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An Overview of the Social Sciences Branch (SSB) Commercial Fishing Business Cost Survey in the Northeast: Protocol and Results for Survey Years 2011, 2012, and 2015

US DEPARTMENT OF COMMERCE
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An Overview of the Social Sciences Branch (SSB) Commercial Fishing Business Cost Survey in the Northeast: Protocol and Results for Survey Years 2011, 2012, and 2015

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EXECUTIVE SUMMARY

Fisheries vessel cost data are an important component to economic analyses required under fishery management actions. The Social Sciences Branch (SSB) of the Northeast Fisheries Science Center (NEFSC) has collected cost information, on a voluntary basis, from commercial fishing vessel owners in the Northeast for several years through multiple initiatives. While at-sea observers in the Northeast region collect information on vessel operating costs (i.e., trip costs), such as fuel, bait, and ice, they do not collect data on costs that generally are not incurred at the trip-level. The SSB cost survey is the sole source of cost information collected by NOAA Fisheries in the Northeast region for vessel-level repairs, upgrades, fees and insurance, and business-level/overhead costs (e.g., trucking, advertising, administration). This report summarizes the results of the 3 most recent cost data collection efforts conducted by the SSB. Survey methods and response rates are summarized, followed by an overview of survey results. We conclude with a discussion of possible methods to use these survey data in future economic analyses. The results presented here are somewhat hindered by low survey response rates, and continued work is necessary to best capture costs incurred by fishing vessel owners in the Northeast region.

1. INTRODUCTION

The Social Sciences Branch (SSB) of the Northeast Fisheries Science Center (NEFSC) collects cost data from owners of commercial fishing vessels in order to support legislative requirements of fishery management actions. These applicable laws and Executive Orders include the Magnuson-Stevens Fishery Conservation and Management Act, the National Environmental Policy Act, E.O. 12866, and the Regulatory Flexibility Act (RFA).[1] Outside of regulatory requirements, the SSB relies on cost data to examine economic profitability of fishing businesses, fleet efficiency, and vessel productivity.[2] The cost data are also necessary for input/output modeling, entry/exit modeling, and in the construction of economic indicators. An accurate understanding of the financial costs incurred by commercial fishing vessel owners and businesses is critical for these analyses.

Total costs for a commercial fishing business include the costs of operating at sea (trip costs), the costs of maintaining a vessel (vessel costs), and the overhead costs incurred by the fishing business (business costs). Trip costs consist of variable costs such as fuel, oil, bait, and ice; information on these costs are collected on commercial fishing trips by at-sea observers.[3] Vessel costs include repairs and maintenance, vessel upgrades, insurance, mooring fees, and docking fees. Business costs include trucking, association fees, professional fees, advertising, leasing of office space, and administrative support. Vessel costs and business costs largely consist of quasi-variable costs and fixed costs; information on these costs is collected using voluntary data collection efforts administered by the NEFSC SSB.

The collection of cost information from commercial fishing vessel/business owners has been carried out by the SSB through several initiatives. Specifically, there have been a total of 6 data collection events to date which spanned over 3 implementation phases. Phase 1 included 3 data collection efforts, occurring from 2007-2009, where cost surveys were sent annually to vessel owners in the Northeast region. Owners were instructed to report their costs for the preceding year (e.g., the 2009 survey requested costs incurred during 2008). Surveys were sent to vessel owners alongside permit renewal applications by the Greater Atlantic Regional Fisheries Office (GARFO)[4]. In each of the 3 Phase 1 years, the entire population of active fishing vessels in the Northeast was surveyed. Active vessels were defined as having at least 1 Northeast federal fishing permit and having reported commercial landings of at least 1 pound of finfish or shellfish sold through the Northeast seafood dealer reporting system (Das 2013a).

There was an observed decline in the 2009 response rate after surveying vessel owners for 3 consecutive years. SSB staff interpreted this decline as survey fatigue, and to alleviate this possibility moving forward, no cost surveys were fielded in 2010 or 2011. This 2-year period also

[1] Specific fishery management actions for which SSB cost survey data has been used include Amendment 19 and Framework 27 to the Atlantic Sea Scallop Fishery Management Plan. Cost survey data was also used in the 5-year review of the General Category Individual Fishing Quota (IFQ) scallop fishery.

[2] Research projects which used SSB cost survey data include an index-based assessment of the "economic health" of the Northeast multispecies trawl fleet (Walden 2013) and a profitability analysis of the New England lobster fleet (Zou et al. 2021).

[3] While at-sea observers collect trip cost information, the deployment of observers is based on a biologically-driven stratification scheme rather than an economically-driven sampling method. Trip costs are not summarized in this paper; for detailed information on trip costs in Northeast region fisheries, see Das (2013b) and Werner et al. (2020).

[4] The Greater Atlantic Regional Fisheries Office (GARFO) was known as the Northeast Regional Office (NERO) during the 2007-2009 period.

allowed for time to revisit the existing survey instrument and to analyze existing survey data (Das 2013a). Pre-testing of the modified cost survey instrument was conducted through 2 avenues: focus groups and cognitive interviews. SSB economists conducted a series of focus groups with federally-permitted commercial fishermen in the Northeast region. In March 2012, 2 focus group sessions were held in Providence, Rhode Island. Four additional focus group sessions were conducted by SSB economists in May 2012 in Portland, Maine. Each focus group session contained 6-9 commercial fishing vessel owners and was led by 1 moderator. Focus group sessions were recorded via audio. Cognitive interviews were also conducted with commercial fishermen to test the modified survey instrument prior to survey implementation. A total of 6 interviews were conducted in July 2012. Following the cognitive interviews, Phase 2 of cost surveying was initiated through a split-sample survey fielded in 2012 and 2013. The survey population was slightly modified from Phase 1 to include all vessels that had dealer-reported landings *or* landings reported through Vessel Trip Reports (VTR; Das 2016). For this split-sampling design, a stratified sampling approach was implemented in which strata were determined by principal gear used and vessel length. Surveys were sent to vessel owners of the first half of strata in 2012 and the second half in 2013, such that a census of all active vessels would be captured between the 2 survey installments. Following 2013, the survey instrument was again revisited, with another 2-year break over 2014 and 2015.

Phase 3 of the cost survey includes the most recent survey effort which was fielded in 2016. The sampling approach was modified to perform a census of active fishing businesses rather than a census of active vessel owners. Since some businesses can include multiple vessels, not all vessels were surveyed. Similar to the Phase 1 and Phase 2 survey efforts, Phase 3 surveys asked vessel/business owners to report their costs for the year prior to survey implementation.

This paper will focus on the results of the Phase 2 (data collected in 2012 and 2013) and Phase 3 (data collected in 2016) surveys only. Hereafter, we will refer to the survey year as the year in which costs were incurred (2011, 2012, and 2015), not the years in which surveys were sent to vessel owners (2012, 2013, and 2016). We present the survey methods, survey results, and conclude with a discussion of the appropriate usage of data resulting from these 3 most recent SSB cost survey efforts.

2. OVERVIEW OF THE COST SURVEY

2.1. Survey Methodology

The population for the 2011, 2012, and 2015 surveys comprised all active federally-permitted commercial fishing vessels owned by individuals operating in the Northeast region, extending from Maine to North Carolina. For 2011 and 2012, an active fishing vessel was defined as holding at least 1 federal fishing permit and reporting landings of at least 1 pound of finfish or shellfish through the Northeast seafood dealer reporting system or through the VTR in the year for which costs were being queried. For 2015, this definition was slightly modified to only include vessels that had dealer-reported landings, so as to exclude VTRs from federally-permitted party/charter vessels. These criteria led to populations of 4,008 vessels for 2011, 3,821 vessels for 2012, and 3,066 vessels for 2015. The 2011 and 2012 cost surveys were administered by the Eastern Research Group (ERG). Survey materials (see Appendices II & III) were sent to commercial fishing vessel owners by mail. Owners were given an option to return the survey by

mail or to complete the survey online by following instructions enclosed in the mailed survey materials.

A split-sampling approach was used for the 2011 and 2012 surveys where roughly half of the population was surveyed in 2011 and the other half was surveyed in 2012 in order to achieve a census of all vessels over the 2 sampling periods. Part of the intent of split sampling was to minimize the burden imposed on vessel owners in a given year (i.e., if an owner had 2 vessels, 1 vessel was surveyed in 2011 and the other was surveyed in 2012). Surveys for these 2 years were split approximately evenly by principal gear fished and vessel length. Principal gear was determined as the gear type used to generate the highest amount of revenue in the year being queried. Vessel length was classified by a binary variable indicating whether the vessel was above or below the average length for the gear group. Longline and seine vessels were not divided into separate strata by length due to the small number of vessels in those principal gear groups. Based on analysis of prior SSB cost survey data from 2006-2008, principal gear type and vessel length were determined to be relatively strong indicators of vessel costs. Since a split-sampling approach meant all active vessels would be surveyed between the 2 years, the method of stratification was to ensure roughly an equal number of vessel types would be surveyed in each year. Table 1 shows the average length associated with each gear group in 2011 and 2012. Vessel lengths for 2015 are also included for comparison purposes, though sampling methods changed for 2015.

The 2015 cost survey was administered by a different contracting firm, ICF. Similar to the 2011 and 2012 surveys, the 2015 survey version was sent by mail, and vessel owners were given the option to respond either via mail or online. The sampling approach was modified to perform a full census of fishing businesses rather than a census of active vessels as was done for 2011 and 2012. Businesses were defined in accordance with the RFA's principles of affiliation[5]. The rationale for this sampling design was to maximize business-level information collected while minimizing sending multiple surveys to vessel owners.[6] For the 2015 survey, sampling in cases of multiple vessels within the same business were handled through 2 methods. If the business contained a longline or seine vessel, force-choosing was employed to capture the costs for those gear groups, as they contain fewer vessels. If the business owned multiple vessels but did not have a vessel in the longline or seine gear groups, the vessel sampled was chosen at random. One final change for the 2015 survey involved the collection of business-level (affiliate-level) costs for vessel repairs and upgrades. Though previous survey versions did collect business-level costs, vessel repair and maintenance, as well as upgrade and improvement costs, had only been queried for the vessel specified in the survey. The addition of this section allowed the owner to report repair/maintenance and upgrade/improvement costs associated with any other vessel within their fishing business.

A summary of population size (i.e., the total number of vessels eligible for sampling), sample size, and sampling rates by strata across the 3 survey years is described in Table 2.[7] Given the split-sampling approach for 2011 and 2012, strata sampling rates were generally ~50% for each year. Under the modified census approach for 2015, the sample size increased to 2,489 vessels,

[5] Herein, an affiliated entity or business is defined as a unique combination of vessel owners (i.e., all owner names listed on federally-permitted vessels).

[6] There was an issue in the initial mailing of the 2015 survey in which the vessel name listed on the survey was in some cases not correct. This problem was resolved, and the survey was redistributed. For a copy of the press release describing the mailing error, contact the Research Communications Branch at the NEFSC, 166 Water St., Woods Hole, MA 02543.

[7] A few of the sample strata numbers in this table vary slightly from Das (2016).

each of which belonged to a different business affiliate. The high total sampling percentage for 2015 (81%) indicates that the vast majority of business affiliates in the Northeast region consist of single federally-permitted vessels. Low sampling rates at the 2015 strata-level indicate gear types belonging to multiple-vessel businesses, which were therefore less sampled overall. For example, the considerably lower sampling rate for large dredge vessels indicates that many of these vessels belong to larger business affiliates consisting of multiple vessels.

2.2. Response Rates

The reporting of vessel and business costs which are not incurred on a trip basis is voluntary for commercial fishing vessel owners in the Northeast region. Considerable effort is necessary to gather this cost information. Annual costs associated with commercial fishing vessels and businesses can be difficult to estimate and generally require the owner to refer to their records. This information can also be considered sensitive to some vessel owners. Given these factors, survey response rates vary over time (Table 3). For each of the 3 survey years, a returned survey was considered complete if it had at least 1 cost-related question answered. The overall response rate for the 2011 survey was 28.9% (372 responses) and declined to 20.1% (358 responses) for the 2012 survey and 6.4% (160 responses) for the 2015 survey. Since we focus on cost information collected from commercial fishing vessel owners only, sampled recreational vessels are not considered in the analysis of results, causing the sample sizes for 2011 and 2012 to be lower than those presented in Table 2. The percentage of responses via mail were consistent across the 3 survey years, with a low of 82% for 2011 and a high of 90% for 2015. The affinity for vessel owners to respond via mail may have been partially driven by age demographics.[8]

As mentioned in Section 2.1, the 2011 and 2012 surveys used a split-sampling approach, while the 2015 survey had a high sampling rate of 81% of the population of eligible vessels. Given these sampling designs, the 2015 survey sampled a large number of the same vessels from the 2011 or 2012 surveys. To better understand the changes in response rate over time, responses from vessel owners who were in both sampling frames were analyzed (
Figure 1). A total of 881 vessel owners were sampled in 2011 and again in 2015. Of these 881 owners, 70.4% did not respond to a survey in either year. A total of 244 owners responded in 2011 (independent of 2015 response). Of these 244 owners, 34 (13.9%) responded to the 2015 survey. Of the 637 (881-244 owners who failed to respond in 2011, 17 (2.7%) responded to the 2015 survey. Owners were twice as likely to respond in both 2011 and 2015 (n=34) than they were to respond in only 2015 (n=17). Similar trends follow for owners who were surveyed in both 2012 and 2015. A total of 1,135 owners were surveyed in both of these years, 73.9% of which did not respond to the survey in either year. A total of 262 owners responded in 2012 (independent of 2015 response). Of those 262 owners, 53 (20.2%) responded to the 2015 survey. Of the 873 (1,135-262) owners who failed to respond in 2012, 34 (3.9%) responded to the 2015 survey. Taken together, the likelihood of an owner responding to the 2015 survey was strongly influenced by if they responded to an earlier survey.

[8] Though the SSB cost survey does not ask for the respondent's age, there is some evidence to suggest the fishing industry in the Northeast region is comprised of relatively older participants. Clay and Colburn (2021) document interviews with industry members from Northeast and West Coast fisheries from 2004-2015. These interviews were conducted with a number of fishing industry professionals, not just vessel owners. Nevertheless, the average participant was 53 years old, with the largest age group in 10-year increments being 50-60 years old, followed by 60-70 years old.

Sample sizes, response sizes, and response rates by strata for the 3 survey years are described in Table 4. In line with the overall decline in response rates, a declining response rate trend is evident across survey strata. Response rates by strata ranged from 12.5%-40% (28.9% total) for 2011, 4.7%-25.9% (20.1% total) for 2012, and 3.1%-10% (6.4% total) for 2015. Vessel owners in the pot/trap categories comprised a substantial portion of the total response in all 3 years—47.3% for 2011, 61.5% for 2012, and 60% for 2015. Many of these pot/trap vessels are primarily engaged in the American lobster (*Homarus americanus*) fishery, the highest revenue-generating fishery in the Northeast region in recent years (Zou et al. 2021). Owners of vessels in the dredge categories, largely associated with the Atlantic sea scallop (*Placopecten magellanicus*) fishery, tended to respond below the overall rate. For other gear categories (gillnet, handgear, longline, seine, trawl), response rates did not show any persistent trend above or below the overall rate. Response rates among owners of large vessels in both the dredge and trawl categories were higher than small vessels for all 3 survey years. The reason for this trend within these particular gear groups is not clear. Larger vessels typically incur higher costs, and owners for these types of vessels may have been more compelled to share cost information. Alternatively, larger dredge and trawl vessels may have been more profitable on average than small vessels in these gear groups, and therefore owners may have been more inclined to respond to a National Marine Fisheries Service (NMFS) survey. In other gear groups (gillnet, handgear, pot/trap), similar trends in response are not evident when comparing large and small vessels.

