difficult to “find” unless they are part of PTNS or a call-in program. Attempts to assign observers can be inefficient since the probability of randomly finding such trips at a specific port or time period will be very low. Such fleets fall below practical detection limits.

The sample size analysis conducted by Wigley et al. (2015) derived the expected precision (CV) of the discard estimates for various species groups over a range of sample sizes for each of the species groups that were not filtered out by the importance filter (see Table 7 and Figure 3 in Wigley et al. 2015). Deriving the expected CV assumes the variance of the discard estimate is constant over a range of sample sizes (number of trips). For fish/invertebrates, the following example illustrates that although the sea days needed may be greater than the total allocated sea days, this does not imply that the expected precision for *all* fish/invertebrate species groups will exceed 30% CV. In the NE large mesh otter trawl fleet, a total of 1,390 days (Table 7, Step 12, Row 8) has been allocated for which 4,647 days (Table 7, Step 5, Row 8) are needed for a 30% CV for the 14 fish/invertebrate species groups. The expected CV for RCRAB is approximately 59% and all other fish/invertebrate species groups have an expected CV of 30% or less with 1,390 days allocated to this fleet (Figure 1). For loggerhead turtles, 3,309 days are needed in Mid-Atlantic otter trawl fleets for a 30% CV. With 2,977 days allocated to Mid-Atlantic otter trawl fleets (Table 7, Step 12, Rows 5 and 6), the expected CV increases to roughly 32% (Figure 2). As IFS days will provide additional coverage for turtles in MA scallop trawl fleets, the expected CV may be slightly lower.

The NY Department of Environmental Conservation has secured funding through the Atlantic Coast Cooperative Statistical Program (ACCSP) to support observer coverage (approximately 880 days) for otter trawl, gillnet, and pot/trap fleets in the Mid-Atlantic region. These sea days will provide observer coverage for all species above that allocated in this report.

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Table 1. A list of the 14 fish and invertebrate species groups and 1 species of sea turtles (in bold), with species group abbreviations in parentheses and scientific names in italics, and the species that compose these groups, corresponding to the 13 federal fishery management plans implements in the waters off the northeastern United States.

ATLANTIC SALMON (SAL)	*Salmo salar*
BLUEFISH (BLUE)	*Pomatomus saltatrix*
FLUKE - SCUP - BLACK SEA BASS (FSB)	
Black sea bass	*Centropristis striata*
Fluke	*Paralichthys dentatus*
Scup	*Stenotomus chrysops*
HERRING, ATLANTIC (HERR)	*Clupea harengus*
LARGE MESH GROUNDFISH (GFL)	
American plaice	*Hippoglossoides platessoides*
Atlantic cod	*Gadus morhua*
Atlantic halibut	*Hippoglossus hippoglossus*
Atlantic wolffish	*Anarhichas lupus*
Haddock	*Melanogrammus aeglefinus*
Ocean pout	*Zoarces americanus*
Pollock	*Pollachius virens*
Redfish	*Sebastes fasciatus*
White hake	*Urophycis tenuis*
Windowpane flounder	*Scophthalmus aquosus*
Winter flounder	*Pseudopleuronectes americanus*
Witch flounder	*Glyptocephalus cynoglossus*
Yellowtail flounder	*Limanda ferruginea*
MONKFISH (MONK)	*Lophius americanus*
RED DEEPSEA CRAB (RCRAB)[7]	*Chaceon quinquedens*
SEA SCALLOP (SCAL)	*Placopecten magellanicus*
SKATE COMPLEX (SKATE)[8]	*Rajidae*
Barndoor skate	*Dipturus laevis*
Clearnose skate	*Raja eglanteria*
Little skate	*Leucoraja erinacea*
Rosette skate	*Leucoraja garmani*
Smooth skate	*Malacoraja senta*
Thorny skate	*Amblyraja radiata*
Winter skate	*Leucoraja ocellata*
SMALL MESH GROUNDFISH (GFS)	
Offshore hake	*Merluccius albidus*
Red hake	*Urophycis chuss*
Silver hake	*Merluccius bilinearis*
SPINY DOGFISH (DOG)	*Squalus acanthias*
SQUID[9] **- BUTTERFISH - MACKEREL (SBM)**	
Atlantic mackerel	*Scomber scombrus*
Butterfish	*Peprilus triacanthus*
Northern shortfin squid	*Illex illecebrosus*
Longfin inshore squid	*Doryteuthis (Amerigo) pealeii*
SURFCLAM - OCEAN QUAHOG (SCOQ)	
Surfclam	*Spisula solidissima*
Ocean quahog	*Artica islandica*
TILEFISH (TILE)	*Lopholatilus chamaeleonticeps*
LOGGERHEAD TURTLE (TURS)	*Caretta caretta*

[7] Red deepsea crab was referred to as red crab in previous documents.
[8] Skate complex comprises 7 species as well as skate, unknown.
[9] Squid, unclassified is included in this species group. In this document, longfin inshore squid is referred to as longfin squid. Longfin inshore squid and northern shortfin squid are also known as Loligo squid and Illex squid, respectively.

Table 2. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 SBRM species groups combined, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.
Taken from Table 5C in Wigley et al. 2015.

Species: 14 SBRM SPECIES GROUPS COMBINED

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
1	Longline	OPEN	all	MA	all	1,711,479	1,711,479				P
2	Longline	OPEN	all	NE	all	1,490,357	1,298,479	191,878	0.348	66,722	
3	Hand Line	OPEN	all	MA	all	296,320	296,320	0			P
4	Hand Line	OPEN	all	NE	all	1,177,906	936,874	241,032	0.496	119,447	
5	Otter Trawl	OPEN	all	MA	sm	47,393,001	31,649,299	15,743,702	0.099	1,555,892	
6	Otter Trawl	OPEN	all	MA	lg	36,769,493	13,561,150	23,208,344	0.111	2,573,438	
7	Otter Trawl	OPEN	all	NE	sm	61,106,617	54,835,765	6,270,852	0.135	848,933	
8	Otter Trawl	OPEN	all	NE	lg	105,280,035	57,234,642	48,045,393	0.069	3,338,657	
11	Scallop Trawl	OPEN	GEN	MA	all	1,966,509	996,246	970,264	0.174	168,466	
12	Scallop Trawl	OPEN	LIM	MA	all	658,754	658,754				P
13	Otter Trawl, Twin	OPEN	all	MA	all	1,260,016	1,148,765	111,251	0.000	0	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	1,103,933	902,390	201,543	0.035	7,072	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	119,838	72,306	47,532	0.000	0	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	3,132,468	2,412,967	719,501	0.189	135,902	
19	Shrimp Trawl	OPEN	all	MA	all	8,386	8,386				P
20	Shrimp Trawl	OPEN	all	NE	all	369,649	369,649				P
22	Floating Trap	OPEN	all	NE	all	18,352	18,352				P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	1,384,925	1,352,331	32,594	1.830	59,639	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	4,173,630	3,912,719	260,911	0.500	130,431	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	7,708,472	6,823,553	884,919	0.196	173,070	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	376	376				P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	11,628,459	7,956,540	3,671,919	0.077	281,674	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	17,943,981	15,175,147	2,768,834	0.080	221,403	
29	Purse Seine	OPEN	all	MA	all	0	0				P
30	Purse Seine	OPEN	all	NE	all	48,513,940	48,499,422	14,518	0.512	7,439	
31	Scallop Dredge	AA	GEN	MA	all	375,290	360,682	14,608	0.559	8,164	P
32	Scallop Dredge	AA	GEN	NE	all	468,359	449,517	18,842	0.560	10,545	
33	Scallop Dredge	AA	LIM	MA	all	17,830,225	15,570,539	2,259,686	0.246	556,073	

Table 2, continued. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error of the estimated discards (SE; live lb) for 14 SBRM species groups combined, by fleet, based on July 2013 through June 2014 data. Dark shading indicates fleets not considered or with no Northeast Fisheries Observer Program trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards or discards equals 0. "P" indicates fleets with "pilot" designation.
Taken from Table 5C in Wigley et al. 2015.