2.3. Nonresponse

Given differences in response rates by strata, nonresponse bias may be present. Since nonresponse bias may lead to biased inferences, it is important to test for the existence of this bias. We do so by performing a chi-square (X^2) test on strata population percentages relative to strata response percentages, following the removal of outlier responses[9]. Results indicate that there is a statistically significant difference between these percentages for 2011 and 2012, while for 2015, we fail to reject the X^2 test of equal proportions. We correct for these differences in response rates by applying weights (Table 5) equal to the reciprocal of the probability of a respondent being in a stratum. N_i represents the population frequency in stratum *i*, and n_i represents the respondents frequency in stratum *i* (Lohr 2019)[10]:

$$wi = 1/Pi; \text{ where } Pi = ni/Ni$$

We test for nonresponse bias across strata and years on a number of vessel characteristics to highlight if certain vessel responses are missing at random (MAR) or if there are systematic patterns of missing vessel information. From the permit data maintained by the GARFO, we test for statistically significant differences in vessel length, tonnage, horsepower, and age between vessels where the owner responded to the survey versus vessels where the owner did not respond. Furthermore, we test for differences in days absent within the query year by summing the duration of all trips from VTRs. Nonresponse bias for these vessel characteristics within strata was generally not detected. Nonresponse bias was detected in some strata/variable combinations,

[9] The procedure followed for removal of outlier values is documented in Section 3.2.

[10] Another approach to account for nonresponse bias from Dillman et al. (2014) is to take the inverse of the response rate for each group or strata. We chose not to take this approach due to differences in sampling rates across survey strata.

though no persistent trends of bias emerged from the 3 survey years. Since there was no indication that the cost data are unrepresentative at the strata-level, data transformations were not made based on these test results. Due to the large number of variables and strata involved in these tests, they are available in Appendix I.

Additionally, for each of these same vessel characteristics, we performed t-tests for the 3 survey years (Table 6). In general, pooled t-test results are reported unless unequal variances were detected, in which the Satterthwaite t-test results are reported. Most t-tests failed to reject the null hypothesis of equal means for vessel characteristics, suggesting no significant difference between survey respondents and nonrespondents at the aggregate level. For 2011, the null hypothesis (at the 95% confidence level) of vessel length being equal between respondents and nonrespondents was rejected. For 2015, the null hypothesis (at the 95% confidence level) of vessel horsepower and vessel age being equal between respondents and nonrespondents was rejected. On average, older vessels were more likely to respond in 2015. A possible explanation could be that these vessels incurred higher repair/maintenance and/or upgrade/improvement costs and were more compelled to share their cost information. However, such a difference in response by vessel age was not observed for 2011 or 2012.

3. DATA AND RESULTS

3.1. Description of Questions

A large variety of cost categories were investigated in the 2011, 2012, and 2015 surveys. The format of the surveys was not constant throughout the 3 years, and some rearranging was necessary to form consistent groupings for the purposes of this paper. These cost category groupings are provided in Table 7. The first 5 category groupings (Repair/Maintenance, Upgrade/Improvement, Vessel Fees and Insurance, Business Cost by Vessel, and Other Costs) together comprise what we will refer to as "fixed costs." For the purposes of this paper, fixed costs refer to costs that generally are not incurred on a trip-basis. Some of the fixed cost categories, such as Repair/Maintenance, are not truly fixed in that they will vary in the short-run since they are dependent on the level of fishing effort. These costs, however, are still not expected to be incurred on a trip-basis. Other cost components, such as vessel fees and insurance, represent true fixed costs and are not expected to vary in the short-run, regardless of the level of fishing effort. Following the fixed cost results, owner responses for questions related to the value of vessel and associated permits[11] are discussed. Finally, responses for crew payments and crew payment systems are covered. For each survey year, we present the results for fixed costs, value of vessel and permits, and crew payments across all survey respondents and at the strata-level. Aggregate values across all respondents are presented both as weighted values, according to the formula in Section 2.3, and unweighted values.

A small number of questions from the 3 surveys are not discussed in this paper. For example, data related to quota leasing costs and at-sea monitoring costs are not covered since response to these questions was low, likely attributed to the fact that these costs are only applicable

[11] Limited access permits exist for a number of fisheries in the Northeast region. For fishery specific permit information, see: https://www.fisheries.noaa.gov/new-england-mid-atlantic/resources-fishing/greater-atlantic-region-forms-and-applications-summary

in certain fisheries. Given the small number of responses to these questions, the ability to present results would be severely limited by data confidentiality rules[12]. Survey responses for operating costs (e.g., fuel, ice, bait) are also not discussed in this paper. A few questions that were included in the 2015 survey but not in the 2011 or 2012 surveys—such as the vessel owner's primary fisheries and specific trip costs that are deducted from the owner's share or crew's share—are also not discussed.

3.2. Data Auditing

A meticulous data auditing process was necessary in order to maximize the accuracy and usability of survey responses. The general process was as follows:

- A small number of vessel owners responded to surveys both via mail and online. In these cases, the first response received was retained for analysis.
- At the end of the surveys, vessel owners were given the option to fill in "other costs" (see Section 3.1) that the survey did not address. Additionally, a comments section at the end of the surveys provided an opportunity for the respondent to list other costs. In cases where the respondent listed other costs, these items were compared to the appropriate survey sections to ensure costs were not being double-counted.
- In cases where the respondent reported a range rather than a single value, the average was taken and used for analysis.
- For the 2012 and 2015 results, business cost per vessel was calculated by dividing the total business cost by the number of vessels owned. If the respondent did not fill in the number of vessels owned, the business cost by vessel could not be calculated. Those surveys for which business cost by vessel could not be calculated were excluded from the total fixed cost calculations. For the 2012 survey, 22 out of 313 vessel owners (7%) who listed business costs did not indicate the number of vessels owned. For the 2015 survey, 6 out of 150 owners (4%) who listed business costs did not indicate the number of vessels owned.
- Outlier removal was performed based on a 5 standard deviation approach from the mean for cost categories 1-4 in Section 3.1 (Repair/Maintenance, Upgrade/Improvement, Vessel Fees and Insurance, and Business Costs by Vessel). The total number of outlier observations removed was 12 for the 2011 survey, 7 for the 2012 survey, and 5 for the 2015 survey.
- Aggregate results were weighted by survey strata, as described in Section 2.3. However, we also present unweighted results for comparison purposes.
- Blank responses to individual questions were fairly common for all 3 survey years. In these cases, it was not possible to tell if there was no cost for that particular item or if the vessel owner chose not to provide information. To account for both possibilities, fixed cost categories were analyzed under both assumptions. In cases where a fixed cost category comprised multiple items (e.g., "vessel fees and

[12] For information related to data confidentiality, see the NOAA Administrative Order 216-100: Protection of Confidential Fisheries Statistics at https://www.noaa.gov/organization/administration/nao-216-100-protection-of-confidential-fisheries-statistics

insurance" comprised mooring fees, permit fees, and vessel insurance), the category was only considered blank if all sub-components were left unanswered.

- Values from the 2011 and 2012 surveys were converted into 2015 dollars (USD) using the gross domestic product (GDP) implicit price deflator.[13]

3.3. Data Summary

The following section summarizes survey results from the cost categories as described in section 3.1, following the data auditing processes described in section 3.2. A total of 866 responses are included in the analysis: 360 responses from 2011, 351 from 2012, and 155 from 2015. However, due to variation in responses across individual survey questions, the number of observations is not constant.

Fixed costs

Summary statistics for all fixed cost categories, in unweighted terms, are shown in Table 8. Cost categories are presented with missing/blank information both counted as a nonresponse and as a zero cost value. Mean total fixed costs were highest in 2011 ($79,616 per vessel) and lowest in 2015 ($48,301 per vessel). Among the fixed cost categories, Repair/Maintenance represented the highest mean cost for 2011 and 2012, while Upgrade/Improvement costs represented the highest mean value for 2015. Business costs by vessel were the second-highest mean fixed cost in 2011, while upgrade/improvement costs were the second-highest mean fixed cost in 2012 and repair/maintenance costs were second highest in 2015. For each of the 3 survey years, Vessel Fees and Insurance was the smallest fixed cost category, excluding Other Costs. The comparatively smaller mean values for other costs, as well as $0 median values, is an indication that the survey has generally adequately captured vessel owner expenses not occurring at the trip-level.

Weighted values for all fixed cost categories are presented in Table 9. Weighting resulted in higher mean values for total fixed costs in each of the 3 survey years, indicating that some of the higher cost strata may have been underrepresented by respondents (discussion of strata-level results can be found below). Mean weighted total fixed costs were highest for 2011 ($86,014 per vessel) and lowest in 2015 ($58,395 per vessel). Median weighted fixed costs were lowest in 2012. Weighted values were generally higher than unweighted values across fixed cost categories, though these increases were not uniform. For example, mean values for Upgrade/Improvement in 2012 were comparable in weighted ($14,310) and unweighted ($14,413) terms.

Mean total fixed cost values exceeded median values (Table 8 and Table 9) in all 3 survey years, indicating skewed distributions in the positive direction (

Figure 2 and Figure 3). These distributions were similar across the 3 survey years, with $0-$24.9K being the most common cost band (36.6% of vessels), followed by $25K-$49.9K (26.2% of vessels), and $50K-$74.9K (13.2% of vessels). For 2011, a fairly large number of vessels (32) incurred total fixed costs in excess of $250K. The number of vessels reporting these high costs decreased markedly for 2012 and 2015.

Total fixed costs by strata are presented in Table 10, and the distribution of these costs are shown in Figure 4. Large dredge and large trawl vessels exhibited the highest mean and median values for each of the 3 survey years, though considerable year-to-year variability was present. For

[13] Conversion to 2015 dollars was done using a quarterly, seasonally adjusted GDP implicit price deflator and averaging annually. GDP deflator values came from the Federal Reserve Bank of St. Louis, available at: https://fred.stlouisfed.org/

example, large dredge vessels incurred the highest mean cost in 2011 at $350,594 per vessel, while large trawl vessels incurred the highest mean costs in 2012 at $155,595 per vessel. Small handgear vessels had the lowest mean and median costs for each year, and mean costs for this strata declined throughout the 3 survey years. For 2015, the small handgear mean and median costs of $6,817 and $5,205 per vessel, respectively, represent the lowest values in the time series. Pot/trap vessels, particularly in the small category, exhibited relatively small variation in mean and median costs across survey years. Mean values for small pot/trap vessels ranged from $32,002 for 2011 to $34,991 for 2015. The large proportion of responses from pot/trap vessels had a great deal of influence on total unweighted mean and median values for all 3 survey years.

One of the major changes for the 2015 survey, compared to the 2011 and 2012 surveys, was in the structure of the Repair/Maintenance and Upgrade/Improvement questions (Table 7). For 2011 and 2012, sub-components to these costs (i.e., engine, hull, fishing gear) were queried in an itemized approach, while in 2015, vessel owners were instructed to list a single composite value for vessel repair/maintenance and vessel upgrade/improvement. It is not clear what effect this change had on the way in which vessel owners responded to these questions. Trends for repair/maintenance and upgrade/improvement costs differ across the 3 surveys. Variance in these cost categories is to be expected given that they are somewhat dependent on the level of fishing effort. For 2015, repair/maintenance mean ($19,200) and median ($9,125) values were the lowest over the 3 survey years. Upgrade/improvement mean ($18,289) and median ($6,000) values for 2015 were the highest over the 3 years. One possible effect of the shift from itemized to composite variables was an increase in nonresponses. The percentage of blank responses for the Repair/Maintenance category was considerably higher in 2015 (12.9%) than for 2011 (1.7%) or 2012 (0.6%). An additional change for the Repair/Maintenance and Upgrade/Improvement categories in the 2015 survey was for these costs to not only be queried at the vessel-level, but also at the business-level (Table 7). For owners of a single vessel, respondents were instructed to skip these business-level questions. For those owners of multiple vessels who did respond, there was an indication that there may have been some confusion in answering these questions. For example, there were 13 survey responses which indicated a positive upgrade/improvement value for the selected vessel, 5 of which indicated a larger upgrade/improvement value for the selected vessel than the business as a whole. Due to this apparent confusion, we chose not to discuss these business-level responses for repair/maintenance and upgrade/improvement for 2015.

Another change in the survey instrument over time was in the format of business cost queries. For 2011, the vessel owner was asked to only provide the business cost associated with the vessel listed on the survey. For 2012 and 2015, total business costs for all vessels owned were queried and then divided by the number of vessels owned. For 2011, mean ($27,607) and median ($11,650) business cost by vessel values were considerably higher compared to 2012 and 2015. This could suggest that vessel owners had difficulty in apportioning business costs across vessels in the 2011 survey. Alternatively, business costs may be unequally distributed across all owned vessels. For example, an owner of multiple vessels may not have had all these vessels actively fish in 2012 or 2015. By dividing across all owned vessels, the business cost associated with the vessel surveyed may have been underestimated for those years. Higher business costs for 2011 may also be influenced by differences in business characteristics in survey responses across years. Considerably higher values for 2011 are present using both unweighted (Table 8) and weighted values (Table 9); however, weighting is only performed in accordance with survey strata. We tested for differences in vessel characteristics within survey strata (Appendix I) but did not have necessary information to test for differences in business characteristics.

Strata-level repair/maintenance costs are presented in Table 11. These costs are relatively higher in 2011 compared to 2012 and 2015, averaging $27,453 across all strata. The highest average repair/maintenance costs were reported in 2011 for 6 of the 11 strata when compared across all years, suggesting that the higher average total cost observed in 2011 was not driven by a single outlying strata. The highest repair/maintenance costs were in the large dredge category for all survey years, with average costs of $120,621 in 2011, $56,962 in 2012, and $83,676 in 2015. The most frequent range for repair/maintenance costs, in $10,000 increments, was $1-$9,999 in all 3 survey years (Figure 5).

Upgrade/improvements costs by strata are presented in Table 12. As described in Table 7, upgrade/improvement costs represent the upfront cost to the vessel owner and do not incorporate the lifespan of capital/rate of depreciation. These (unweighted) costs are relatively higher in 2011 compared to 2012 and 2015, averaging $16,691 across all strata. The highest average upgrade/improvement costs were reported in 2011 for 5 of the 11 strata when compared across all years. The large dredge category had the highest mean upgrade/improvement costs for 2011 ($45,509) and 2015 ($45,000), while the longline and seine strata had the highest mean cost for 2012 ($33,483). A reported upgrade/improvement cost of $0 was fairly common in all 3 survey years, occurring more frequently than any $10,000 cost range (Figure 6).

Vessel fees and insurance were fairly constant throughout the 3 survey years (Table 13). Mean values ranged from a high of $13,956 for 2011 to a low of $10,064 for 2012. The vast majority of vessel owners indicated vessel fees and insurance costs in the range of $1-$9,999, while very few owners reported no cost for this category (Figure 7). The absence of $0 responses for this cost category was expected, given that these costs are generally fixed.

Total average business costs (i.e., overhead costs) were relatively consistent for 2012 and 2015, with averages across all strata (unweighted) in the $13K range for both years, respectively (Table 14). Business costs for 2011 are relatively higher compared to the other 2 years, averaging $25,083 across all strata. The highest average business costs were reported in 2011 for 7 of the 11 strata when compared across all years, suggesting that the higher average total cost observed in 2011 was not driven by a single outlying strata. The distribution of costs is shown in Figure 8, where higher vessel frequencies are shown in the vessel business cost categories greater than $9,999 in 2011 compared to 2012 and 2015. Business costs demonstrated some consistency across sampling years in terms of gear types with the highest and lowest business costs. In each of the 3 years, handgear (small and large) was among the lowest 3 strata with respect to average business costs. Small handgear was consistently the strata with the lowest average business cost across the 3 survey years, with averages ranging from $992 in 2015 to $4,526 in 2011. Across the 3 survey years, the vessel gear types which incurred the highest average business costs were dredge, trawl, and longline/ seine. Large dredge vessels incurred an average cost of $118,696 in 2011 compared to an average cost of $42,889 incurred by large trawlers in 2012 and $36,058 incurred by longline and seine vessels in 2015.

Value of vessel and permits

The market value of queried vessels, including the value of the permits attached to these vessels, is summarized in Table 15. As described in Table 7, the format of questions pertaining to market value differed across the 3 survey years. For the 2011 and 2012 surveys, a single question requesting the market value for the vessel—including all equipment, fishing gear, permits, and fishing history—was asked. For the 2015 survey, multiple questions on market value were included. The combined vessel/permit value query was retained, but owners were also asked to provide separate market value estimations for the vessel and its associated permits. Focus groups

conducted in the summer of 2019 with commercial vessel owners in the Northeast offered support to owners being able to split out the value of their vessel from its associated permits. However, we are unable to present the 2015 results for separate vessel and permit values given low response rates. For 2015, 119 participants reported a positive combined value for the selected vessel and its associated permits. Of these 119 responses, values were reported for individual vessel value and permit value on only 75 surveys and 14 surveys, respectively. In addition, of those owners who supplied both individual vessel and permit values, only 3 responses added up to the reported combined value, which was asked in a separate question.

In focusing on combined vessel/permit values, mean unweighted market values were highest for 2011 ($451,578 per vessel) and lowest for 2012 ($323,600 per vessel). These values changed considerably when weights were applied. The weighted mean value was highest in 2015 ($647,556 per vessel) and lowest in 2012 ($480,759). Weighted values exceeding unweighted values can be explained by weights greater than 1.0 for some strata consisting of higher value vessel/permits, such as large dredge, and weights less than 1.0 for some strata consisting of lower value vessel/permits, such as small handgear (Table 5). As with the fixed cost categories, mean vessel/permit market values greatly exceeded median values, indicating skewed distributions with long tails in the positive direction (Figure 9 and Figure 10).

By strata, large vessel/permit combinations were of higher market value than small vessel/permit combinations for all gear types (Table 15). Large dredge vessels had the highest mean and median permit and vessel values by a considerable margin for all 3 years. Mean and median values for this strata exceeded $3,000,000 in each of the 3 survey years. These results may be a reflection of the value of a limited access scallop permit, more so than the value of the vessel. For example, Färe et al. (2017) estimated an average capital stock value of $400,000 for steel-hulled vessels in the Northeast. Small handgear vessels had the lowest mean and median market values for vessels/permits in all survey years. Trawl vessels showed declines in mean market values across the 3 survey years, though the 2015 mean value was based off of a small number of owner responses.

Crew payments and crew payment system

The methods which vessel owners and/or captains compensate their crew may vary. For the 2011 and 2012 surveys, no explicit question on crew payment systems was included. Rather, vessel owners were asked to fill in a diagram of owner share of revenue and crew share. If the owner felt that the diagram did not represent their method of compensating crew, they were instructed to describe their method on the following survey page. For the 2015 survey, a specific question on crew compensation method was included. The results showed that 74.4% (87 responses) used a share system, while 25.6% (30 responses) indicated the use of a flat rate (per day at sea or trip) system. In each of the 3 survey years, a question was included regarding the use of a hired captain. Splits between whether the vessel was primarily owner-operated or manned by a hired captain were consistent across the 3 surveys (85.8%/14.2% for 2011; 89.9%/10.1% for 2012; 86.4%/10.9% for 2015).

Total payments to crew and hired captains are presented in Table 16. Crew payments are often tied to revenue, which is influenced by factors such as quota availability and ex-vessel prices. That is, the information presented here alone is not sufficient to draw conclusions regarding how crew shares may have varied. Some trends by strata, however, are clearly present across the 3 survey years. For example, large dredge vessels had considerably higher mean and median crew costs compared to other gear/size categories. Most of these vessels were engaged in the scallop fishery, a high-value, crew-intensive fishery. Small handgear vessels, on the other hand, exhibited

the lowest mean and median crew payments in each of the 3 survey years. Median values for 2012 and 2015, in fact, were $0.00. None of the 45 small handgear vessels who responded to the 2012 survey or the 14 who responded to the 2015 survey indicated hiring a captain. Vessels in the large and small pot/trap strata, largely composed of vessels engaged in the lobster fishery, displayed fairly consistent mean and median crew payments across the 3 survey years. A number of gear/size categories which are associated with the groundfish fishery (small gillnet, small and large handgear, small and large trawl) exhibited lower mean crew payments in 2015 than in 2011. While vessels in these strata would certainly have been expected to be active in a variety of fisheries, those that were active in the groundfish fishery may be showing trends consistent with previous findings of declining payments to crew (Murphy et al. 2018). Crew payment distributions over all strata are illustrated in Figure 11 and Figure 12. The largest percentage of vessel owners indicated crew costs in the $0-$24,999 range, followed by $25,000-$49,999 and $50,000-$74,999. A fairly large number of vessel owners reported crew payments in excess of $250,000 (31 vessels in 2011, 19 vessels in 2012, and 10 vessels in 2015).

3.4. Aggregation of Data and Future Modeling of Costs

Given the results summarized in this paper, the following section provides an overview of caveats and possible methods to employ when using these cost data for economic analyses. Consistency in the survey instrument is an important consideration when dealing with multiple years of survey responses. As discussed in earlier sections, changes were made over the course of the 3 survey years to the Repair/Maintenance and Upgrade/Improvement questions (itemized in 2011/2012 vs. composite in 2015) and to the business cost questions (owner apportioned costs in 2011 vs. average costs taken in 2012/2015). Keeping these changes in mind, we assess the possibility of pooling the various data by major cost category across the 3 survey years. Weighted t-tests of the major cost categories were conducted for the 2011 vs. 2012 survey results and the 2012 vs. 2015 results (Table 17). Given skewness present in the data, the natural log of each weighted value was calculated in order to conduct the test of equal means across survey years. Since testing on variance across survey years failed to reject the null hypothesis of equal variances, the pooled t-test was used.

Results indicate that pooling data between 2011 and 2012 may not be appropriate, as we rejected the null hypothesis of equal means at either the .05 or .01 significance level for all cost categories. In testing the 2012 vs. 2015 data, we failed to reject the null hypothesis for 3 of 4 cost categories, with the exception of Upgrade/Improvement. In looking at the individual cost categories, the Repair/Maintenance results were somewhat unexpected. The null hypothesis was rejected in testing the 2011 vs. 2012 results when these costs were queried in an itemized approach in both years. However, we failed to reject the null of equal means for 2012 vs. 2015 when the Repair/Maintenance question format was inconsistent between the 2 survey years. For Upgrade/Improvement, we rejected the null of equal means in both cases at the .05 significance level. This category in particular had a large number of $0 responses (Figure 6), resulting in a considerable decrease in the number of usable responses when taking the natural log. Vessel fees and insurance are largely fixed in a given year, and the survey instrument was consistent in how these costs were queried. Still, the null hypothesis of equal means was rejected for this category in comparing the 2011 and 2012 means. For business costs by vessel, we rejected the null for 2011 vs. 2012 at the .01 significance level but failed to reject the null in comparing 2012 vs. 2015. These results suggest that the change in how costs were apportioned in 2011 vs. 2012/2015 may have had a significant effect on how vessel owners responded to business cost queries.

These test results are an important consideration in assessing how modeling of data may be used to fill in survey gaps. The combination of vessel characteristics from permit data, as well as effort data from VTRs (Table 6), may provide exogenous variables that can be used in exploring the modeling of costs which are not incurred on a trip-basis. Comparing the 2011, 2012, and 2015 survey results with early SSB survey results from 2006-2008 may also be appropriate in these efforts. As the number of comparable survey populations/samples increases, the analysis of variance (ANOVA) can be used to test for statistical difference in means. It should be noted that conducting multiple pairwise comparisons using the same dataset increases the chances of a type I error, in which the null hypothesis is incorrectly rejected. A number of methods to alleviate this issue are possible, including the Bonferroni and Šidák corrections. More intensive empirical methods, such as bootstrapping of datasets or Monte Carlo simulations, are also possible. The appropriateness of pooling data across multiple years can also be analyzed by testing the equality of medians, including the nonparametric Mood's median test and the Kruskal-Wallis test (McDonald 2014). Other methods, encompassing both parametric and nonparametric approaches, are also possible (Yusof et al. 2013). A more thorough analysis of pooling options moving forward will help inform best practices for utilizing and modeling the full suite of NEFSC cost survey data.

4. CONCLUDING REMARKS

This paper summarizes the results of the 3 most recent commercial fishing vessel cost data collection efforts by the SSB of the NEFSC for 2011, 2012, and 2015. The SSB cost survey is the only survey administered by NOAA Fisheries in the Northeast region to collect information on commercial fishing vessel and business costs that are not incurred on a trip-basis. The success of this survey is critical both from a fishery management and a socioeconomic research perspective. In regard to survey response, there are 4 major points from the most recent surveys to consider: 1) Response rates declined over time from 29% for 2011 to 20% for 2012, and further to 6% for 2015; 2) The decline in response rates was not confined to a few vessel types, but rather across all gear and length categories; 3) Earlier response from vessel owners (in 2011 or 2012) was a strong indicator of whether an owner would respond in 2015, such that those who responded in the earlier years were 4-5 times more likely to respond in 2015 than those who did not respond in the earlier years; 4) For some gear types (dredge and trawl), large vessels had higher response rates than small vessels. The reason for these trends within these particular gear groups is not clear. Larger vessels typically incur higher costs, and owners for these types of vessels may have been more compelled to share cost information. Alternatively, larger dredge and trawl vessels may have been more profitable on average than small vessels in these gear groups, and therefore owners may have been more inclined to respond to an NMFS survey. These trends in response did not occur when comparing large and small vessels in other gear groups, such as gillnet and pot/trap.

Survey results show that mean and median costs, both in unweighted and weighted terms, were frequently higher for 2011 than for 2012 or 2015. A change in how business (overhead) costs were inquired about and analyzed may have been a contributing factor to these higher costs. Owners were instructed to apportion these costs across vessels for 2011 rather than to take an average value over all vessels, as was done for 2012 and 2015. Continued analysis of this issue is warranted ahead of future SSB survey efforts. Another significant change in the survey instrument over time was in the format of questions related to repair/maintenance and upgrade/improvement costs. For the 2011 and 2012 surveys, these costs were inquired about in an itemized approach, while the 2015 survey asked for composite values. It is not clear what effect this change had on

response values, as t-tests for repair/maintenance yielded a rejection of the null hypothesis of equal means for 2011 vs. 2012 values, but not in comparing 2012 and 2015 values. Repair/maintenance costs are not truly fixed and will vary based on output (fish landed). An increase (decrease) in vessel repairs could therefore be driven by an increase (decrease) in the quantity of repairs required for the vessel, rather than a change in price. There was a somewhat substantial increase in the percentage of respondents who skipped the repair/maintenance question altogether under the composite approach of 2015.

Large vessels exhibited higher mean and median costs than small vessels for all gear types in each of the survey years. Large dredge vessels had the highest mean and median costs in 2011 and 2015, while large trawl vessels had the highest costs in 2012. Small handgear vessels exhibited the lowest mean and median costs for each of the 3 years. Small pot/trap vessels comprised the greatest share of survey response in each year, with these vessels exhibiting smaller costs than dredge and trawl vessels in each year but higher costs compared to small handgear vessels. Some vessel types, such as large dredge and trawl vessels, are somewhat frequently owned by larger corporations or owners of multiple vessels. In these cases, it is critical to ensure cost information collected is at the vessel-level, as compared to the business- or affiliation-level. Though past cost survey instructions were clear on the level of costs being collected, the accuracy of information collected from multiple vessel owners remains an important topic ahead of the next iteration of the SSB cost survey.

Considerable skewness was present in cost distributions for all 3 survey years. Skewness in cost data has been previously observed in commercial fishing trip cost data in the Northeast region (Werner et al. 2020) and in previous analyses of the SSB cost survey data (Das 2016). The distribution of these data and the ability/inability to pool data across multiple years are important considerations in modeling these costs for the Northeast commercial fishing fleet.

Concerning future cost data collection efforts, the SSB is engaged in relaunching the cost survey in the near future. The new effort will build on lessons from past surveys in order to improve survey coverage and data quality, and to enhance future analyses and evaluations of the economic status of commercial fisheries in the Northeast. In the months leading up to implementation of previous surveys, SSB staff gave presentations to the New England Fishery Management Council and participated in the Maine Fishermen's Forum to publicize the survey. Other survey outreach efforts also occurred, the details of which can be found in Appendices II, III, and IV. The SSB is in the process of expanding on these previous efforts by building a formal communications plan in order to engage with industry and better explain the importance of cost data collection in the region. Customizing the cost survey based on vessel gear type will also be used to encourage participation. Through customization and simplification of the survey instrument, and increased industry outreach, the SSB hopes to improve response rates and close existing data gaps to maximize the utility of vessel cost data collected in the Greater Atlantic region.

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survey, are duly appreciated. Lastly, the authors are especially grateful to all of the commercial fishing vessel owners who responded to the cost surveys.

Table 1. Average vessel length in feet by principal gear group for each of the 3 cost survey populations.

Gear Type	*2011*	*2012*	*2015*
Dredge	72.5	72.1	71.1
Gillnet	40.2	40.1	40.7
Handgear	38.5	38.7	32.3
Longline	44.9	46.9	46.9
Pot/Trap	38.0	38.1	38.3
Seine	61.0	59.5	68.7
Trawl	61.0	60.9	60.2

Note: For the 2015 survey, sampling was performed by taking a census of commercial fishing businesses. Here, we include all vessels in calculating 2015 averages for comparison purposes.

Table 2. Cost survey population and sample size frequencies, by strata.

	2011			2012			2015		
Strata	***Population***	***Sample***	***% Sampled***	***Population***	***Sample***	***% Sampled***	***Population***	***Sample***	***% Sampled***
Dredge_Large	326	163	50.0%	316	87	27.5%	264	123	46.6%
Dredge_Small	199	100	50.3%	193	88	45.6%	164	119	72.6%
Gillnet_Large	140	70	50.0%	140	64	45.7%	105	96	91.4%
Gillnet_Small	142	71	50.0%	143	65	45.5%	93	84	90.3%
Handgear_Large	271	137	50.6%	227	28	12.3%	137	87	63.5%
Handgear_Small	577	216	37.4%	491	201	40.9%	167	140	83.8%
Longline	42	21	50.0%	54	34	63.0%	55	49	89.1%
Pot/Trap_Large	898	336	37.4%	683	396	58.0%	705	618	87.7%
Pot/Trap_Small	941	353	37.5%	1,112	694	62.4%	1,046	918	87.8%
Seine	13	7	53.8%	13	5	38.5%	12	9	75.0%
Trawl_Large	226	111	49.1%	218	89	40.8%	148	97	65.5%
Trawl_Small	233	118	50.6%	231	123	53.2%	170	149	87.6%
Total	4,008	1,703	42.5%	3,821	1,874	49.0%	3,066	2,489	81.2%

Note: The population and sample sizes for 2011 and 2012 included vessels that primarily engaged in recreational fishing. The population and sample sizes for 2015 included only those vessels primarily engaged in commercial fishing. For 2015, the population consisted of all active vessels, while the sample included all fishing businesses within the population of vessels.

Table 3. Total survey response rates and response frequencies by survey mode for commercial fishing vessel owners.

Sample/Response	*2011*	*2012*	*2015*
Total Sample	1287	1778	2489
Total Response	372	358	160
Response Rate	*28.9%*	*20.1%*	*6.4%*
Web Response	67	55	16
Mail Response	305	303	144
% Response by Mail	*82.0%*	*84.6%*	*90.0%*

Note: The total sample includes all surveys sent to commercial fishing vessel owners. Some of these surveys were ultimately undeliverable due to the address on file in the permit data not corresponding to the intended vessel owner.

Table 4. Cost survey sample size and response, by strata.

	2011			2012			2015		
Strata	***Sample***	***Response***	***% Response***	***Sample***	***Response***	***% Response***	***Sample***	***Response***	***% Response***
Dredge_Large	144	29	20.1%	83	16	19.3%	123	7	5.7%
Dredge_Small	82	11	13.4%	86	4	4.7%	119	5	4.2%
Gillnet_Large	60	24	40.0%	61	14	23.0%	96	3	3.1%
Gillnet_Small	58	16	27.6%	62	12	19.4%	84	7	8.3%
Handgear_Large	32	4	12.5%	27	7	25.9%	87	7	8.0%
Handgear_Small	114	43	37.7%	186	45	24.2%	140	14	10.0%
Longline & Seine	25	8	32.0%	38	6	15.8%	58	5	8.6%
Pot/Trap_Large	276	80	29.0%	380	92	24.2%	618	36	5.8%
Pot/Trap_Small	295	96	32.5%	657	128	19.5%	918	60	6.5%
Trawl_Large	101	33	32.7%	86	22	25.6%	97	7	7.2%
Trawl_Small	100	28	28.0%	112	12	10.7%	149	9	6.0%
Total	1287	372	28.9%	1778	358	20.1%	2489	160	6.4%

Table 5. Population frequencies, response frequencies, and weighting factors by strata. Chi-squared test results reflect the testing of the null hypothesis of equal population and response frequencies by strata.