Species: 14 SBRM SPECIES GROUPS COMBINED

Fleet Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Total	Kept	Discarded	CV	SE	Pilot
34	Scallop Dredge	AA	LIM	NE	all	34,703,924	31,504,235	3,199,689	0.135	432,822	
35	Scallop Dredge	OPEN	GEN	MA	all	11,935,749	9,888,426	2,047,323	0.099	203,326	
36	Scallop Dredge	OPEN	GEN	NE	all	9,881,711	8,982,229	899,483	0.122	110,096	
37	Scallop Dredge	OPEN	LIM	MA	all	60,751,142	55,320,621	5,430,521	0.081	439,652	
38	Scallop Dredge	OPEN	LIM	NE	all	192,744,890	167,907,405	24,837,485	0.059	1,457,709	
39	Danish Seine	OPEN	all	MA	all	0	0				P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	3,172,468	3,163,000	9,468	0.000	0	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	148,097,047	148,023,920	73,127	0.403	29,474	
42	Pots and Traps, Fish	OPEN	all	MA	all	478,506	366,848	111,657	0.215	23,975	P
43	Pots and Traps, Fish	OPEN	all	NE	all	319,991	319,991				P
44	Pots and Traps, Conch	OPEN	all	MA	all	5,475	3,346	2,129	0.145	309	P
45	Pots and Traps, Conch	OPEN	all	NE	all	42,794	0	42,794	0.000	0	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0				P
47	Pots and Traps, Lobster	OPEN	all	MA	all	272,646	140,018	132,628	0.169	22,401	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	342,744	25,205	317,539	0.990	314,458	
49	Pots and Traps, Crab	OPEN	all	MA	all	176,310	176,310				P
50	Pots and Traps, Crab	OPEN	all	NE	all	2,202,976	2,201,739	1,237	0.000	0	P
51	Beam Trawl	OPEN	all	MA	all	675,527	675,527				P
53	Dredge, Other	OPEN	all	MA	all	0	0				P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	256,367,297	256,367,297				P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	215,812,072	215,812,072				P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	267,724	202,022	65,702	0.044	2,911	
	Confidential fleets					271,892	271,892				
	Other fleets					2,284,907	2,284,907				
					TOTAL	1,314,698,562	1,171,849,660	142,848,902	0.034	4,911,669	

Table 3. The most recent average annual estimates of sea turtle interactions and their associated coefficient of variation (CV) in U.S. Mid-Atlantic commercial fisheries.

Fishery	**Estimate**	**CV**	**Years Included**	**Species**	**Reference**
Bottom trawl, for fish and scallops	231	0.13	01 Jan 2009-2013	Loggerhead	Murray (in review)
Sea Scallop Dredge	95	0.18	26 Sep 2006-2008	Loggerhead	Murray 2011
Sea Scallop Dredge	125	0.15	26 Sep 2006-2008	Hard-shelled	Murray 2011
Sink Gillnet	89	0.26	01 Jan 2007-2001	Loggerhead	Murray 2013
Sink Gillnet	95	0.21	01 Jan 2007-2011	Hard-shelled	Murray 2013

Table 4. The number of sea days needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot sea days, the number of minimum pilot sea days, and the maximum number of sea days needed for each fleet (2015 Sea Days Needed) for fish and invertebrate species groups based on July 2013 through June 2014 data. Bold red font indicates basis for fleet sea days. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1. *Taken from Table 6 in Wigley et al. 2015.*

Row	Fleet Gear Type	Access Area	Trip Category	Region	Mesh Group	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2015 Sea Days Needed	Pilot
1	Longline	OPEN	all	MA	all	85	85	85	85	85	85	85	85	85	85	85	85	85	85	**85**	85	85	P
2	Longline	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	**14**	14	
3	Hand Line	OPEN	all	MA	all	70	70	70	70	70	70	70	70	70	70	70	70	70	70	**70**	14	70	P
4	Hand Line	OPEN	all	NE	all	0	0	0	0	0	0	0	**48**	0	0	0	0	0	0	51	13	48	
5	Otter Trawl	OPEN	all	MA	sm	0	0	0	0	0	**556**	0	336	531	294	402	493	0	0	176	32	556	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0	0	0	0	**744**	72	0	89	220	210	0	0	183	29	744	
7	Otter Trawl	OPEN	all	NE	sm	0	0	0	0	0	**1,311**	0	313	460	0	571	720	0	0	186	34	1,311	
8	Otter Trawl	OPEN	all	NE	lg	0	0	0	**4,647**	0	0	228	349	231	316	192	731	0	0	376	35	4,647	
9	Scallop Trawl	AA	GEN	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
10	Scallop Trawl	AA	LIM	MA	all	42	42	42	42	42	42	42	42	42	42	42	42	42	42	**42**	42	42	P
11	Scallop Trawl	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	**23**	23	
12	Scallop Trawl	OPEN	LIM	MA	all	72	72	72	72	72	72	72	72	72	72	72	72	72	72	**72**	72	72	P
13	Otter Trawl, Twin	OPEN	all	MA	all	60	60	60	60	60	60	60	60	60	60	60	60	60	60	**60**	60	60	P
14	Otter Trawl, Twin	OPEN	all	NE	all	85	85	85	85	85	85	85	85	85	85	85	85	85	85	**85**	85	85	P
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	27	27	27	27	27	27	27	27	27	27	27	27	27	27	**27**	27	27	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	48	48	48	48	48	48	48	48	48	48	48	48	48	48	**48**	48	48	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	68	68	68	68	68	68	68	68	68	68	68	68	68	68	**68**	68	68	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	**302**	0	0	0	94	94	302	
19	Shrimp Trawl	OPEN	all	MA	all	65	65	65	65	65	65	65	65	65	65	65	65	65	65	**65**	54	65	P
20	Shrimp Trawl	OPEN	all	NE	all	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
21	Floating Trap	OPEN	all	MA	all	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
22	Floating Trap	OPEN	all	NE	all	21	21	21	21	21	21	21	21	21	21	21	21	21	21	**21**	21	21	P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	**12**	12	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	**13**	13	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	0	0	0	0	0	0	**122**	0	0	0	0	0	0	0	51	14	122	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	9	9	9	9	9	9	9	9	9	9	9	9	9	9	**9**	9	9	P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	**103**	0	0	0	108	19	103	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	0	0	0	0	0	0	152	0	0	73	**240**	0	0	0	87	19	240	
29	Purse Seine	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
30	Purse Seine	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	**31**	31	
31	Scallop Dredge	AA	GEN	MA	all	27	27	27	27	27	27	27	27	27	27	27	27	27	27	**27**	27	27	P
32	Scallop Dredge	AA	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	**31**	31	
33	Scallop Dredge	AA	LIM	MA	all	0	0	0	0	0	0	**153**	0	0	0	0	0	0	0	90	90	153	
34	Scallop Dredge	AA	LIM	NE	all	0	0	0	0	0	0	65	0	0	**121**	0	0	0	0	97	94	121	
35	Scallop Dredge	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	**28**	0	0	0	0	76	21	28	
36	Scallop Dredge	OPEN	GEN	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	**16**	16	
37	Scallop Dredge	OPEN	LIM	MA	all	0	0	0	0	0	0	**123**	0	0	51	0	0	0	0	118	105	123	
38	Scallop Dredge	OPEN	LIM	NE	all	0	0	0	0	0	0	176	155	**630**	84	0	207	0	0	216	113	630	
39	Danish Seine	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	**6**	6	6	P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	32	32	32	32	32	32	32	32	32	32	32	32	32	32	**32**	32	32	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	**39**	39	

Table 4 continued. The number of sea days needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot sea days, the number of minimum pilot sea days, and the maximum number of sea days needed for each fleet (2015 Sea Days Needed) for fish and invertebrate species groups based on July 2013 through June 2014 data. Bold red font indicates basis for fleet sea days. "P" indicates fleets with "pilot" designation. Species group abbreviations are given in Table 1. *Taken from Table 6 in Wigley et al. 2015.*

Row	Fleet Gear Type	Access Area	Trip Category	Region	Mesh Group	BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2015 Sea Days Needed	Pilot
42	Pots and Traps, Fish	OPEN	all	MA	all	22	22	22	22	22	22	22	22	22	22	22	22	22	22	**22**	13	22	P
43	Pots and Traps, Fish	OPEN	all	NE	all	42	42	42	42	42	42	42	42	42	42	42	42	42	42	**42**	30	42	P
44	Pots and Traps, Conch	OPEN	all	MA	all	28	28	28	28	28	28	28	28	28	28	28	28	28	28	**28**	15	28	P
45	Pots and Traps, Conch	OPEN	all	NE	all	22	22	22	22	22	22	22	22	22	22	22	22	22	22	**22**	9	22	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	83	83	83	83	83	83	83	83	83	83	83	83	83	83	**83**	83	83	P
47	Pots and Traps, Lobster	OPEN	all	MA	all	47	47	47	47	47	47	47	47	47	47	47	47	47	47	**47**	17	47	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0	0	0	0	0	**572**	0	0	0	0	0	0	447	18	572	
49	Pots and Traps, Crab	OPEN	all	MA	all	29	29	29	29	29	29	29	29	29	29	29	29	29	29	**29**	29	29	P
50	Pots and Traps, Crab	OPEN	all	NE	all	83	83	83	83	83	83	83	83	83	83	83	83	83	83	**83**	83	83	P
51	Beam Trawl	OPEN	all	MA	all	35	35	35	35	35	35	35	35	35	35	35	35	35	35	**35**	35	35	P
52	Beam Trawl	OPEN	all	NE	all	11	11	11	11	11	11	11	11	11	11	11	11	11	11	**11**	11	11	P
53	Dredge, Other	OPEN	all	MA	all	11	11	11	11	11	11	11	11	11	11	11	11	11	11	**11**	10	11	P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	75	75	75	75	75	75	75	75	75	75	75	75	75	75	**75**	24	75	P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	65	65	65	65	65	65	65	65	65	65	65	65	65	65	**65**	14	65	P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	**25**	25	
					Totals	**1,300**	**1,300**	**1,300**	**5,947**	**1,300**	**3,167**	**3,063**	**3,145**	**3,152**	**2,356**	**3,330**	**3,661**	**1,300**	**1,300**	**3,998**	**1,987**	**11,204**	

Table 5. The number of sea days needed to monitor fish/invertebrates (FISH), loggerhead turtles (TURS), combined species groups (COMBINED) by fleet (Steps 1 through 6), and the number of funded sea days for April 2015 through March 2016 (Step 7) and the differences between needed and funded days (Step 8).