	2011			2012			2015		
Strata	***Population***	***Response***	***Weight***	***Population***	***Response***	***Weight***	***Population***	***Response***	***Weight***
Dredge_Large	9.03	6.11	1.48	8.28	3.13	2.64	8.61	4.52	1.91
Dredge_Small	5.65	2.78	2.03	5.06	1.14	4.44	5.35	3.23	1.66
Gillnet_Large	3.91	6.67	0.59	3.67	3.99	0.92	3.42	1.94	1.77
Gillnet_Small	3.97	4.44	0.89	3.75	3.42	1.10	3.03	4.52	0.67
Handgear_Large	1.84	1.11	1.66	5.95	1.99	2.98	4.47	4.52	0.99
Handgear_Small	9.81	11.94	0.82	12.71	12.82	0.99	5.45	9.03	0.60
Longline & Seine	1.54	1.94	0.79	1.76	1.71	1.03	2.19	3.23	0.68
Pot/Trap_Large	25.18	22.22	1.13	17.92	26.21	0.68	22.99	21.94	1.05
Pot/Trap_Small	26.33	26.67	0.99	29.16	36.47	0.80	34.12	38.71	0.88
Trawl_Large	6.20	8.33	0.74	5.71	5.70	1.00	4.83	3.23	1.50
Trawl_Small	6.54	7.78	0.84	6.05	3.42	1.77	5.54	5.16	1.07
X^2		23.70			55.23			12.76	
DF		10			10			10	
$Pr > X^2$		<.0084 ***			<.0001 ***			<.2374	

***Indicates rejection of the null hypothesis at the 1% level of statistical significance.

Table 6. Nonresponse bias t-test results for vessel characteristics, testing the null hypothesis of equal means between respondents and nonrespondents.

Characteristic	*2011*			*2012*			*2015*		
Length (feet)	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	915	48.2	19.4	1419	42.7	16.3	2330	42.5	14.8
Respondent	372	45.6	18.6	358	42.4	15.3	159	41.4	15.1
	T stat = 2.18			T stat = 0.37			T stat = 0.88		
	DF = 1,285			DF = 1,775			DF = 2,487		
	Pr > |t| = 0.03**			Pr > |t| = 0.7116			Pr > |t| = 0.3778		
Gross Tonnage^	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	914	46.7	54.5	1,418	32.6	43.3	2,330	32.2	41.7
Respondent	372	40.7	51.1	358	32.5	41.7	159	29.3	37.0
	T stat = 1.82			T stat = 0.06			T stat = 0.85		
	DF = 1,284			DF = 1,774			DF = 2,487		
	Pr > |t| = 0.06922			Pr > |t| = 0.9535			Pr > |t| = 0.3934		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	915	447.7	272.7	1,418	404.1	222.2	2,330	416.5	235.6
Respondent	372	436.0	286.6	358	423.3	322.0	159	375.5	240.3
	T stat = 0.69			T stat = -1.07^^			T stat = 2.12		
	DF = 1,285			DF = 446.35^^			DF = 2,487		
	Pr > |t| = 0.4928			Pr > |t| = 0.2873^^			Pr > |t| = 0.0343**		
Age (years)	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	915	22.9	12.1	1,419	22.4	11.7	2,330	24.2	11.8
Respondent	372	23.3	12.7	358	22.1	12.0	159	26.7	11.9
	T stat = -0.55			T stat = 0.36			T stat = -2.52		
	DF = 1,285			DF = 1,775			DF = 2,487		
	Pr > |t| = 0.5855			Pr > |t| = 0.7161			Pr > |t| = 0.0117**		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	552	56.8	50.7	700	48.2	48.2	1,062	47.8	46.5
Respondent	238	56.6	55.9	189	55.2	58.5	91	43.7	53.6
	T stat = 0.04			T stat = -1.51^^			T stat = 0.8		
	DF = 788			DF = 260.72^^			DF = 1,151		
	Pr > |t| = 0.9644			Pr > |t| = 0.1332^^			Pr > |t| = 0.4235		

^Represents the gross registered tonnage as recorded on the vessel USCG documentation.
^^Indicates Satterthwaite t-test used due to rejection of equal variance assumption. **Indicates rejection of null hypothesis at .05 significance level.

Table 7. Categories summarized from the 2011, 2012, and 2015 cost surveys.

Cost Category	Description
Repair/Maintenance	There are many components of a fishing vessel, such as the engine, hull, and electronics, that may require repairs due to general wear and tear. For the 2011 and 2012 surveys, the cost of repairs for each of these vessel components was queried separately. For the 2015 survey, a composite value across all vessel components was queried (see Appendices II, III, and IV). Additionally, for the 2012 survey, a separate line item for "Other Repair/Maintenance Costs" was queried. These costs were binned into "Other Costs" to maintain consistency in the repair/maintenance category. The 2011 and 2012 surveys queried only vessel-level repair/maintenance costs, while the 2015 survey queried these costs at the vessel-level and business-level. However, there appeared to be confusion among respondents in the querying of business-level costs. As a result, only vessel-level costs are summarized.
Upgrade/Improvement	As with repairs, there are many components of a fishing vessel that may require an upgrade. Vessel upgrades were separated from repairs since the former increases the value of the capital stock associated with the vessel, while the latter does not. For the 2011 and 2012 surveys, the cost of upgrades for each vessel component was queried separately. For the 2015 survey, a composite value across all vessel components was queried. Additionally, for the 2012 survey, a separate line item for "Other Upgrade/Improvement Costs" was queried. These costs were binned into "Other Costs" to maintain consistency in the upgrade/improvement category. Since the method for querying upgrade/improvement costs varied across the 3 survey years, the same depreciation factors could not be applied (i.e., the lifespan/rate of depreciation for various vessel components will differ). To maintain a consistent approach across the 3 surveys, upgrade/improvement values simply represent the upfront cost to the vessel owner. As with repair/maintenance costs, the 2011 and 2012 surveys queried only vessel-level upgrade/improvement costs, while the 2015 survey queried these costs at the vessel-level and business-level. Due to apparent confusion among respondents for business-level costs, only vessel-level costs are summarized.
Vessel Fees and Insurance	Vessel permit fees, mooring fees, and vessel insurance premiums were queried separately for all 3 surveys. Since these are all true fixed costs—expenses that would be expected to be incurred even if the vessel was inactive in a given year—they were grouped together into the Vessel Fees and Insurance category.

Cost Category	Description
Business Costs by Vessel	Vessel owners may incur a number of costs associated with running a fishing business that are independent of vessel-related costs. Business costs include principal and interest paid on loans, vehicle usage costs (for transport of unloaded catch), association fees (such as groundfish sector fees), and advertising costs. For the purposes of reporting vessel-level costs, business-level costs have to be apportioned. For the 2011 survey, owners of multiple vessels were instructed to only report their business costs associated with the vessel specified at the beginning of the survey (i.e., vessel owners were asked to apportion a percentage of their total business cost to the specified vessel). For the 2012 and 2015 surveys, owners of multiple vessels were instructed to report their cumulative business costs across all vessels and to provide the number of vessels owned. For the later 2 survey years, we divide through to calculate the average business cost per vessel.
Other Costs	For all 3 survey years, vessel owners were given the option to note additional costs at the end of the survey that were not collected earlier. The vast majority (95%) of respondents across the 3 survey years did not list any additional costs in this section. A slightly higher proportion of respondents filled in Other Costs for the 2015 survey compared to 2011 and 2012. For the 2015 survey, haul-out costs were the most frequent other cost listed.
Value of Vessel and Associated Permits	In determining the economic health of a fishing business, it is necessary to understand the value of capital owned. For all 3 survey years, vessel owners were asked to provide the current combined market value of the selected vessel and its associated fishing permits. For the 2015 survey, the value of the vessel and its associated permits were also investigated separately.
Total Payment to Crew/Hired Captain and Crew Payment System	Vessel payments to crew/hired captain and benefits paid to crew/hired captain were queried separately during each of the 3 survey years. The vast majority of vessel owners across all years (~90%) indicated they did not provide benefits to crew. Crew payments and benefits were aggregated to form the total payment to crew/hired captain category. In terms of the system of crew payment, the 2011 and 2012 surveys instructed vessel owners to fill in a diagram of the crew share and owner share. A share system was determined to be the most likely form of payment, and if the diagram did not accurately depict the system of payment, the owner was instructed to describe their system on the following page. For the 2015 survey, vessel owners were asked directly if their method of crew payment was a share system, a flat rate, or a combination. Additionally, for all survey years, the vessel owner was asked whether the vessel listed was run owner-operator or if a captain was hired.

Table 8. Summary statistics for unweighted values of fixed cost categories and total fixed costs (2015 USD).

	2011						2012					
Major Categories	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Repair/Maintenance	354	27,453	42,224	12,566	0	321,913	349	18,181	23,954	9,718	0	161,022
with blanks as zero	*360*	*26,995*	*42,017*	*12,424*	*0*	*321,913*	*351*	*18,078*	*23,925*	*9,646*	*0*	*161,022*
Upgrade/Improvement	322	16,691	30,976	4,260	0	216,171	271	14,310	23,558	5,005	0	161,545
with blanks as zero	*360*	*14,930*	*29,737*	*2,130*	*0*	*216,171*	*351*	*11,048*	*21,547*	*1,802*	*0*	*161,545*
Vessel Fees & Insurance	349	13,956	23,069	5,229	106	151,789	350	10,064	16,586	4,402	52	119,721
with blanks as zero	*360*	*13,530*	*22,840*	*5,122*	*0*	*151,789*	*351*	*10,035*	*16,571*	*4,392*	*0*	*119,721*
Business Costs by Vessel	332	25,083	41,749	10,702	0	339,725	288	13,382	19,342	6,619	0	128,551
with blanks as zero	*360*	*23,132*	*40,649*	*8,704*	*0*	*339,725*	*291*	*13,245*	*19,289*	*6,428*	*0*	*128,551*
Other Costs	360 (13*)	1,029	10,674	0	0	164,433	351 (5*)	444	2,986	0	0	35,550
Total Fixed Cost	**360**	**79,616**	**108,790**	**41,568**	**0**	**787,024**	**291**	**53,380**	**59,693**	**33,982**	**826**	**365,885**

Note: The total number of vessels for which total fixed costs could be calculated in 2012 and 2015 was smaller than the number of observations in the datasets, as some respondents did not provide information on the number of vessels owned. In these cases, calculating business costs per vessel was not possible.

*Numbers in parentheses indicate the number of surveys that year where other costs exceeding $0.00 were reported.

Table 8 (cont). Summary statistics for unweighted values of fixed cost categories and total fixed costs (2015 USD).

	2015					
Major Categories	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Repair/Maintenance	135	15,310	24,889	7,000	0	200,000
with blanks as zero	*155*	*13,334*	*23,781*	*5,006*	*0*	*200,000*
Upgrade/Improvement	125	15,846	29,486	5,000	0	200,000
with blanks as zero	*155*	*12,779*	*27,194*	*2,150*	*0*	*200,000*
Vessel Fees & Insurance	152	10,315	17,883	4,908	0	121,944
with blanks as zero	*155*	*10,116*	*17,765*	*4,834*	*0*	*121,944*
Business Costs by Vessel	140	13,745	19,831	5,672	0	96,750
with blanks as zero	*144*	*13,363*	*19,683*	*5,180*	*0*	*96,750*
Other Costs	155 (18*)	308	1,823	0	0	20,868
Total Fixed Cost	**144**	**48,301**	**59,066**	**31,422**	**0**	**497,000**

Table 9. Summary statistics for weighted values of fixed cost categories and total fixed costs (2015 USD).

	2011						2012					
Major Categories	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Repair/Maintenance	354	29,191	45,844	13,364	0	321,913	349	20,133	25,823	10,665	0	161,022
with blanks as zero	*360*	*28,598*	*45,646*	*12,566*	*0*	*321,913*	*351*	*20,048*	*25,782*	*10,456*	*0*	*161,022*
Upgrade/Improvement	322	18,148	32,691	4,792	0	216,171	271	14,413	22,247	5,960	0	161,545
with blanks as zero	*360*	*16,263*	*31,406*	*2,396*	*0*	*216,171*	*351*	*10,891*	*20,501*	*1,974*	*0*	*161,545*
Vessel Fees & Insurance	349	15,006	24,618	5,324	106	151,789	350	13,768	20,748	4,977	52	119,721
with blanks as zero	*360*	*14,551*	*24,374*	*5,218*	*0*	*151,789*	*351*	*13,741*	*20,728*	*4,967*	*0*	*119,721*
Business Costs by Vessel	332	27,607	46,591	11,650	0	339,725	288	14,021	21,674	6,378	0	128,551
with blanks as zero	*360*	*25,627*	*45,303*	*9,371*	*0*	*339,725*	*291*	*13,752*	*21,646*	*5,847*	*0*	*128,551*
Other Costs	360 (13*)	975	9,678	0	0	164,433	351 (5*)	584	3,601	0	0	35,550
Total Fixed Cost	**360**	**86,014**	**118,765**	**42,930**	**0**	**787,024**	**291**	**58,535**	**64,409**	**34,118**	**826**	**365,885**

Note: The total number of vessels for which total fixed costs could be calculated in 2012 and 2015 was smaller than the number of observations in the datasets, as some respondents did not provide information on the number of vessels they owned. In these cases, calculating business costs per vessel was not possible.

*Numbers in parentheses indicate the number of surveys that year where other costs exceeding $0.00 were reported.

Table 9 (cont). Summary statistics for weighted values of fixed cost categories and total fixed costs (2015 USD).

	2015					
Major Categories	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Repair/Maintenance	135	19,200	31,356	9,125	0	200,000
with blanks as zero	*155*	*16,861*	*29,919*	*6,500*	*0*	*200,000*
Upgrade/Improvement	125	18,289	33,727	6,000	0	200,000
with blanks as zero	*155*	*14,937*	*31,086*	*3,500*	*0*	*200,000*
Vessel Fees & Insurance	152	13,095	20,519	5,592	0	121,944
with blanks as zero	*155*	*12,886*	*20,385*	*5,413*	*0*	*121,944*
Business Costs by Vessel	140	15,537	21,200	7,740	0	96,750
with blanks as zero	*144*	*14,964*	*21,107*	*7,019*	*0*	*96,750*
Other Costs	155 (18*)	281	1,729	0	0	20,868
Total Fixed Cost	**144**	**58,395**	**71,665**	**38,221**	**0**	**497,000**

Table 10. Summary statistics for total fixed cost by strata (2015 USD).

	2011						2012					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	22	350,594	177,299	342,701	129,163	787,024	9	150,211	85,200	138,073	16,956	339,494
Dredge_Small	10	59,452	42,807	58,695	0	150,468	*	*	*	*	*	*
Gillnet_Large	24	72,311	72,266	52,144	11,053	305,056	12	47,000	21,865	46,070	14,272	77,374
Gillnet_Small	16	44,531	43,660	31,212	3,408	169,743	11	39,473	42,389	21,173	7,855	123,380
Handgear_Large	4	44,766	37,601	43,848	106	91,261	4	32,243	21,247	25,084	15,744	63,062
Handgear_Small	43	18,114	15,399	14,908	0	84,179	38	14,883	13,034	9,646	1,051	49,666
Longline & Seine	7	120,085	59,471	153,095	12,631	177,457	5	107,909	146,369	43,405	22,637	365,885
Pot/Trap_Large	80	71,682	64,980	53,364	1,278	326,919	76	62,165	61,406	40,742	1,778	345,402
Pot/Trap_Small	96	32,002	29,443	22,865	0	187,169	106	34,764	23,111	29,839	826	104,737
Trawl_Large	30	195,155	127,174	165,730	6,602	438,732	18	155,595	67,823	158,634	23,526	294,014
Trawl_Small	28	51,649	37,823	49,247	0	162,075	10	66,283	73,026	32,790	6,605	244,213
Total	360	79,616	108,790	41,568	0	787,024	291	53,380	59,693	33,982	826	365,885

*Denotes statistics that cannot be disclosed due to data confidentiality.

Table 10 (cont). Summary statistics for total fixed cost by strata (2015 USD).

	2015					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	7	205,909	136,982	139,000	102,427	497,000
Dredge_Small	4	51,399	31,504	45,271	20,055	95,000
Gillnet_Large	3	60,289	17,083	57,748	44,619	78,500
Gillnet_Small	7	20,831	11,446	23,350	5,990	37,257
Handgear_Large	6	32,382	37,321	16,113	3,650	101,993
Handgear_Small	11	6,817	6,776	5,205	1,061	23,877
Longline & Seine	5	51,065	52,541	29,850	900	120,753
Pot/Trap_Large	30	56,002	46,799	42,893	893	202,000
Pot/Trap_Small	59	34,991	34,151	25,884	0	153,650
Trawl_Large	5	79,753	46,502	96,000	3,000	118,204
Trawl_Small	7	44,830	32,440	48,800	4,200	102,519
Total	144	48,301	59,066	31,422	0	497,000

Table 11. Summary statistics for repair/maintenance costs by strata (2015 USD).

	2011						2012					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	21	120,621	86,237	101,565	0	321,913	11	56,962	38,772	59,599	7,528	128,085
Dredge_Small	9	22,497	13,361	24,212	3,195	41,504	4	22,812	8,604	22,585	12,809	33,269
Gillnet_Large	24	28,659	21,264	23,039	3,993	83,061	14	28,253	17,505	30,556	5,725	57,724
Gillnet_Small	16	14,100	14,977	9,581	532	55,374	12	12,936	13,206	7,871	209	43,601
Handgear_Large	4	7,800	6,999	7,135	0	16,932	7	13,323	16,718	8,783	3,008	50,837
Handgear_Small	43	4,745	5,077	3,747	0	21,298	45	5,068	6,994	2,928	0	30,845
Longline & Seine	7	50,842	43,548	25,557	6,985	117,137	6	35,760	61,886	10,979	2,091	161,022
Pot/Trap_Large	80	20,755	22,572	12,406	0	113,943	91	23,071	26,803	15,161	0	143,247
Pot/Trap_Small	93	11,367	10,686	8,439	0	57,914	127	10,627	9,650	8,312	0	45,013
Trawl_Large	30	72,877	55,496	63,455	6,450	217,769	20	47,440	34,182	40,831	5,385	134,858
Trawl_Small	27	21,276	18,834	15,041	0	66,236	12	11,900	12,806	7,196	0	44,961
Total	354	27,453	42,224	12,566	0	321,913	349	18,181	23,954	9,718	0	161,022

Table 11 (cont). Summary statistics for repair/maintenance costs by strata (2015 USD).

	2015					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	7	83,676	63,765	67,290	17,000	200,000
Dredge_Small	5	7,800	8,672	8,000	0	21,000
Gillnet_Large	3	11,311	7,776	8,928	5,006	20,000
Gillnet_Small	7	4,370	2,118	5,000	2,000	7,589
Handgear_Large	6	6,251	8,478	4,428	150	23,000
Handgear_Small	10	2,467	3,091	1,500	0	9,730
Longline & Seine	5	8,108	9,066	5,000	0	23,127
Pot/Trap_Large	29	15,778	13,138	12,000	0	40,000
Pot/Trap_Small	53	10,892	12,953	5,954	0	56,000
Trawl_Large	3	20,325	9,908	20,776	10,200	30,000
Trawl_Small	7	25,579	30,263	16,339	2,300	92,864
Total	135	15,310	24,889	7,000	0	200,000

Table 12. Summary statistics for upgrade/improvement costs by strata (2015 USD).

	2011						2012					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	22	45,509	48,633	31,038	0	146,078	9	24,705	23,868	17,775	0	65,509
Dredge_Small	7	18,453	30,341	4,260	0	83,913	*	*	*	*	*	*
Gillnet_Large	19	12,315	18,945	4,792	0	79,866	9	6,140	9,688	993	0	28,231
Gillnet_Small	13	5,755	8,678	2,023	0	26,622	10	16,528	29,307	5,333	0	92,535
Handgear_Large	4	15,734	22,138	7,987	0	46,961	3	6,413	5,864	7,737	0	11,502
Handgear_Small	40	5,536	12,355	934	0	70,975	38	3,167	4,241	1,103	0	14,954
Longline & Seine	6	13,016	10,701	15,441	0	25,557	3	33,483	35,648	20,912	5,824	73,714
Pot/Trap_Large	75	23,970	40,637	11,714	0	216,171	69	20,826	32,921	7,842	0	161,545
Pot/Trap_Small	83	8,789	15,881	2,130	0	93,710	100	11,284	16,499	4,182	0	89,921
Trawl_Large	27	29,094	43,388	6,389	0	151,214	17	26,841	30,291	16,625	0	103,062
Trawl_Small	26	10,008	15,324	3,426	0	63,041	11	13,208	19,954	5,005	0	58,031
Total	322	16,691	30,976	4,260	0	216,171	271	14,310	23,558	5,005	0	161,545

*Denotes statistics that cannot be disclosed due to data confidentiality.

Table 12 (cont). Summary statistics for upgrade/improvement costs by strata (2015 USD).

	2015					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	6	45,000	78,422	10,000	0	200,000
Dredge_Small	5	16,000	24,341	0	0	55,000
Gillnet_Large	3	21,192	18,642	10,864	10,000	42,713
Gillnet_Small	6	7,117	7,999	5,000	0	20,000
Handgear_Large	5	14,880	28,014	2,500	400	64,902
Handgear_Small	11	1,060	1,696	200	0	5,092
Longline & Seine	4	3,750	7,500	0	0	15,000
Pot/Trap_Large	27	25,509	40,718	15,000	0	200,000
Pot/Trap_Small	47	12,157	17,194	4,850	0	70,000
Trawl_Large	4	20,590	10,730	23,500	5,361	30,000
Trawl_Small	7	11,571	14,570	0	0	31,000
Total	125	15,846	29,486	5,000	0	200,000

Table 13. Summary statistics for vessel fees and insurance costs by strata (2015 USD).

	2011						2012					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	22	67,815	34,238	62,961	11,662	151,789	11	62,509	23,276	60,645	5,489	92,495
Dredge_Small	9	13,290	13,130	6,049	2,476	43,926	4	20,886	16,876	21,500	2,823	37,722
Gillnet_Large	24	14,162	22,641	8,093	213	116,285	14	7,628	4,398	6,069	3,241	18,804
Gillnet_Small	15	6,854	6,598	6,070	1,810	29,710	12	4,728	4,893	3,664	314	17,984
Handgear_Large	4	8,076	5,666	9,690	106	12,816	7	10,784	3,574	12,225	5,121	14,220
Handgear_Small	40	4,917	2,948	4,624	240	14,056	45	4,688	3,325	4,078	340	14,712
Longline & Seine	7	15,144	9,598	12,566	4,047	30,062	6	30,965	44,257	15,769	4,296	119,721
Pot/Trap_Large	79	7,294	7,341	5,133	1,246	49,411	91	8,508	11,537	4,977	1,223	80,511
Pot/Trap_Small	94	4,834	11,327	3,088	442	107,873	128	3,508	2,552	3,184	52	20,912
Trawl_Large	29	43,175	29,144	44,153	383	128,319	20	40,179	18,473	39,767	523	73,773
Trawl_Small	26	7,647	5,574	5,963	330	19,168	12	7,382	7,087	4,732	575	25,746
Total	349	13,956	23,069	5,229	106	151,789	350	10,064	16,586	4,402	52	119,721

Table 13 (cont). Summary statistics for vessel fees and insurance costs by strata (2015 USD).

	2015					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	7	58,076	12,461	56,000	45,702	73,000
Dredge_Small	5	10,794	3,655	9,616	8,100	17,200
Gillnet_Large	3	7,333	3,177	5,592	5,407	11,000
Gillnet_Small	7	4,660	2,734	4,900	1,500	7,600
Handgear_Large	6	7,291	3,220	8,430	2,750	11,000
Handgear_Small	13	3,571	2,709	3,700	250	9,050
Longline & Seine	5	3,899	5,065	2,440	361	12,695
Pot/Trap_Large	34	15,621	27,385	6,274	893	121,944
Pot/Trap_Small	59	4,399	3,254	3,700	0	16,030
Trawl_Large	5	18,075	14,772	18,070	0	35,848
Trawl_Small	8	7,768	6,707	6,024	1,748	21,600
Total	152	10,315	17,883	4,908	0	121,944

Table 14. Summary statistics for vessel-level business costs by strata (2015 USD).

	2011						2012					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	22	118,696	87,955	98,324	3,839	339,725	9	21,101	40,936	9,154	0	128,551
Dredge_Small	9	15,919	12,964	13,594	2,662	43,660	*	*	*	*	*	*
Gillnet_Large	22	14,061	13,239	8,599	1,331	46,630	12	5,241	5,130	3,572	0	19,344
Gillnet_Small	14	22,090	34,278	14,083	745	135,240	11	5,518	10,665	2,614	0	37,066
Handgear_Large	4	13,156	12,565	12,255	0	28,113	3	3,305	3,905	2,300	0	7,614
Handgear_Small	34	4,526	3,999	2,682	213	13,631	38	2,873	4,214	627	0	14,743
Longline & Seine	7	42,447	33,651	36,206	703	109,148	5	11,085	13,802	8,779	0	34,170
Pot/Trap_Large	78	20,351	22,983	13,151	213	107,766	75	14,835	16,216	8,365	0	65,868
Pot/Trap_Small	88	9,393	9,516	5,591	0	37,320	106	11,002	11,598	7,568	0	49,143
Trawl_Large	29	56,149	48,611	33,650	479	154,674	18	42,889	32,628	32,432	0	97,617
Trawl_Small	25	16,341	14,383	14,589	639	51,160	9	33,167	39,954	16,520	0	126,455
Total	332	25,083	41,749	10,702	0	339,725	291	13,245	19,289	6,428	0	128,551

*Denotes statistics that cannot be disclosed due to data confidentiality.

Table 14 (cont). Summary statistics for vessel-level business costs by strata (2015 USD).

	2015					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	6	29,850	37,123	12,101	0	96,750
Dredge_Small	3	34,575	45,409	17,725	0	86,000
Gillnet_Large	3	20,452	18,548	23,157	700	37,500
Gillnet_Small	7	5,629	5,546	3,500	0	14,868
Handgear_Large	6	6,160	9,452	438	0	21,418
Handgear_Small	11	992	1,349	300	0	3,212
Longline & Seine	5	36,058	43,501	8,550	200	84,931
Pot/Trap_Large	30	15,927	14,744	15,825	0	53,900
Pot/Trap_Small	57	10,941	16,193	5,600	0	79,290
Trawl_Large	5	33,011	23,046	28,500	3,000	56,856
Trawl_Small	7	6,577	11,156	1,000	0	31,081
Total	144	13,363	19,683	5,180	0	96,750

Table 15. Summary statistics for vessel/permit value by strata (2015 USD).

	2011						2012					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	21	3,293,545	1,879,524	4,259,536	4,473	5,324,421	10	3,225,662	1,905,493	3,920,984	261,399	5,227,978
Dredge_Small	10	924,852	1,272,813	372,709	10,649	3,940,071	4	569,850	573,110	365,958	135,927	1,411,554
Gillnet_Large	24	405,765	447,069	282,194	0	2,129,768	13	330,408	253,957	261,399	3,137	784,197
Gillnet_Small	16	183,027	170,967	125,124	21,298	638,930	12	164,246	166,796	130,699	31,368	627,357
Handgear_Large	4	178,368	165,800	178,368	10,649	346,087	6	162,939	90,274	156,839	52,280	313,679
Handgear_Small	41	73,098	64,455	53,244	50	351,412	44	77,897	54,705	52,280	10,456	261,399
Longline & Seine	7	346,848	189,384	372,709	53,244	585,686	6	548,938	523,320	418,238	130,699	1,568,393
Pot/Trap_Large	80	264,256	195,422	212,977	106	1,064,884	91	320,090	300,046	261,399	47,052	2,091,191
Pot/Trap_Small	94	122,020	74,484	106,488	10,649	425,954	127	144,638	95,458	125,471	63	522,798
Trawl_Large	30	672,652	423,187	585,686	0	1,597,326	19	611,508	328,350	522,798	52,280	1,359,274
Trawl_Small	27	364,827	444,545	212,977	149	1,916,791	12	308,451	429,204	156,839	47,052	1,568,393
Total (Unweighted)	354	451,578	919,705	159,733	0	5,324,421	344	323,600	645,752	156,839	63	5,227,978
Total (Weighted)	354	546,370	1,094,070	159,733	0	5,324,421	344	480,759	979,532	182,979	63	5,227,978

*Denotes statistics that cannot be disclosed due to data confidentiality.

Table 15 (cont). Summary statistics for vessel/permit value by strata (2015 USD).

	2015					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	7	4,150,000	3,741,546	6,500,000	0	8,000,000
Dredge_Small	*	*	*	*	*	*
Gillnet_Large	3	241,667	14,434	250,000	225,000	250,000
Gillnet_Small	7	79,150	71,821	60,000	0	200,000
Handgear_Large	4	160,000	193,735	70,000	50,000	450,000
Handgear_Small	10	35,200	21,107	27,500	5,000	65,000
Longline & Seine	5	600,000	734,745	120,000	10,000	1,500,000
Pot/Trap_Large	27	358,667	411,136	240,000	0	2,000,000
Pot/Trap_Small	50	159,260	180,124	120,000	0	1,205,000
Trawl_Large	5	363,000	84,971	390,000	225,000	450,000
Trawl_Small	5	220,000	135,093	200,000	100,000	450,000
Total (Unweighted)	125	439,704	1,259,037	130,000	0	8,000,000
Total (Weighted)	125	647,556	1,686,966	160,000	0	8,000,000

Table 16. Summary statistics for crew/captain payments by strata (2015 USD).

	2011						2012					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	21	587,009	360,888	664,488	0	1,079,792	11	476,557	362,106	621,687	0	873,072
Dredge_Small	8	209,463	282,944	123,305	13,517	878,529	4	148,022	185,093	74,760	20,912	421,658
Gillnet_Large	21	88,760	64,679	69,217	3,195	272,102	14	84,785	60,187	69,009	6,901	188,207
Gillnet_Small	10	54,346	35,751	38,868	21,298	117,137	12	27,087	20,981	23,049	0	57,508
Handgear_Large	3	23,435	25,331	17,786	1,406	51,114	7	16,246	17,059	15,684	0	41,824
Handgear_Small	12	7,739	15,347	3,088	0	55,374	44	2,747	9,488	0	0	53,325
Longline & Seine	6	95,839	39,330	79,448	62,828	150,981	6	178,409	233,198	85,895	0	597,035
Pot/Trap_Large	70	58,991	73,039	36,739	0	402,526	89	58,553	89,406	34,067	0	659,353
Pot/Trap_Small	70	23,166	16,964	21,298	0	80,931	126	24,741	32,216	20,488	0	262,444
Trawl_Large	29	236,609	205,637	229,952	5,007	851,575	20	164,631	125,710	148,409	220	551,029
Trawl_Small	22	54,768	56,483	39,012	0	234,142	12	32,301	42,428	13,590	0	147,724
Total (Unweighted)	272	113,846	203,257	37,271	0	1,079,792	345	59,885	126,269	24,049	0	873,072
Total (Weighted)	272	131,019	233,953	37,691	0	1,079,792	345	85,238	177,097	24,049	0	873,072

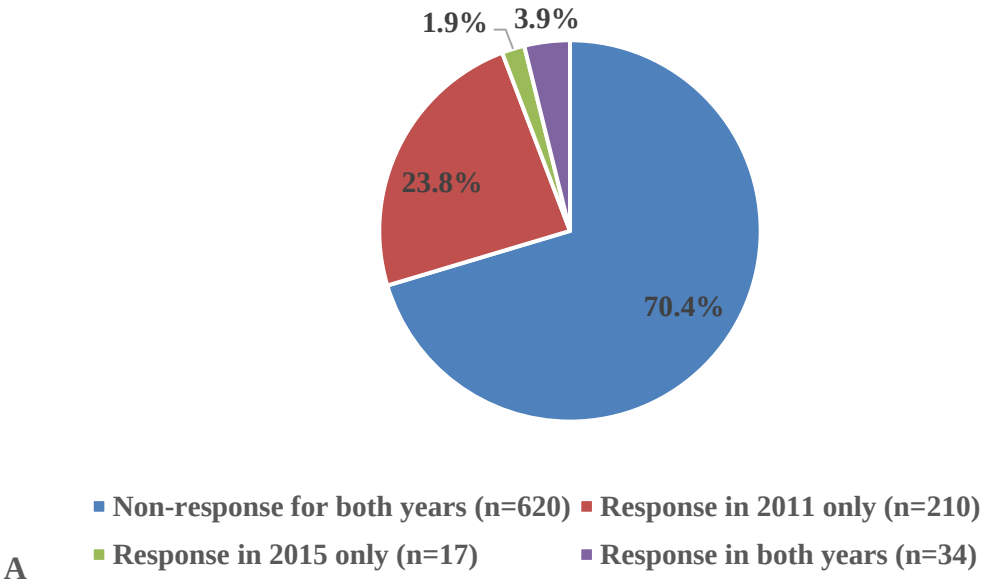
Table 16 (cont). Summary statistics for crew/captain payments by strata (2015 USD).