	Fleet					Step 1	Step 2	Step 3	Step 4a	Step 4b	Step 4c	Step 5
Row	Gear Type	Access Area	Trip Cat.	Region	Mesh	2015 Sea Days Needed FISH	2015 Sea Days Needed FISH **FILTERED**	2015 Sea Days Needed for TURS	Vessel Trip Report Sea Days	% Vessel Trip Report Sea Days	TURS Sea Days by FISH fleet	2015 Sea Days Needed COMBINED
1	Longline	OPEN	all	MA	all	85	85		1,303			85
2	Longline	OPEN	all	NE	all	14	14		540			14
3	Hand Line	OPEN	all	MA	all	70	70		3,395			70
4	Hand Line	OPEN	all	NE	all	48	48		2,385			48
5	Otter Trawl	OPEN	all	MA	sm	556	556	3,309	8,824	0.477	**1,577**	1,577
6	Otter Trawl	OPEN	all	MA	lg	744	744		9,156	0.495	**1,636**	1,636
7	Otter Trawl	OPEN	all	NE	sm	1311	1,311		9,318			1,311
8	Otter Trawl	OPEN	all	NE	lg	4647	4,647		18,811			4,647
9	Scallop Trawl	AA	GEN	MA	all	6	0		0	0.000	**0**	0
10	Scallop Trawl	AA	LIM	MA	all	42	0		0	0.000	**0**	0
11	Scallop Trawl	OPEN	GEN	MA	all	23	23		535	0.029	**96**	96
12	Scallop Trawl	OPEN	LIM	MA	all	72	0		0	0.000	**0**	0
13	Otter Trawl , Twin	OPEN	all	MA	all	60	0		0			0
14	Otter Trawl , Twin	OPEN	all	NE	all	85	0		0			0
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	27	0		0	0.000	**0**	0
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	48	0		0			0
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	68	0		0			0
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	302	302		990			302
19	Shrimp Trawl	OPEN	all	MA	all	65	0		0			0
20	Shrimp Trawl	OPEN	all	NE	all	9	9		135			9
21	Floating Trap	OPEN	all	MA	all	9	0		0			0
22	Floating Trap	OPEN	all	NE	all	21	0		0			0
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	12	12		1,994	0.302	**784**	784
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	13	13	2,593	2,120	0.322	**834**	834
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	122	122		2,478	0.376	**975**	975
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	9	0		0			0
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	103	103		5,391			103
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	240	240		4,366			240
29	Purse Seine	OPEN	all	MA	all	6	6		231			6
30	Purse Seine	OPEN	all	NE	all	31	31		618			31
31	Scallop Dredge	AA	GEN	MA	all	27	0		0	0.000	**0**	0
32	Scallop Dredge	AA	GEN	NE	all	31	0		0			0
33	Scallop Dredge	AA	LIM	MA	all	153	153	1,293	1,580	0.167	**216**	216
34	Scallop Dredge	AA	LIM	NE	all	121	121		2,579			121
35	Scallop Dredge	OPEN	GEN	MA	all	28	28		3,816	0.404	**522**	522
36	Scallop Dredge	OPEN	GEN	NE	all	16	16		4,662			16
37	Scallop Dredge	OPEN	LIM	MA	all	123	123		4,053	0.429	**555**	555
38	Scallop Dredge	OPEN	LIM	NE	all	630	630		10,301			630
39	Danish Seine	OPEN	all	MA	all	6	0		0			0
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	32	0		0			0
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	39	39		1,426			39
42	Pots and Traps, Fish	OPEN	all	MA	all	22	22		1,005			22
43	Pots and Traps, Fish	OPEN	all	NE	all	42	42		956			42
44	Pots and Traps, Conch	OPEN	all	MA	all	28	28		1,341			28
45	Pots and Traps, Conch	OPEN	all	NE	all	22	22		1,122			22
46	Pots and Traps, Hagfish	OPEN	all	NE	all	83	0		0			0
47	Pots and Traps, Lobster	OPEN	all	MA	all	47	47		2,270			47
48	Pots and Traps, Lobster	OPEN	all	NE	all	572	572		34,395			572
49	Pots and Traps, Crab	OPEN	all	MA	all	29	0		0			0
50	Pots and Traps, Crab	OPEN	all	NE	all	83	0		0			0
51	Beam Trawl	OPEN	all	MA	all	35	35		324			35
52	Beam Trawl	OPEN	all	NE	all	11	0		0			0
53	Dredge, Other	OPEN	all	MA	all	11	11		308			11
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	75	75		3,735			75
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	65	65		3,230			65
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	25	0		0			0
					Total	**11,204**	**10,365**	**7,195**	**149,693**			**15,786**

Step 6	Agency Fleets (Sea Days Needed)	**9,932**	**9,271**	**13,630**
	Industry Fleets (Sea Days Needed)	**1,272**	**1,094**	**2,156**
Step 7	Agency Fleets (Sea Days Funded)		Prioritized	**9,477**
	Agency Fleets (Sea Days Funded)		Non-prioritized (ASM)	**1,100**
	Agency Fleets (Sea Days Funded)		Non-prioritized (MMPA)	**688**
	Industry Fleets (Sea Days Funded)			**2,512**
Step 8	Agency Fleet Difference		SHORTFALL	**-4,153**
	Industry Fleet Difference		SURPLUS	**356**

Turtle Gear Types							
MA Trawl	1,470	1,323	**3,309**	18,515		3,309	3,309
MA Gillnet	147	147	**2,593**	6,592		2,593	2,593
MA Dredge	331	304	**1,293**	9,449		1,293	1,293

KEY: Agency funded fleets | Industry funded fleets

Table 6. The 2015 sea days needed (COMBINED; Step 5) and the information used in the penultimate approach to prioritize sea days to fleets for agency-funded days that are applicable to the prioritization process (Steps 9.1 through 9.5).

	Fleet					Step 5	Step 9.1								Step 9.2								Step 9.3		Step 9.4	Step 9.5
Row	Gear Type	Access Area	Trip Cat.	Region	Mesh	2015 Sea Days Needed COMBINED	Penultimate sea days needed for the 15 species groups, in descending order with minimum pilot coverage as minimum for fleet								Sea day differences between adjacent species groups within a row (red font indicated values used in Step 9.3)								Sea day differences, in descending order with fleet constraint	Cumulative reduction of sea days	2015 Sea Days PRIORITIZED (Penultimate)	2015 Sea Days PRIORITIZED (Penultimate)
1	Longline	OPEN	all	MA	all	85	85								0								3,916	3,916	85	85
2	Longline	OPEN	all	NE	all	14	14								0								237 of 1,021	4,153	14	14
3	Hand Line	OPEN	all	MA	all	70	14								56										70	70
4	Hand Line	OPEN	all	NE	all	48	13								35										48	48
5	Otter Trawl	OPEN	all	MA	sm	1,577	556	531	493	402	336	294	32		1,021	25	38	91	66	42	262	32			1,340	1,340
6	Otter Trawl	OPEN	all	MA	lg	1,636	744	220	210	89	72	29			892	524	10	121	17	43	29				1,636	1,636
7	Otter Trawl	OPEN	all	NE	sm	1,311	720	571	460	313	34	34			591	149	111	147	279	0					1,311	1,311
8	Otter Trawl	OPEN	all	NE	lg	4,647	731	349	316	231	228	192	35		3,916	382	33	85	3	36	157	35			731	731
9	Scallop Trawl	AA	GEN	MA	all	0																				
10	Scallop Trawl	AA	LIM	MA	all	0																				
11	Scallop Trawl	OPEN	GEN	MA	all	96																				
12	Scallop Trawl	OPEN	LIM	MA	all	0																				
13	Otter Trawl , Twin	OPEN	all	MA	all	0																			0	0
14	Otter Trawl , Twin	OPEN	all	NE	all	0																			0	0
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	0																			0	0
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0																			0	0
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0																			0	0
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	302	94								208										302	302
19	Shrimp Trawl	OPEN	all	MA	all	0																			0	0
20	Shrimp Trawl	OPEN	all	NE	all	9	9								0										9	9
21	Floating Trap	OPEN	all	MA	all	0																			0	0
22	Floating Trap	OPEN	all	NE	all	0																			0	0
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	784	12								772										784	784
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	834	13								821										834	834
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	975	122	14							853	108									975	975
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0																			0	0
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	103	19								84	19									103	103
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	240	152	73	19						88	79	54								240	240
29	Purse Seine	OPEN	all	MA	all	6	6								0										6	6
30	Purse Seine	OPEN	all	NE	all	31	31								0										31	31
31	Scallop Dredge	AA	GEN	MA	all	0																				
32	Scallop Dredge	AA	GEN	NE	all	0																				
33	Scallop Dredge	AA	LIM	MA	all	216																				
34	Scallop Dredge	AA	LIM	NE	all	121																				
35	Scallop Dredge	OPEN	GEN	MA	all	522																				
36	Scallop Dredge	OPEN	GEN	NE	all	16																				
37	Scallop Dredge	OPEN	LIM	MA	all	555																				
38	Scallop Dredge	OPEN	LIM	NE	all	630																				
39	Danish Seine	OPEN	all	MA	all	0																			0	0
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0																			0	0
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	39	39								0										39	39
42	Pots and Traps, Fish	OPEN	all	MA	all	22	13								9	13									22	22
43	Pots and Traps, Fish	OPEN	all	NE	all	42	30								12	30									42	42
44	Pots and Traps, Conch	OPEN	all	MA	all	28	15								13	15									28	28
45	Pots and Traps, Conch	OPEN	all	NE	all	22	9								13	9									22	22
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0																			0	0
47	Pots and Traps, Lobster	OPEN	all	MA	all	47	17								30	17									47	47
48	Pots and Traps, Lobster	OPEN	all	NE	all	572	18								554										572	572
49	Pots and Traps, Crab	OPEN	all	MA	all	0																			0	0
50	Pots and Traps, Crab	OPEN	all	NE	all	0																			0	0
51	Beam Trawl	OPEN	all	MA	all	35	35																		35	35
52	Beam Trawl	OPEN	all	NE	all	0																			0	0
53	Dredge, Other	OPEN	all	MA	all	11	10								1	10									11	11
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	75	24								51	24									75	75
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	65	14								51	14									65	65
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0																			0	0
					Total	15,786																			9,477	9,477