	2015					
Strata	***N***	***Mean***	***St dev***	***Median***	***Min***	***Max***
Dredge_Large	7	632,893	284,374	490,994	260,000	1,000,000
Dredge_Small	5	42,487	53,674	30,000	0	130,000
Gillnet_Large	3	106,828	80,138	150,000	14,361	156,124
Gillnet_Small	6	13,617	18,792	6,600	0	48,500
Handgear_Large	5	18,600	22,733	12,000	0	58,000
Handgear_Small	11	1,006	2,119	0	0	6,875
Longline & Seine	5	59,559	130,953	0	0	293,794
Pot/Trap_Large	29	70,142	101,946	40,000	0	486,476
Pot/Trap_Small	54	21,744	20,415	17,000	0	65,000
Trawl_Large	5	75,316	34,775	80,000	22,141	113,440
Trawl_Small	8	48,182	43,329	40,096	0	122,107
Total (Unweighted)	138	68,240	156,452	24,116	0	1,000,000
Total (Weighted)	138	99,037	203,253	33,000	0	1,000,000

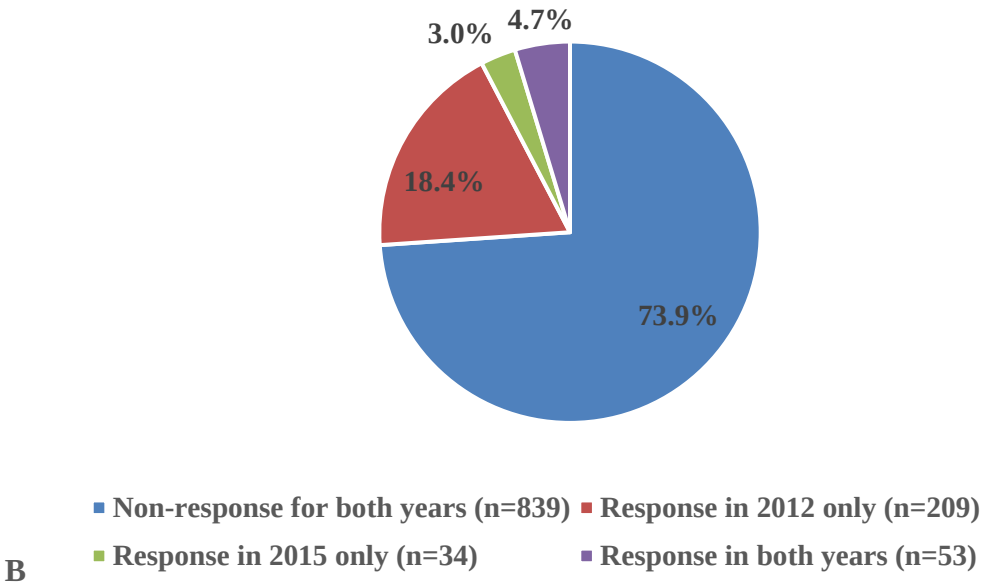
Table 17. Pooled t-test results for the natural log of weighted fixed cost categories.

Cost Category	2011 Mean *(St Dev)*	2012 Mean *(St Dev)*	2015 Mean *(St Dev)*	2011 vs. 2012 *T stat*	2011 vs. 2012 *p value*	2012 vs. 2015 *T stat*	2012 vs. 2015 *p value*
Repair/Maintenance	9.42 *(1.36)*	9.03 *(1.4)*	8.91 *(1.47)*	3.7	0.0002***	0.85	0.3955
Upgrade/Improvement	9.17 *(1.66)*	8.79 *(1.55)*	9.25 *(1.49)*	2.48	0.0137**	-2.36	0.0187**
Vessel Fees & Insurance	8.71 *(1.25)*	8.41 *(1.3)*	8.52 *(1.29)*	3.12	0.0019**	-0.91	0.3622
Business Costs by Vessel	9.12 *(1.57)*	8.55 *(1.64)*	8.79 *(1.61)*	4.32	<.0001***	-1.31	0.1905

*, **, and *** indicate rejection of the null hypothesis of equal mean costs between 2 survey years at 10%, 5%, and 1% statistical significance levels, respectively.



A



B

Figure 1. Response tendencies for owners of vessels sampled in 2015 after being sampled in 2011 (A) and for owners of vessels sampled in 2015 after being sampled in 2012 (B).

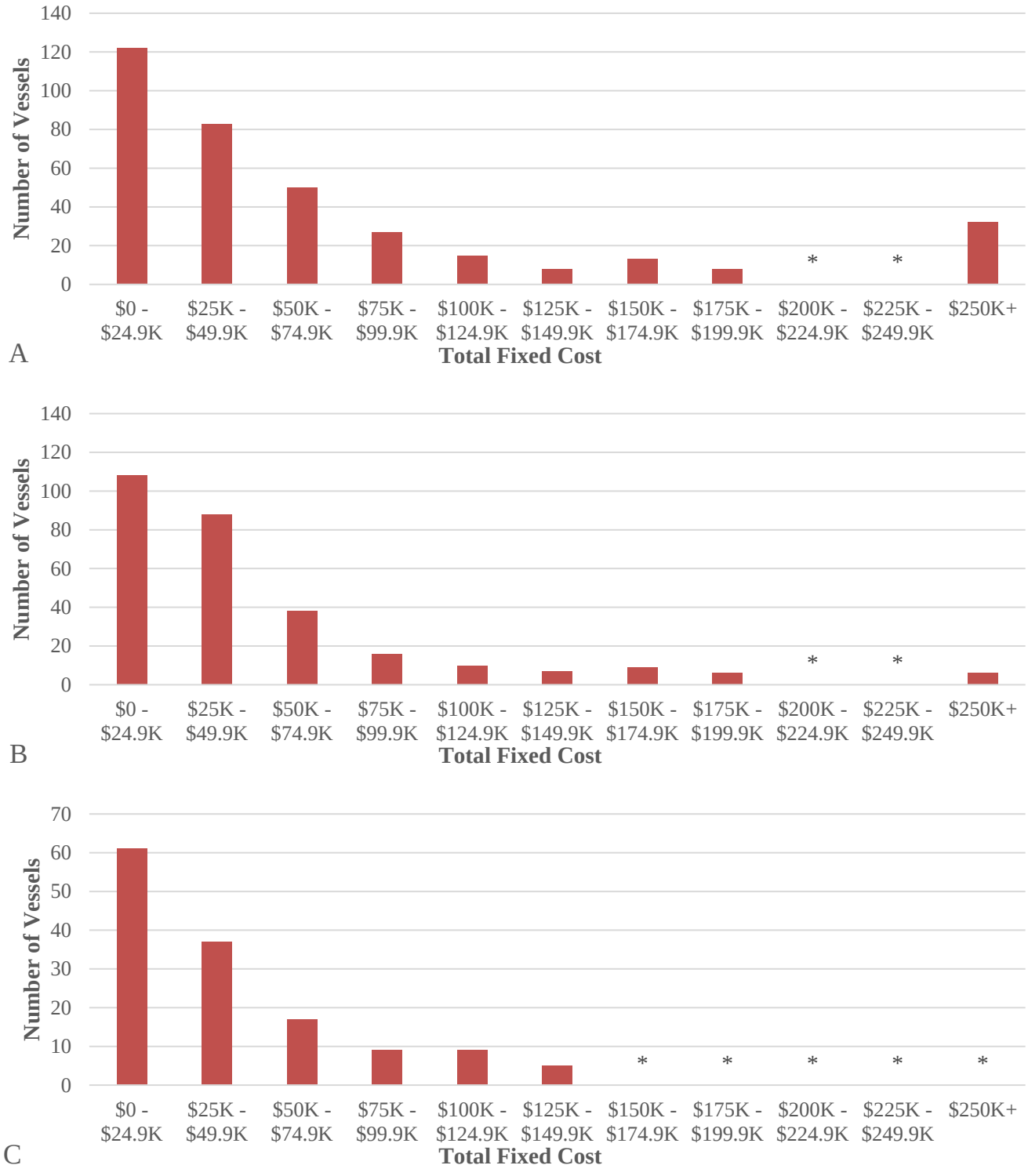


Figure 2. Number of vessels by fixed cost ranges for survey years 2011 (A), 2012 (B), and 2015 (C).

*Denotes confidential data
Note change in Y-axis for 2015.

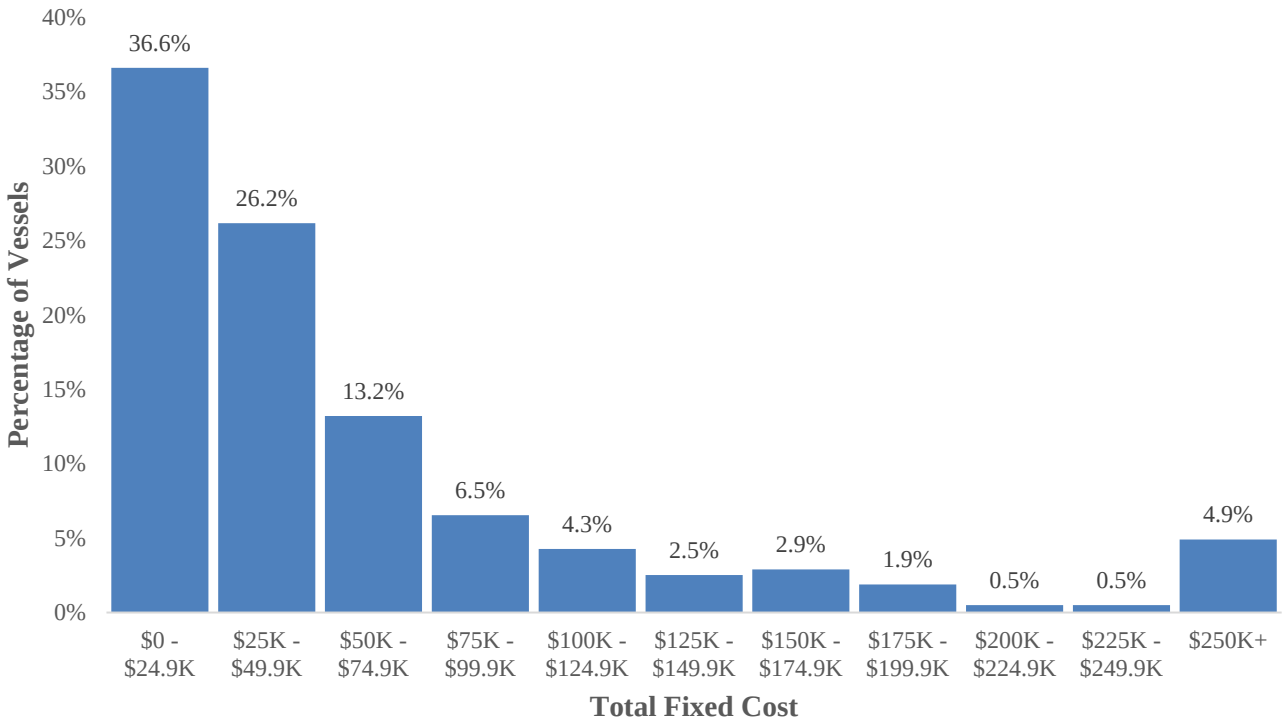
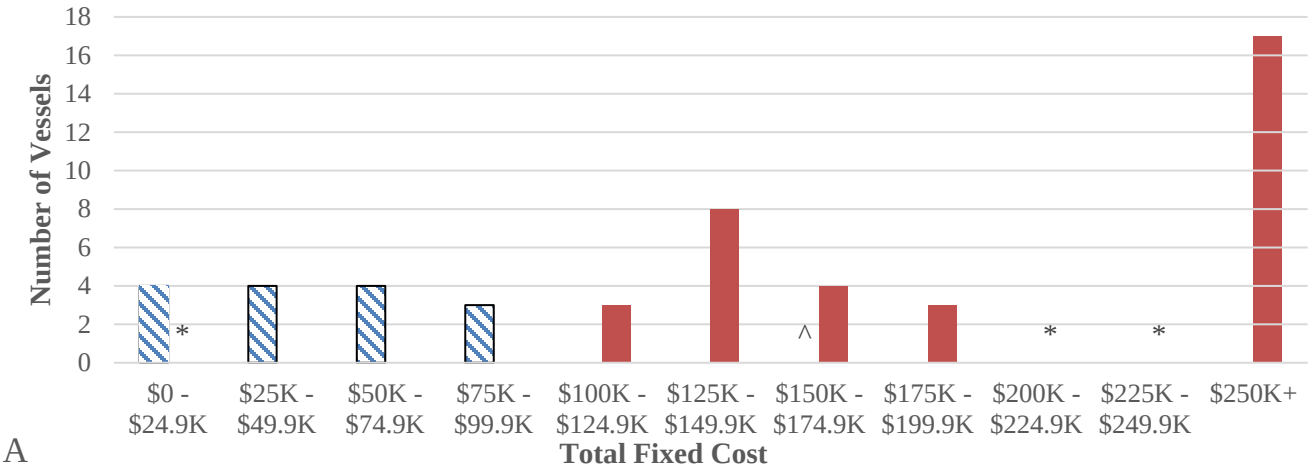
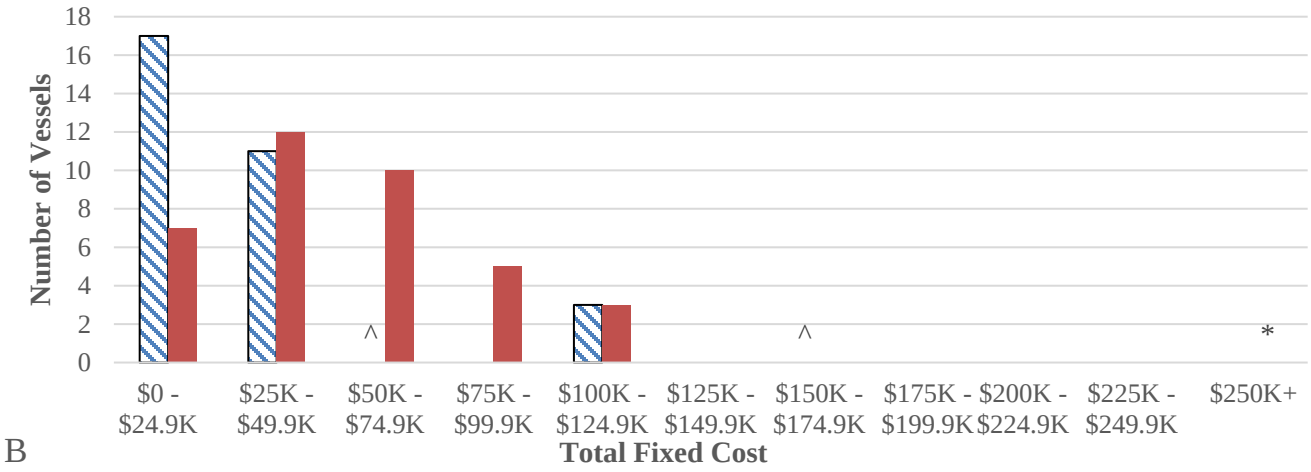