Step 6	Agency Fleets (Sea Days Needed)	13,630	
	Industry Fleets (Sea Days Needed)	2,156	
Step 7	Agency Fleets (Sea Days Funded)	9,477	Prioritized days
	Agency Fleets (Sea Days Funded)	1,100	Non-prioritized days (ASM)
	Agency Fleets (Sea Days Funded)	688	Non-prioritized days (MMPA)
	Industry Fleets (Sea Days Funded)	2,512	Industy-funded scallop days
Step 8	Agency Fleet Difference	-4,153	
	Industry Fleet Difference	356	

Turtle Gear Types	
MA Trawl	3,309
MA Gillnet	2,593
MA Dredge	1,293

KEY: Agency funded fleets	Industry funded fleets
Fleets with reduction in sea days	

Table 7. The number of sea days needed to monitor the combined species groups (COMBINED; Step 5), prioritized days (Step 9.5), non-prioritized days (At-Sea Monitoring [ASM] and protected species [MMPA]; Step 10), industry-funded days (Step 11), and the 2015 observer sea days allocated for April 2015 through March 2016 (Step 12), by fleet. Note: * indicates all coverage is dependent on industry activity; ** indicates some coverage is dependent on industry activity; *** indicates coverage for protected species bycatch.

	Fleet					Step 5	Step 9.5	Step 10	Step 11	Step 12	
Row	Gear Type	Access Area	Trip Cat.	Region	Mesh	2015 Sea Days Needed COMBINED	2015 Sea Days PRIORITIZED (Penultimate)	2015 Sea Days non-prioritized (ASM, MMPA)	2015 Industry-funded Sea Days	Sea Days Allocated for April 2015 - March 2016 (TOTAL)	Comments
1	Longline	OPEN	all	MA	all	85	85	0		85	Fish stock assessment support
2	Longline	OPEN	all	NE	all	14	14	29		43	Fish stock assessment support *
3	Hand Line	OPEN	all	MA	all	70	70	1		71	Fish stock assessment support **
4	Hand Line	OPEN	all	NE	all	48	48	17		65	Fish stock assessment support **
5	Otter Trawl	OPEN	all	MA	sm	1,577	1,340	0		1,340	Fish stock assessment and turtle bycatch support
6	Otter Trawl	OPEN	all	MA	lg	1,636	1,636	1		1,637	Fish stock assessment and turtle bycatch support **
7	Otter Trawl	OPEN	all	NE	sm	1,311	1,311	1		1,312	Fish stock assessment support **
8	Otter Trawl	OPEN	all	NE	lg	4,647	731	659		1,390	Fish stock assessment support **
9	Scallop Trawl	AA	GEN	MA	all	0					Industry funded* (see Row 33)
10	Scallop Trawl	AA	LIM	MA	all	0					Industry funded * (see Row 33)
11	Scallop Trawl	OPEN	GEN	MA	all	96					Industry funded * (see Row 36)
12	Scallop Trawl	OPEN	LIM	MA	all	0					Industry funded * (see Row 38)
13	Otter Trawl , Twin	OPEN	all	MA	all	0	0	0		0	
14	Otter Trawl , Twin	OPEN	all	NE	all	0	0	0		0	
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	0	0	0		0	
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	0		0	
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	4		4	Fish stock assessment support *
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	302	302	0		302	Fish stock assessment support*
19	Shrimp Trawl	OPEN	all	MA	all	0	0	0		0	
20	Shrimp Trawl	OPEN	all	NE	all	9	9	0		9	Fish stock assessment support
21	Floating Trap	OPEN	all	MA	all	0	0	0		0	
22	Floating Trap	OPEN	all	NE	all	0	0	0		0	
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	784	784	0		784	Fish stock assessment and turtle bycatch support
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	834	834	0		834	Fish stock assessment and turtle bycatch support
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	975	975	0		975	Fish stock assessment support *
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	0	0	0		0	
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	103	103	237		340	Fish stock assessment support **
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	240	240	151		391	Fish stock assessment support**
29	Purse Seine	OPEN	all	MA	all	6	6	0		6	Fish stock assessment support
30	Purse Seine	OPEN	all	NE	all	31	31	0		31	Fish stock assessment support
31	Scallop Dredge	AA	GEN	MA	all	0					Industry funded * (see Row 33)
32	Scallop Dredge	AA	GEN	NE	all	0					Industry funded * (see Row 34)
33	Scallop Dredge	AA	LIM	MA	all	216			1,149	1,149	Industry funded * (Rows 9, 10, 31, & 33)
34	Scallop Dredge	AA	LIM	NE	all	121			17	17	Industry funded * (Rows 32 & 34)
35	Scallop Dredge	OPEN	GEN	MA	all	522					Industry funded * (see Row 36)
36	Scallop Dredge	OPEN	GEN	NE	all	16			193	193	Industry funded * (Rows 11, 35, & 36)
37	Scallop Dredge	OPEN	LIM	MA	all	555					Industry funded * (see Row 38)
38	Scallop Dredge	OPEN	LIM	NE	all	630			1,153	1,153	Industry funded * (Rows 12, 37, & 38)
39	Danish Seine	OPEN	all	MA	all	0	0	0		0	
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	0	0	0		0	
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	39	39	0		39	Fish stock assessment support
42	Pots and Traps, Fish	OPEN	all	MA	all	22	22	0		22	Fish stock assessment support
43	Pots and Traps, Fish	OPEN	all	NE	all	42	42	0		42	Fish stock assessment support
44	Pots and Traps, Conch	OPEN	all	MA	all	28	28	0		28	Fish stock assessment support
45	Pots and Traps, Conch	OPEN	all	NE	all	22	22	0		22	Fish stock assessment support
46	Pots and Traps, Hagfish	OPEN	all	NE	all	0	0	0		0	
47	Pots and Traps, Lobster	OPEN	all	MA	all	47	47	0		47	Fish stock assessment support
48	Pots and Traps, Lobster	OPEN	all	NE	all	572	572	0		572	Fish stock assessment support
49	Pots and Traps, Crab	OPEN	all	MA	all	0	0	0		0	
50	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0		0	
51	Beam Trawl	OPEN	all	MA	all	35	35	0		35	Fish stock assessment support
52	Beam Trawl	OPEN	all	NE	all	0	0	0		0	
53	Dredge, Other	OPEN	all	MA	all	11	11	0		11	Fish stock assessment support
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	75	75	0		75	Fish stock assessment support
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	65	65	0		65	Fish stock assessment support
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	0		0	
	MMPA coverage							688		688	Coverage associated with Rows 23-28***
					Total	**15,786**	**9,477**	**1,788**	**2,512**	**13,777**	

Step 6	Agency Fleets (Sea Days Needed)	**13,630**	
	Industry Fleets (Sea Days Needed)	**2,156**	
Step 7	Agency Fleets (Sea Days Funded)	**9,477**	**Prioritized days**
	Agency Fleets (Sea Days Funded)	**1,100**	**Non-prioritized days (ASM)**
	Agency Fleets (Sea Days Funded)	**688**	**Non-prioritized days (MMPA)**
	Industry Fleets (Sea Days Funded)	**2,512**	**Industy-funded scallop days**
Step 8	Agency Fleet Difference	**-4,153**	
	Industry Fleet Difference	**356**	
	Turtle Gear Types — MA Trawl	3,309	
	MA Gillnet	2,593	
	MA Dredge	1,293	

KEY: Agency funded fleets	Industry funded fleets
Fleets with reduction in sea days	

Appendix Table 1. Stratification abbreviations used for 2015 fleets.

Abbreviation	**Definition**
MA	Mid-Atlantic ports (CT and southward)
NE	New England ports (RI and northward)
sm	Small mesh (less than 5.50 in)
lg	Large mesh (mesh from 5.50 to 7.99 in for gillnet; 5.50 in and greater for otter trawl)
xlg	Extra large mesh (8 in and greater)
LIM	Limited access category
GEN	General category
OPEN	Non-access area
AA	Access area

Appendix Table 2. The number of Vessel Trip Reports (VTR) trips, by fleet and calendar quarter (Q) during July 2013 through June 2014. “P” indicates fleets with “pilot” designation. The percentage and cumulative percentage for each fleet, when fleets are ranked from smallest to largest, are also presented. The shaded cells represent the fleets containing the lowest cumulative 1% of all trips. Note: the total number of VTR trips in MA shrimp trawl fleet (Row 19) was adjusted from 405 trips to 12 trips before the trip filter was applied.

Fleet						VTR TRIPS					
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Q3	Q4	Q1	Q2	TOTAL	Pilot
1	Longline	OPEN	all	MA	all	62	26	37	69	**194**	P
2	Longline	OPEN	all	NE	all	203	160	56	73	**492**	
3	Hand Line	OPEN	all	MA	all	1,562	722	70	754	**3,108**	P
4	Hand Line	OPEN	all	NE	all	1,377	377	6	435	**2,195**	
5	Otter Trawl	OPEN	all	MA	sm	1,472	900	394	1,073	**3,839**	
6	Otter Trawl	OPEN	all	MA	lg	1,625	733	810	1,015	**4,183**	
7	Otter Trawl	OPEN	all	NE	sm	1,386	745	420	1,037	**3,588**	
8	Otter Trawl	OPEN	all	NE	lg	2,127	1,523	1,348	1,667	**6,665**	
9	Scallop Trawl	AA	GEN	MA	all	.	.	.	13	**13**	P
10	Scallop Trawl	AA	LIM	MA	all	.	1	2	.	**3**	P
11	Scallop Trawl	OPEN	GEN	MA	all	119	20	6	134	**279**	
12	Scallop Trawl	OPEN	LIM	MA	all	10	4	5	6	**25**	P
13	Otter Trawl, Twin	OPEN	all	MA	all	2	9	9	29	**49**	P
14	Otter Trawl, Twin	OPEN	all	NE	all	5	6	6	2	**19**	P
15	Otter Trawl, Ruhle	OPEN	all	MA	lg	6	.	2	.	**8**	P
16	Otter Trawl, Ruhle	OPEN	all	NE	sm	1	.	14	3	**18**	P
17	Otter Trawl, Ruhle	OPEN	all	NE	lg	2	.	1	6	**9**	P
18	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	14	25	12	73	**124**	
19	Shrimp Trawl	OPEN	all	MA	all	249	152	4	.	**405**	P
20	Shrimp Trawl	OPEN	all	NE	all	78	4	.	49	**131**	P
21	Floating Trap	OPEN	all	MA	all	42	5	.	38	**85**	P
22	Floating Trap	OPEN	all	NE	all	9	.	.	1	**10**	P
23	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	663	452	363	460	**1,938**	
24	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	534	720	308	453	**2,015**	
25	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	98	714	244	1,064	**2,120**	
26	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	1	3	.	1	**5**	P
27	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	1,546	990	257	828	**3,621**	
28	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	1,194	556	252	931	**2,933**	
29	Purse Seine	OPEN	all	MA	all	105	.	.	124	**229**	P
30	Purse Seine	OPEN	all	NE	all	218	39	2	37	**296**	
31	Scallop Dredge	AA	GEN	MA	all	9	13	8	37	**67**	P
32	Scallop Dredge	AA	GEN	NE	all	59	6	2	4	**71**	
33	Scallop Dredge	AA	LIM	MA	all	92	25	23	60	**200**	
34	Scallop Dredge	AA	LIM	NE	all	168	83	18	59	**328**	
35	Scallop Dredge	OPEN	GEN	MA	all	703	391	349	783	**2,226**	
36	Scallop Dredge	OPEN	GEN	NE	all	866	669	1,090	972	**3,597**	
37	Scallop Dredge	OPEN	LIM	MA	all	115	54	59	221	**449**	
38	Scallop Dredge	OPEN	LIM	NE	all	353	93	171	426	**1,043**	
39	Danish Seine	OPEN	all	MA	all	24	.	.	61	**85**	P
40	Mid-water Paired & Single Trawl	OPEN	all	MA	all	1	.	12	.	**13**	P
41	Mid-water Paired & Single Trawl	OPEN	all	NE	all	127	112	140	60	**439**	
42	Pots and Traps, Fish	OPEN	all	MA	all	387	253	61	270	**971**	P
43	Pots and Traps, Fish	OPEN	all	NE	all	707	112	1	103	**923**	P
44	Pots and Traps, Conch	OPEN	all	MA	all	225	528	96	258	**1,107**	P
45	Pots and Traps, Conch	OPEN	all	NE	all	401	362	.	356	**1,119**	P
46	Pots and Traps, Hagfish	OPEN	all	NE	all	17	14	4	12	**47**	P
47	Pots and Traps, Lobster	OPEN	all	MA	all	800	398	93	401	**1,692**	P
48	Pots and Traps, Lobster	OPEN	all	NE	all	11,982	7,823	1,773	4,590	**26,168**	
49	Pots and Traps, Crab	OPEN	all	MA	all	10	5	6	33	**54**	P
50	Pots and Traps, Crab	OPEN	all	NE	all	14	17	27	23	**81**	P
51	Beam Trawl	OPEN	all	MA	all	36	28	11	39	**114**	P
52	Beam Trawl	OPEN	all	NE	all	30	5	.	12	**47**	P
53	Dredge, Other	OPEN	all	MA	all	.	41	183	64	**288**	P
54	Ocean Quahog/Surfclam Dredge	OPEN	all	MA	all	506	365	454	499	**1,824**	P
55	Ocean Quahog/Surfclam Dredge	OPEN	all	NE	all	823	571	563	769	**2,726**	P
56	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	.	.	.	6	**6**	
					Total	33,165	20,854	9,772	20,493	**84,284**	

Row	VTR Trips	% of Trips	VTR TRIPS Cum %
10	3	<0.1%	0.0%
26	5	<0.1%	0.0%
56	6	<0.1%	0.0%
15	8	<0.1%	0.0%
17	9	<0.1%	0.0%
22	10	<0.1%	0.0%
19	12	<0.1%	0.1%
9	13	<0.1%	0.1%
40	13	<0.1%	0.1%
16	18	<0.1%	0.1%
14	19	<0.1%	0.1%
12	25	<0.1%	0.2%
46	47	0.1%	0.2%
52	47	0.1%	0.3%
13	49	0.1%	0.3%
49	54	0.1%	0.4%
31	67	0.1%	0.5%
32	71	0.1%	0.6%
50	81	0.1%	0.7%
21	85	0.1%	0.8%
39	85	0.1%	0.9%
51	114	0.1%	1.0%
18	124	0.1%	1.2%
20	131	0.2%	1.3%
1	194	0.2%	1.5%
33	200	0.2%	1.8%
29	229	0.3%	2.0%
11	279	0.3%	2.4%
53	288	0.3%	2.7%
30	296	0.4%	3.1%
34	328	0.4%	3.5%
41	439	0.5%	4.0%
37	449	0.5%	4.5%
2	492	0.6%	5.1%
43	923	1.1%	6.2%
42	971	1.2%	7.4%
38	1,043	1.2%	8.6%
44	1,107	1.3%	9.9%
45	1,119	1.3%	11.3%
47	1,692	2.0%	13.3%
54	1,824	2.2%	15.5%
23	1,938	2.3%	17.8%
24	2,015	2.4%	20.2%
25	2,120	2.5%	22.7%
4	2,195	2.6%	25.3%
35	2,226	2.7%	28.0%
55	2,726	3.2%	31.2%
28	2,933	3.5%	34.7%
3	3,108	3.7%	38.4%
7	3,588	4.3%	42.7%
36	3,597	4.3%	47.0%
27	3,621	4.3%	51.3%
5	3,839	4.6%	55.9%
6	4,183	5.0%	60.9%
8	6,665	7.9%	68.8%
48	26,168	31.2%	100.0%
	83,891		