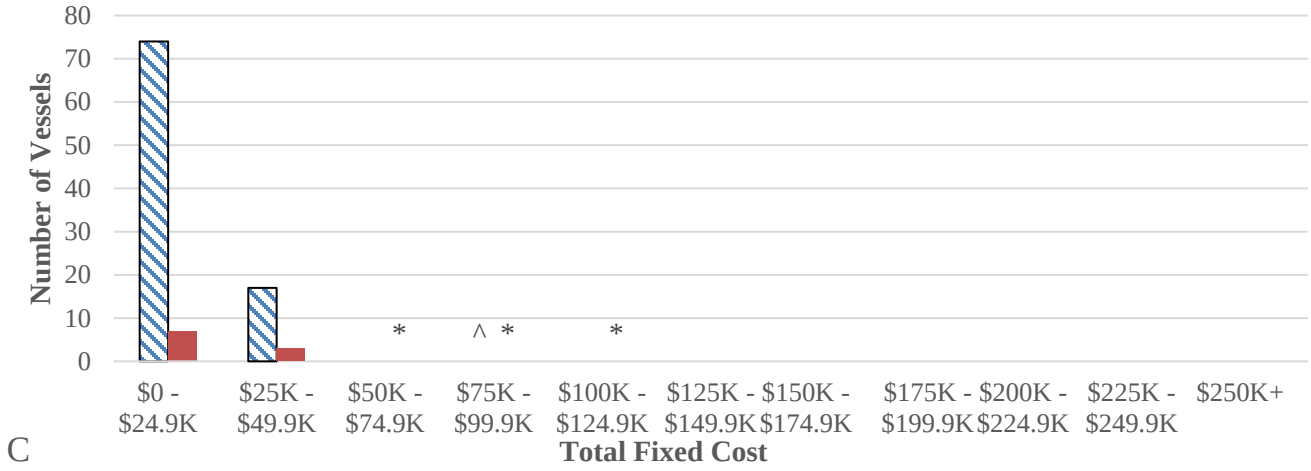
Figure 3. Percentage of vessels by total fixed cost range, with 2011, 2012, and 2015 survey responses combined.


Number of Vessels
18
16
14
12
10
8
6
4
2
0
*
^
*
*
$0 - $24.9K
$25K - $49.9K
$50K - $74.9K
$75K - $99.9K
$100K - $124.9K
$125K - $149.9K
$150K - $174.9K
$175K - $199.9K
$200K - $224.9K
$225K - $249.9K
$250K+
Total Fixed Cost

A


Number of Vessels
18
16
14
12
10
8
6
4
2
0
^
^
*
$0 - $24.9K
$25K - $49.9K
$50K - $74.9K
$75K - $99.9K
$100K - $124.9K
$125K - $149.9K
$150K - $174.9K
$175K - $199.9K
$200K - $224.9K
$225K - $249.9K
$250K+
Total Fixed Cost

B


Number of Vessels
80
70
60
50
40
30
20
10
0
*
^ *
*
$0 - $24.9K
$25K - $49.9K
$50K - $74.9K
$75K - $99.9K
$100K - $124.9K
$125K - $149.9K
$150K - $174.9K
$175K - $199.9K
$200K - $224.9K
$225K - $249.9K
$250K+
Total Fixed Cost

C

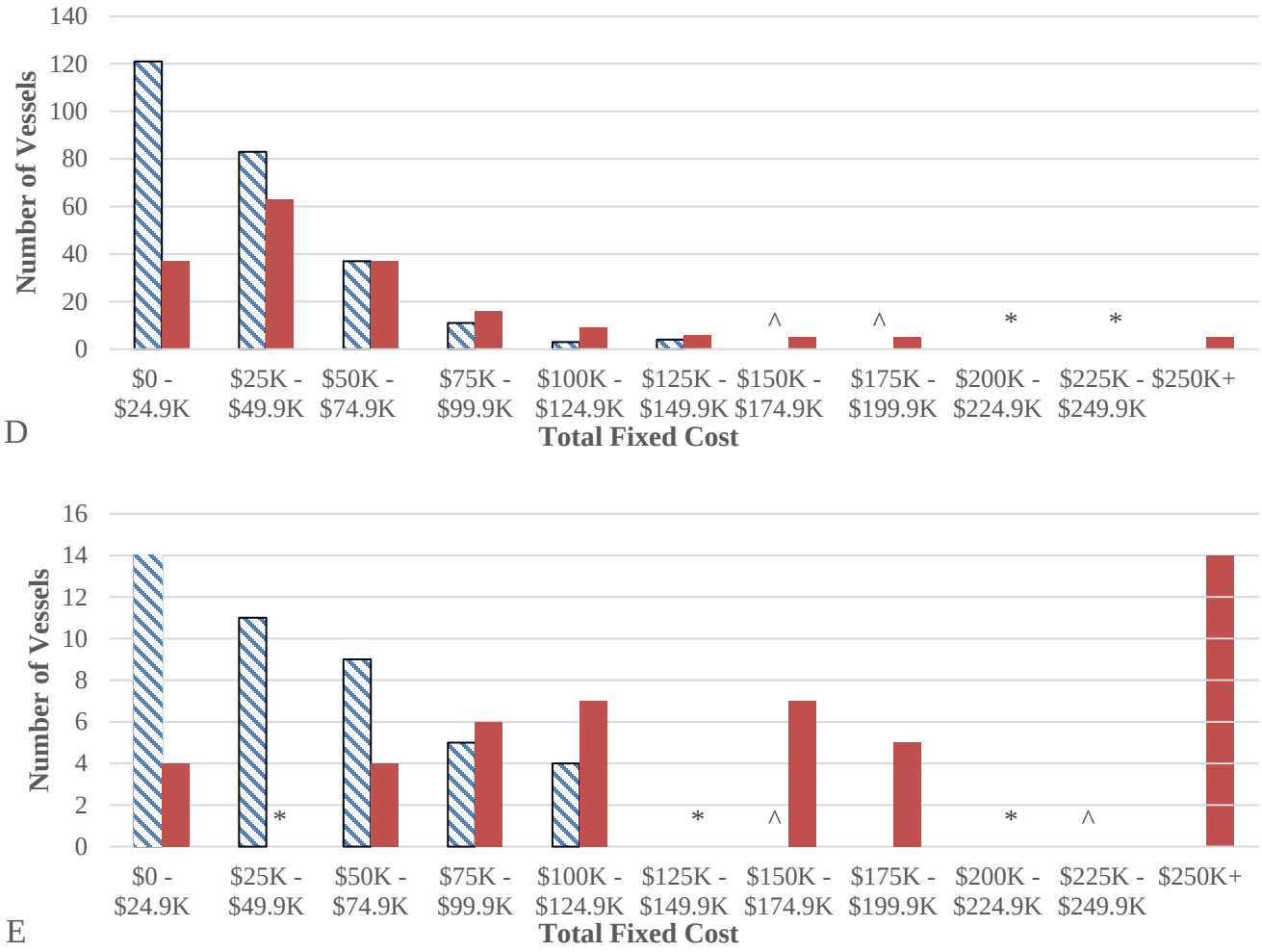
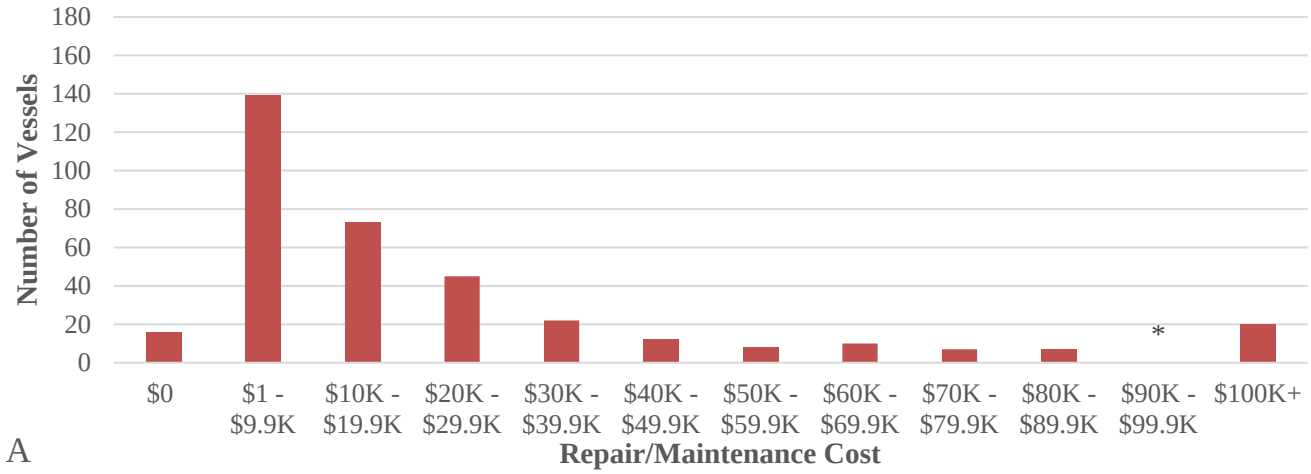
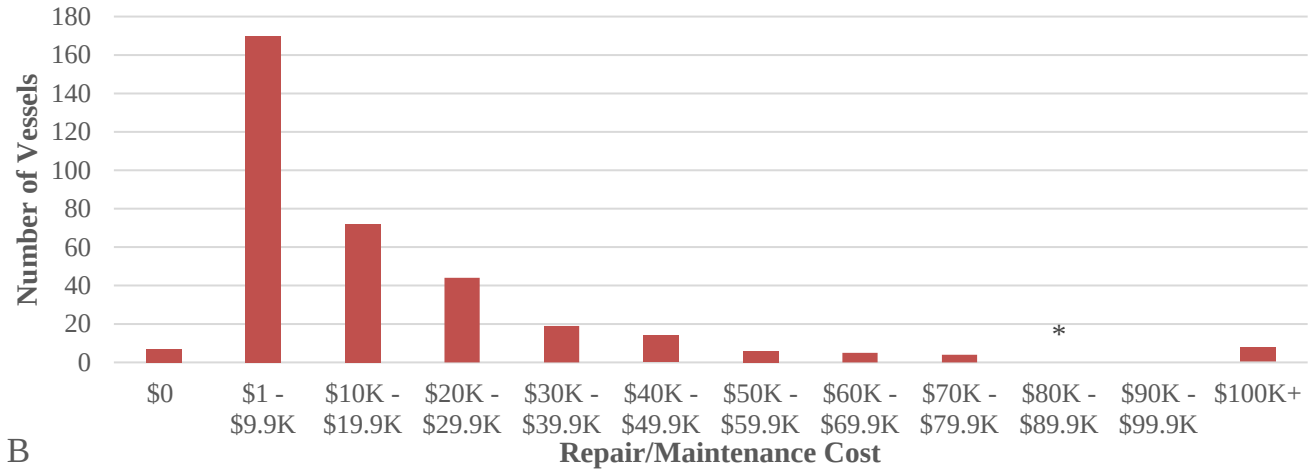


Figure 4. Number of vessels by fixed cost ranges and gear type across 2011, 2012, and 2015 surveys. Gear types include dredge (A), gillnet (B), handgear (C), pot/trap (D), and trawl (E). Small vessels within gear types represented by striped bars; large vessels within gear types represented by solid bars.

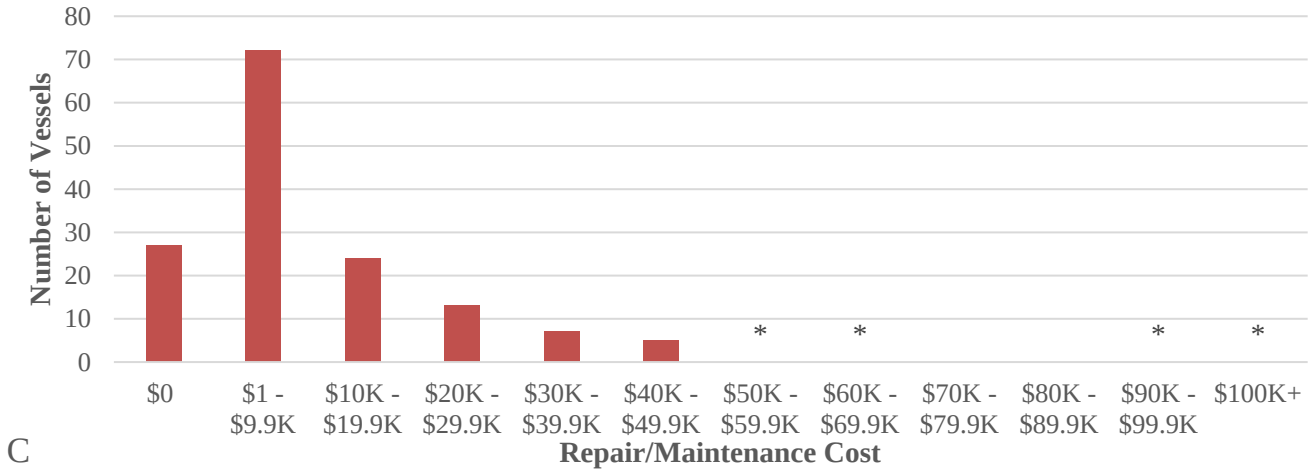
*Denotes confidential data for large vessels
^Denotes confidential data for small vessels
Note change in Y-axes across the different gear types.



A



B



C

Figure 5. Number of vessels by repair/maintenance cost ranges for survey years 2011 (A), 2012 (B), and 2015 (C).

*Denotes confidential data
Note change in Y-axis for 2015.