Row	VTR TRIPS Cum %
1	1.5%
2	5.1%
3	38.4%
4	25.3%
5	55.9%
6	60.9%
7	42.7%
8	68.8%
9	0.1%
10	0.0%
11	2.4%
12	0.2%
13	0.3%
14	0.1%
15	0.0%
16	0.1%
17	0.0%
18	1.2%
19	0.1%
20	1.3%
21	0.8%
22	0.0%
23	17.8%
24	20.2%
25	22.7%
26	0.0%
27	51.3%
28	34.7%
29	2.0%
30	3.1%
31	0.5%
32	0.6%
33	1.8%
34	3.5%
35	28.0%
36	47.0%
37	4.5%
38	8.6%
39	0.9%
40	0.1%
41	4.0%
42	7.4%
43	6.2%
44	9.9%
45	11.3%
46	0.2%
47	13.3%
48	100.0%
49	0.4%
50	0.7%
51	1.0%
52	0.3%
53	2.7%
54	15.5%
55	31.2%
56	0.0%

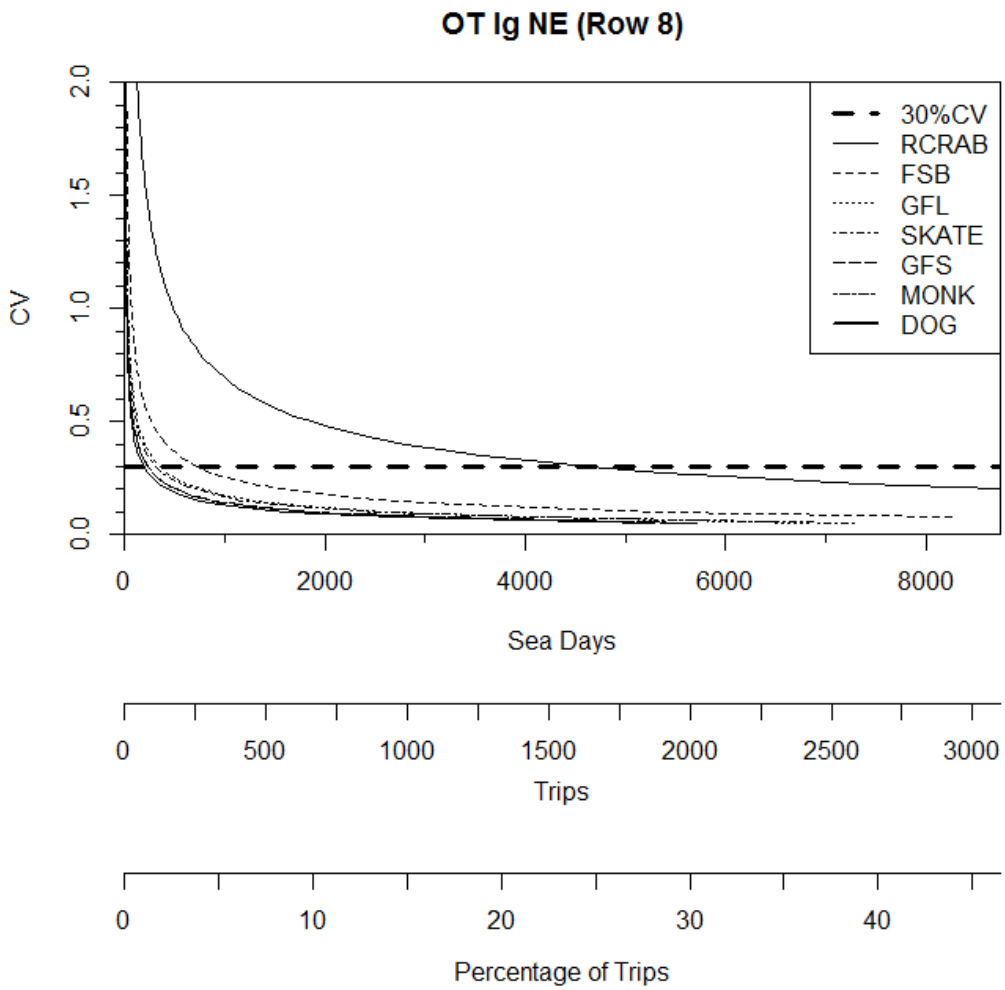

Figure 1. Results from the 2015 sample size analysis conducted for the New England large mesh otter trawl fleet (Row 8). The curves represent the relationship between the coefficient of variance (CV) and the sample size (sea days, trips, and percent of trips) for each of the species groups that were not filtered out. The horizontal dashed line is the 30% CV. For species group abbreviations, see Table 1. *Taken from Figure 3 in Wigley et al. 2015.*

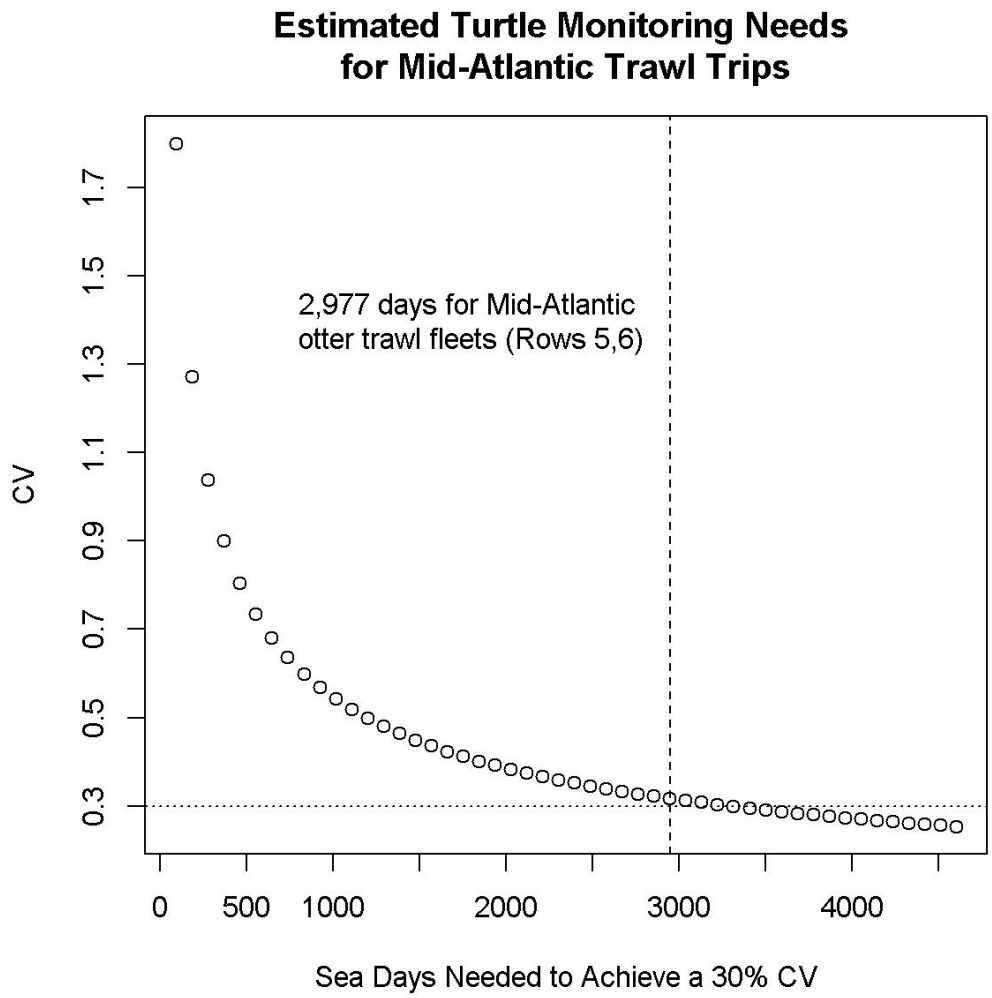

Figure 2. Expected CVs for estimates of turtle interactions in Mid-Atlantic otter trawl fleets under the observer sea day allocation for 2015. Vertical dashed line indicates the number of sea day needs for fish/invertebrates and turtles combined.

VESSEL SELECTION LISTS 2015
Criteria used for each list is also embedded in the spreadsheet

1. **OR Blue/Black Rockfish Cycle 12 (Jan-DEC 2015) – FINAL** 1
2. **OR Blue/Black Nearshore Cycle 12 (Jan-DEC 2015) – FINAL** 1
3. **WC_OA - Cylce 9 - 2015 – FINAL** 1
4. **LE 0 Tier-2015-FINAL (Cycle 10 -2014)** 2
5. **CA_Halibut-(Cycle 12 & 13 – 2015) - FINAL** 2
6. **CA_Nearshore-2015-FINAL (Cycle 14 – 2015)** 2
7. **CA_Pink_Shrimp-2015-FINAL – Cycle 11 (APR-OCT 2015)** 2
8. **OR_Pink_Shrimp_2015-FINAL Cycle 11 - (APR-OCT 2015)** 3
9. **WA_Pink_Shrimp_2015-FINAL Cycle 6 (APR-OCT 2015)** 3
10. **LE Sable Fixed Gear 2015–Cycle 9 (APR-OCT 2015) - FINAL** 3

1. **OR Blue/Black Rockfish Cycle 12 (Jan-DEC 2015) – FINAL**

   CRITERIA APPLIED:

   1. Selection is by permit. All permits selected for 2015
   2. Vessel has a Black/Blue Rockfish Permit
   3. Vessel used fixed gear to land the rockfish
   3. Permit is currently assigned to a vessel or fisher
   5. Vessel > 17 ft

2. **OR Blue/Black Nearshore Cycle 12 (Jan-DEC 2015) – FINAL**

   CRITERIA APPLIED:

   1. Selection is by permit. All permits selected for 2015
   2. Vessel has a Black/Blue Rockfish Permit
   3. Vessel used fixed gear to land the rockfish
   3. Permit is currently assigned to a vessel or fisher
   5. Vessel > 17 ft

3. **WC_OA - 2015 – Cycle 9 (Jan-DEC 2015) - FINAL**

   CRITERIA APPLIED:

   1. CA, OR, WA
   2. At least 2000lbs combined landings in 2013 and 2014 of Starry Flounder, Spiny Dogfish, Sablefish or Non- Nearshore Rockfish
   3. Excludes species allowed in CA Nearshore, OR Nearshore and OR Rockfish fisheries.
   4. Landed with fixed gear
   5. Vessel does not have LE Permit
   6. Vessel > 17ft

4. **LE 0 Tier-2015-FINAL - Cycle 11- (Jan-DEC 2015)**
   CRITERIA APPLIED:
   1. Longline, Trawl or Trap endorsement without a Sablefish endorsement –TIER1,TIER2 or TIER3
   2. All vessels selected with valid permit.
   3. Vessel > 17ft

5. **CA_Halibut –FINAL (Cycle 12 - 1/1/2015 to 6/30/2015)**
6. **CA_Halibut –FINAL (Cycle 13 – 7/1/2015 to 12/31/2015)**
   CRITERIA APPLIED:
   1. All vessels selected with valid CA Halibut Trawl Permit
   2. Vessel used any trawl gear to land the CA Halibut
   3. Vessel > 17 ft
   4. Starting in 2015, cycle was reduced to 6 months

7. **CA_Nearshore-2015-Cycle 14 - (Jan-DEC 2015) - FINAL**
   CRITERIA APPLIED:
   1. **Valid permit for:** Deeper Nearshore Species Fishery Permit,
      Nearshore Fishery Permit, N. Central Coast;
      Nearshore Fishery Permit, North Coast;
      Nearshore Fishery Permit, S. Central Coast;
      Nearshore Fishery Permit, South Coast;
      Nearshore Trap Endorsement;
      N. Central Coast;
      Nearshore Trap Endorsement , North Coast;
      Nearshore Trap Endorsement, S. Central Coast;
      Nearshore Trap Endorsement , South Coast;
   2. Fixed Gear used
   3. >=1lbs shallow and deeper nearshore rockfish
   4. Vessel >17ft

8. **CA_Pink_Shrimp-2015-FINAL Cycle 11- (APR-OCT 2015)**
   CRITERIA APPLIED:
   1. California Pink Shrimp permit
   2. Pink Shrimp landed in CA or OR
   3. Landed in 2013 or 2014
   4. Vessel >17 ft

9. **OR_Pink_Shrimp_2015-FINAL Cycle 11 - (APR-OCT 2015)**
   CRITERIA APPLIED:
   1. Oregon Pink Shrimp permit
   2. Pink Shrimp landed in CA, OR, WA
   3. landed in 2013 or 2014
   4. Vessel >17 ft.

10. **WA_Pink_Shrimp_2015-FINAL – Cycle 6 (APR-OCT 2015)**
    CRITERIA APPLIED:
    1. Washington Pink Shrimp permit
    2. Pink Shrimp landed in WA or OR
    3. landed in 2013 or 2014
    4. Vessel >17 ft.

11. **LE Sable Fixed Gear 2015–Cycle 9 (APR-OCT 2015) -FINAL**
    CRITERIA APPLIED:
    1. Selection by permit
    2. Permit Holder contact information is used for Vessel Selection
    3. Permit must have a Sablefish Tier greater than 0
    4. Gear used must be Longline/Trap
    5. 40% of permits selected from each port group.

VESSEL SELECTION LISTS 2015 - PIRO
Criteria used for each list is also embedded in the spreadsheet

1. **OR Blue/Black Rockfish Cycle 12 (Jan-DEC 2015) – FINAL** 1
2. **OR Blue/Black Nearshore Cycle 12 (Jan-DEC 2015) – FINAL** 1
3. **WC_OA - Cylce 9 - 2015 – FINAL** 1
4. **LE 0 Tier-2015-FINAL (Cycle 10 -2014)** 2
5. **CA_Halibut-(Cycle 12 & 13 – 2015) - FINAL** 2
6. **CA_Nearshore-2015-FINAL (Cycle 14 – 2015)** 2
7. **CA_Pink_Shrimp-2015-FINAL – Cycle 11 (APR-OCT 2015)** 2
8. **OR_Pink_Shrimp_2015-FINAL Cycle 11 - (APR-OCT 2015)** 3
9. **WA_Pink_Shrimp_2015-FINAL Cycle 6 (APR-OCT 2015)** 3
10. **LE Sable Fixed Gear 2015–Cycle 9 (APR-OCT 2015) - FINAL** 3

1. **OR Blue/Black Rockfish Cycle 12 (Jan-DEC 2015) – FINAL**

   CRITERIA APPLIED:

   1. Selection is by permit. All permits selected for 2015
   2. Vessel has a Black/Blue Rockfish Permit
   3. Vessel used fixed gear to land the rockfish
   3. Permit is currently assigned to a vessel or fisher
   5. Vessel > 17 ft

2. **OR Blue/Black Nearshore Cycle 12 (Jan-DEC 2015) – FINAL**

   CRITERIA APPLIED:

   1. Selection is by permit. All permits selected for 2015
   2. Vessel has a Black/Blue Rockfish Permit
   3. Vessel used fixed gear to land the rockfish
   3. Permit is currently assigned to a vessel or fisher
   5. Vessel > 17 ft

3. **WC_OA - 2015 – Cycle 9 (Jan-DEC 2015) - FINAL**

   CRITERIA APPLIED:

   1. CA, OR, WA
   2. At least 2000lbs combined landings in 2013 and 2014 of Starry Flounder, Spiny Dogfish, Sablefish or Non- Nearshore Rockfish
   3. Excludes species allowed in CA Nearshore, OR Nearshore and OR Rockfish fisheries.
   4. Landed with fixed gear
   5. Vessel does not have LE Permit
   6. Vessel > 17ft

4. **LE 0 Tier-2015-FINAL - Cycle 11- (Jan-DEC 2015)**
   CRITERIA APPLIED:
   1. Longline, Trawl or Trap endorsement without a Sablefish endorsement –TIER1,TIER2 or TIER3
   2. All vessels selected with valid permit.
   3. Vessel > 17ft

5. **CA_Halibut –FINAL (Cycle 12 - 1/1/2015 to 6/30/2015)**
6. **CA_Halibut –FINAL (Cycle 13 – 7/1/2015 to 12/31/2015)**
   CRITERIA APPLIED:
   1. All vessels selected with valid CA Halibut Trawl Permit
   2. Vessel used any trawl gear to land the CA Halibut
   3. Vessel > 17 ft
   4. Starting in 2015, cycle was reduced to 6 months

7. **CA_Nearshore-2015-Cycle 14 - (Jan-DEC 2015) - FINAL**
   CRITERIA APPLIED:
   1. **Valid permit for:** Deeper Nearshore Species Fishery Permit,
      Nearshore Fishery Permit, N. Central Coast;
      Nearshore Fishery Permit, North Coast;
      Nearshore Fishery Permit, S. Central Coast;
      Nearshore Fishery Permit, South Coast;
      Nearshore Trap Endorsement;
      N. Central Coast;
      Nearshore Trap Endorsement , North Coast;
      Nearshore Trap Endorsement, S. Central Coast;
      Nearshore Trap Endorsement , South Coast;
   2. Fixed Gear used
   3. >=1lbs shallow and deeper nearshore rockfish
   4. Vessel >17ft

8. **CA_Pink_Shrimp-2015-FINAL Cycle 11- (APR-OCT 2015)**
   CRITERIA APPLIED:
   1. California Pink Shrimp permit
   2. Pink Shrimp landed in CA or OR
   3. Landed in 2013 or 2014
   4. Vessel >17 ft

9. **OR_Pink_Shrimp_2015-FINAL Cycle 11 - (APR-OCT 2015)**
   CRITERIA APPLIED:
   1. Oregon Pink Shrimp permit
   2. Pink Shrimp landed in CA, OR, WA
   3. landed in 2013 or 2014
   4. Vessel >17 ft.

10. **WA_Pink_Shrimp_2015-FINAL – Cycle 6 (APR-OCT 2015)**
    CRITERIA APPLIED:
    1. Washington Pink Shrimp permit
    2. Pink Shrimp landed in WA or OR
    3. landed in 2013 or 2014
    4. Vessel >17 ft.

11. **LE Sable Fixed Gear 2015–Cycle 9 (APR-OCT 2015) -FINAL**
    CRITERIA APPLIED:
    1. Selection by permit
    2. Permit Holder contact information is used for Vessel Selection
    3. Permit must have a Sablefish Tier greater than 0
    4. Gear used must be Longline/Trap
    5. 40% of permits selected from each port group.

mortality, Navy shall immediately cease the specified activities and report the incident to the Office of Protected Resources (301–427–8425), NMFS, and the West Coast Regional Stranding Coordinator (206–526–6550), NMFS. The report must include the following information:

A. Time and date of the incident;

B. Description of the incident;

C. Environmental conditions (*e.g.,* wind speed and direction, Beaufort sea state, cloud cover, and visibility);

D. Description of all marine mammal observations in the 24 hours preceding the incident;

E. Species identification or description of the animal(s) involved;

F. Fate of the animal(s); and

G. Photographs or video footage of the animal(s).

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with Navy to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Navy may not resume their activities until notified by NMFS.

i. In the event that Navy discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.,* in less than a moderate state of decomposition), Navy shall immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinator, NMFS.

The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident and makes a final determination on the cause of the reported injury or death. NMFS will work with Navy to determine whether additional mitigation measures or modifications to the activities are appropriate.

ii. In the event that Navy discovers an injured or dead marine mammal, and the lead observer determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, scavenger damage), Navy shall report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinator, NMFS, within 24 hours of the discovery. Navy shall provide photographs or video footage or other documentation of the stranded animal sighting to NMFS. The cause of injury or death may be subject to review and a final determination by NMFS.

7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.

Request for Public Comments

We request comment on our analysis, the draft authorization, and any other aspect of this Notice of Proposed IHA for Navy's wharf maintenance activities. Please include with your comments any supporting data or literature citations to help inform our final decision on Navy's request for an MMPA authorization.

Dated: April 16, 2015.

Donna S. Wieting,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2015–09253 Filed 4–21–15; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Marine Protected Areas Federal Advisory Committee; Public Meeting

AGENCY: Office of National Marine Sanctuaries (ONMS), National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC).

ACTION: Notice of open meeting.

SUMMARY: Notice is hereby given of a meeting of the Marine Protected Areas Federal Advisory Committee (Committee) in Tacoma, Washington.

DATES: The meeting will be held Tuesday, June 2, 2015, from 9 a.m. to 5 p.m.; Wednesday, June 3, 2015, from 8:30 a.m. to 5 p.m.; and Thursday, June 4, 2015, from 8 a.m. to 1 p.m. These times and the agenda topics described below are subject to change. Refer to the Web page listed below for the most up-to-date meeting agenda.

ADDRESSES: The meeting will be held at the Hotel Murano, 1320 Broadway Plaza, Tacoma, WA 98402.

FOR FURTHER INFORMATION CONTACT: Lauren Wenzel, Acting Designated Federal Officer, MPA FAC, National Marine Protected Areas Center, 1305 East West Highway, Silver Spring, Maryland 20910. (Phone: 301–713–7265, Fax: 301–713–3110); email: *lauren.wenzel@noaa.gov;* or visit the National MPA Center Web site at *http://marineprotectedareas.noaa.gov/*).

SUPPLEMENTARY INFORMATION: The Committee, composed of external, knowledgeable representatives of stakeholder groups, was established by the Department of Commerce (DOC) to provide advice to the Secretaries of Commerce and the Interior on implementation of Section 4 of Executive Order 13158, on marine protected areas (MPAs). The meeting is open to the public, and public comment will be accepted from 4:30 p.m. to 5 p.m. on Tuesday, June 2, 2015. In general, each individual or group will be limited to a total time of five (5) minutes. If members of the public wish to submit written statements, they should be submitted to the Designated Federal Official by May 29, 2015.

Matters to be Considered: The focus of the Committee's meeting will be the development of workplans by the Subcommittees (MPA Connectivity and External Financing for MPAs) to address the Committee's charge and begin discussion of issues; provide an opportunity for updates and input on Subcommittee and Working Group workplans from all Committee members; and gain a perspective on tribal marine resource management, and on MPA management issues in the Pacific Northwest. The agenda is subject to change. The latest version will be posted at *http://marineprotectedareas.noaa.gov/.*

Dated: April 9, 2015.

Daniel J. Basta,

Director, Office of National Marine Sanctuaries, National Ocean Service, National Oceanic and Atmospheric Administration.

[FR Doc. 2015–09313 Filed 4–21–15; 8:45 am]

BILLING CODE 3510–NK–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Proposed Information Collection; Comment Request; Observer Programs' Information That Can Be Gathered Only Through Questions.

AGENCY: National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice.

SUMMARY: The Department of Commerce, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information

collections, as required by the Paperwork Reduction Act of 1995.

DATES: Written comments must be submitted on or before June 22, 2015.

ADDRESSES: Direct all written comments to Jennifer Jessup, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6616, 14th and Constitution Avenue NW., Washington, DC 20230 (or via the Internet at *JJessup@doc.gov*).

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the information collection instrument and instructions should be directed to Jane DiCosimo, (301) 427–8109.or *Jane.Dicosimo@noaa.gov.*

SUPPLEMENTARY INFORMATION:

I. Abstract

The National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) deploys fishery observers on United States (U.S.) commercial fishing vessels and to fish processing plants in order to collect biological and economic data. NMFS has at least one observer program in each of its five Regions. These observer programs provide the most reliable and effective method for obtaining information that is critical for the conservation and management of living marine resources. Observer programs primarily obtain information through direct observations by employees or agents of NMFS; and such observations are not subject to the Paperwork Reduction Act (PRA). However, observer programs also collect the following information that requires clearance under the PRA: (1) Standardized questions of fishing vessel captains/crew or fish processing plant managers/staff, which include gear and performance questions, safety questions, and trip costs, crew size and other economic questions; (2) questions asked by observer program staff/contractors to plan observer deployments; (3) forms that are completed by observers and that fishing vessel captains are asked to review and sign; (4) questionnaires to evaluate observer performance; and (5) a form to certify that a fisherman is the permit holder when requesting observer data from the observer on the vessel. NMFS seeks to renew OMB PRA clearance for these information collections.

The information collected will be used to: (1) Monitor catch and bycatch in federally managed commercial fisheries; (2) understand the population status and trends of fish stocks and protected species, as well as the interactions between them; (3) determine the quantity and distribution of net benefits derived from living marine resources; (4) predict the biological, ecological, and economic impacts of existing management action and proposed management options; and (5) ensure that the observer programs can safely and efficiently collect the information required for the previous four uses. In particular, these biological and economic data collection programs contribute to legally mandated analyses required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), Executive Order 12866 (E.O. 12866), as well as a variety of state statutes. The confidentiality of the data will be protected as required by the MSA, Section 402(b).

II. Method of Collection

The information will be collected by (1) NMFS observers while they are deployed on a vessel to observe a particular fishing trip; questions will be asked in-person to the captain, crew and/or owner (if on board the vessel) during the course of the observed trip; (2) via mail through follow up surveys of economic information not available during the trip; (3) via telephone or mail survey by the observer program staff or contractor planning to deploy observers; or (4) via feedback questionnaires mailed to the vessel owners or captains to evaluate observer performance.

III. Data

OMB Control Number: 0648–0593.

Form Number: None.

Type of Review: Regular submission.

Affected Public: Business or other for-profit organizations.

Estimated Number of Respondents: 20,643.

Estimated Time per Response: 51 minutes. Information will be collected for observed fishing trips and deployments to fish processing plants; therefore, there will be multiple responses for some respondents, but counted as one response per trip or plant visit.

Estimated Total Annual Burden Hours: 26,172.

Estimated Total Annual Cost to Public: $1,160.

IV. Request for Comments

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden (including hours and cost) of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: April 3, 2015.

Sarah Brabson,

NOAA PRA Clearance Officer.

[FR Doc. 2015–09250 Filed 4–21–15; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Submission for OMB Review; Comment Request

The Department of Commerce will submit to the Office of Management and Budget (OMB) for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35).

Agency: National Oceanic and Atmospheric Administration (NOAA).

Title: Atlantic Highly Migratory Species Vessel and Gear Marking.

OMB Control Number: 0648–0373.

Form Number(s): None.

Type of Request: Regular (extension of a currently approved information collection).

Number of Respondents: 6,857.

Average Hours Per Response: Vessel marking, 45 minutes; gear marking, 15 minutes.

Burden Hours: 6,976.

Needs and Uses: This request is for an extension of a current information collection. These requirements apply to vessel owners in the Atlantic HMS Fishery.

Under current regulations at 50 CFR 635.6, fishing vessels permitted for Atlantic Highly Migratory Species must display their official vessel numbers on their vessels. Flotation devices and high-flyers attached to certain fishing gears must also be marked with the vessel's number to identify the vessel to which the gear belongs. These requirements are necessary for identification, law enforcement, and monitoring purposes.