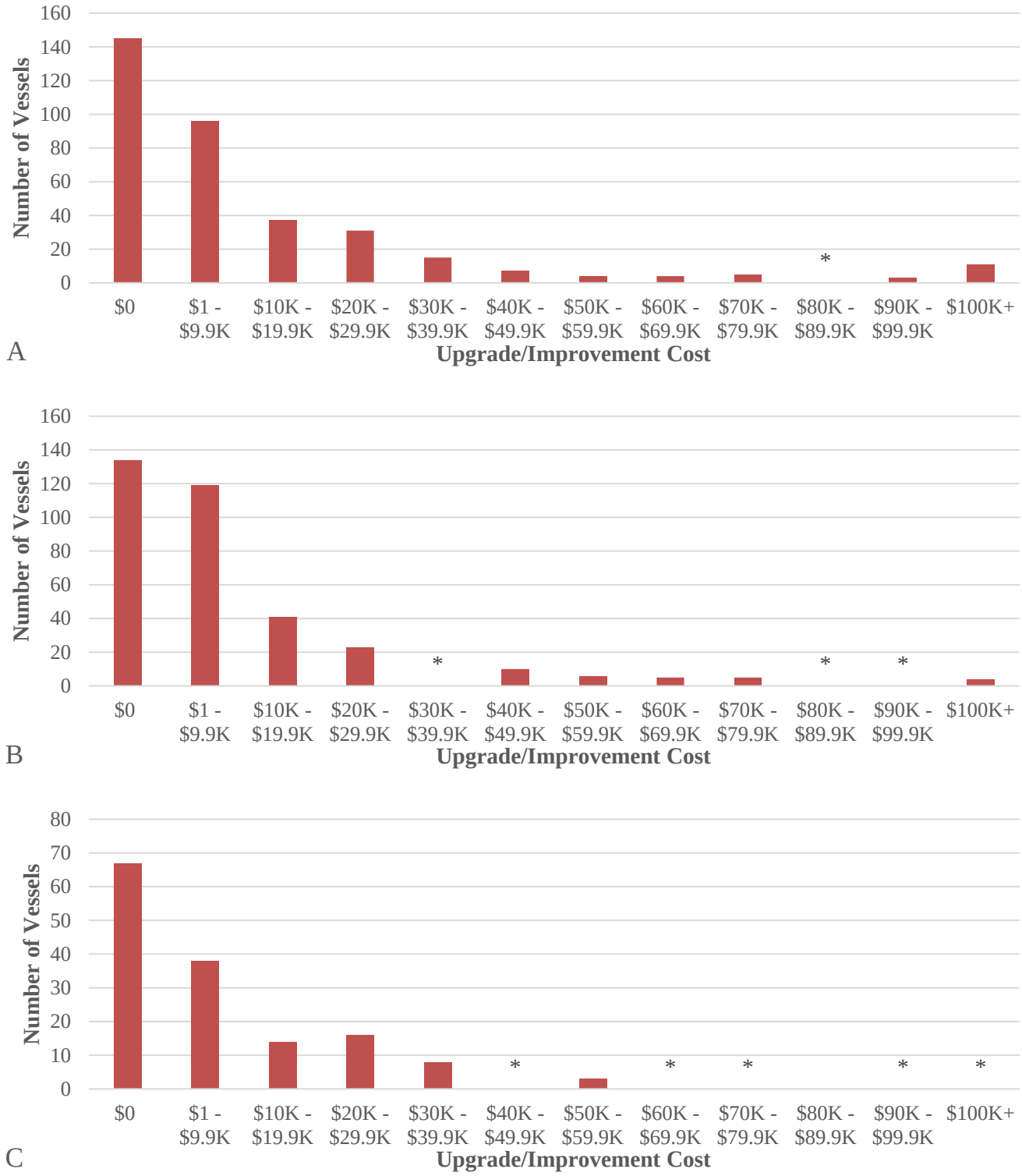


Figure 6. Number of vessels by upgrade/improvement cost ranges for survey years 2011 (A), 2012 (B), and 2015 (C).

*Denotes confidential data
Note change in Y-axis for 2015.

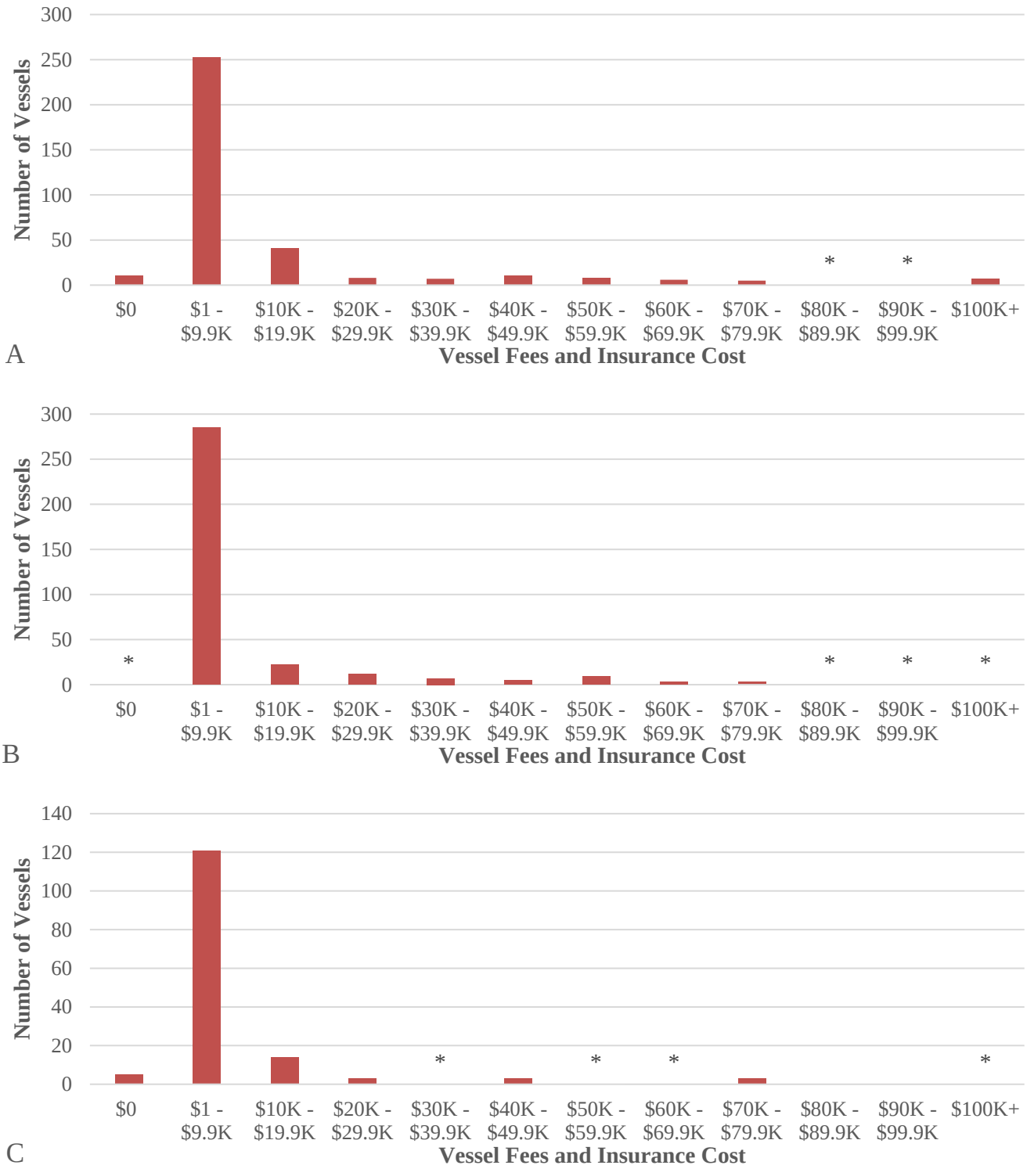
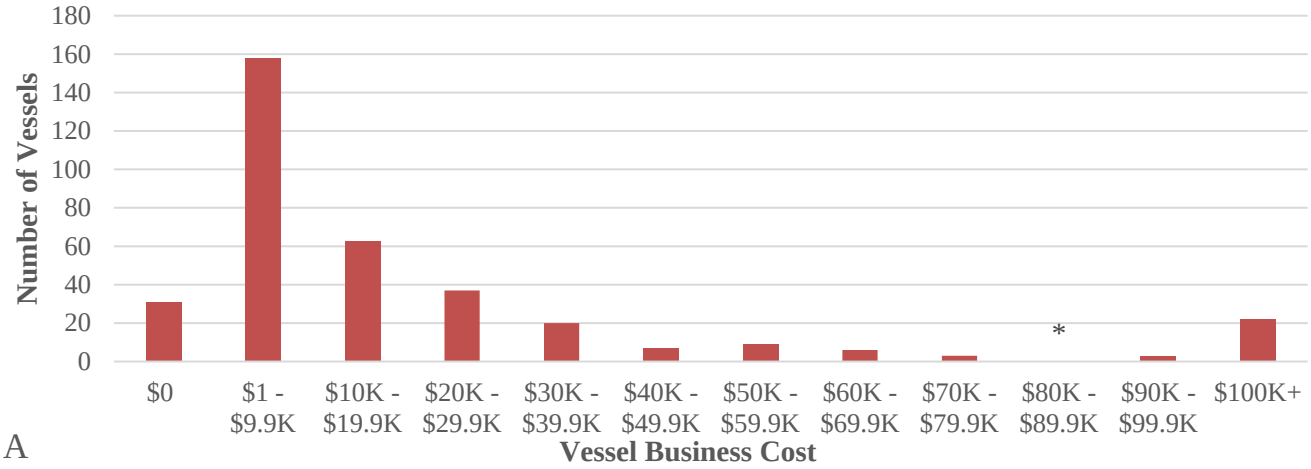
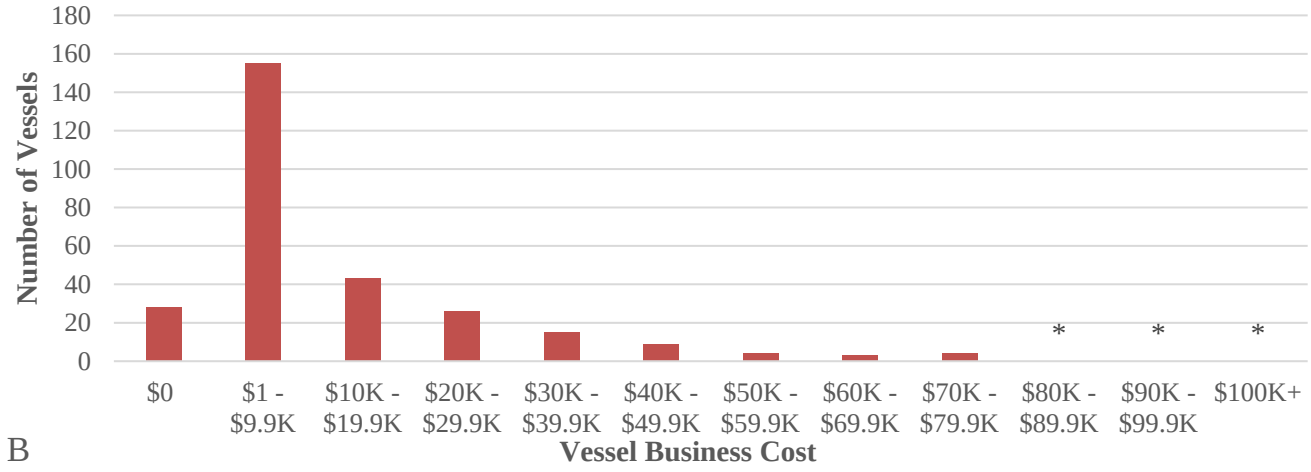


Figure 7. Number of vessels by vessel fees and insurance cost ranges for survey years 2011 (A), 2012 (B), and 2015 (C).

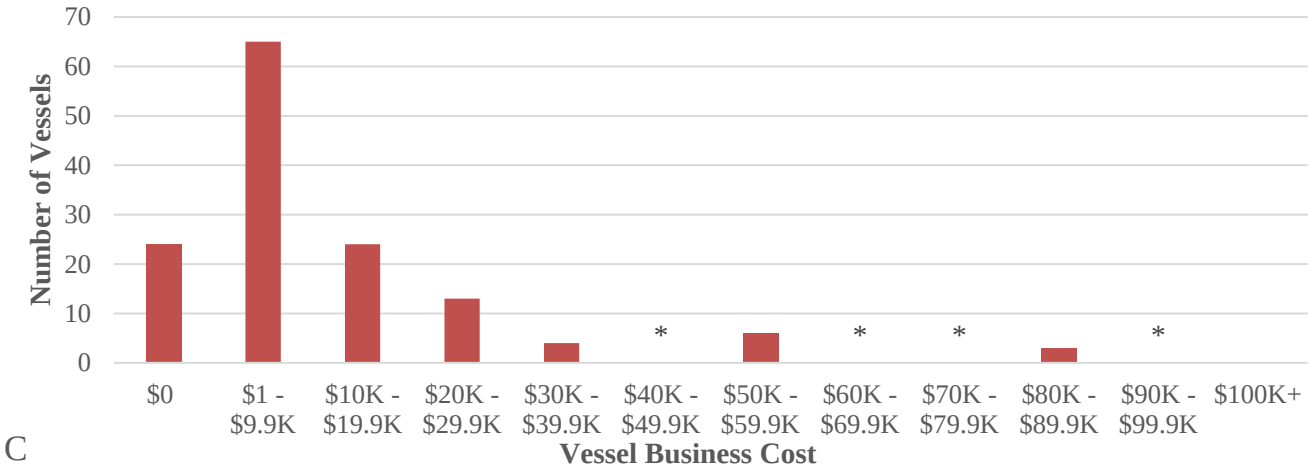
*Denotes confidential data
Note change in Y-axis for 2015.



A



B



C

Figure 8. Number of vessels by vessel-level business cost ranges for survey years 2011 (A), 2012 (B), and 2015 (C).

*Denotes confidential data
Note change in Y-axis for 2015.

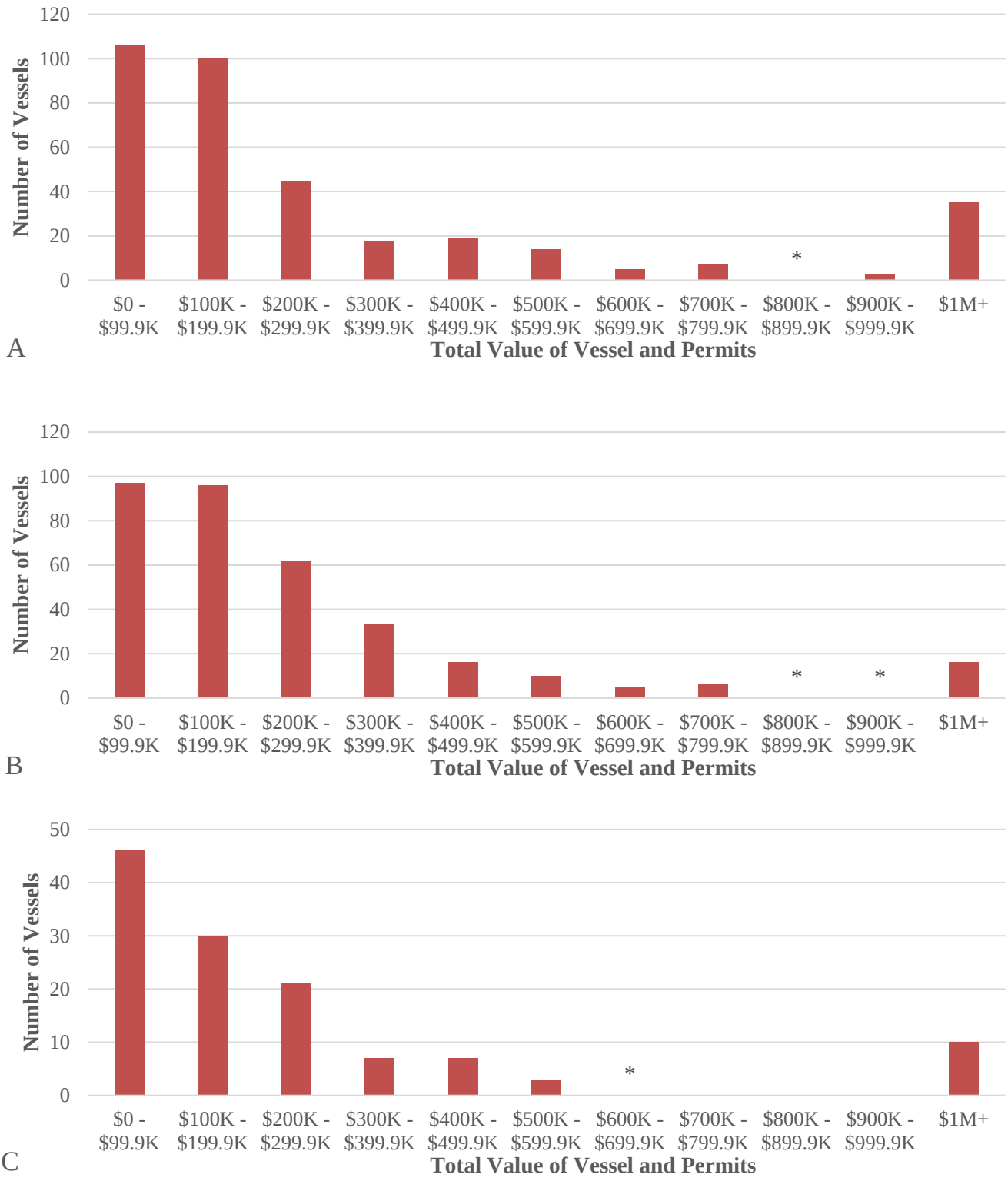


Figure 9. Number of vessels by value of vessel and permit ranges for survey years 2011 (A), 2012 (B), and 2015 (C).

*Denotes confidential data
Note change in Y-axis for 2015.

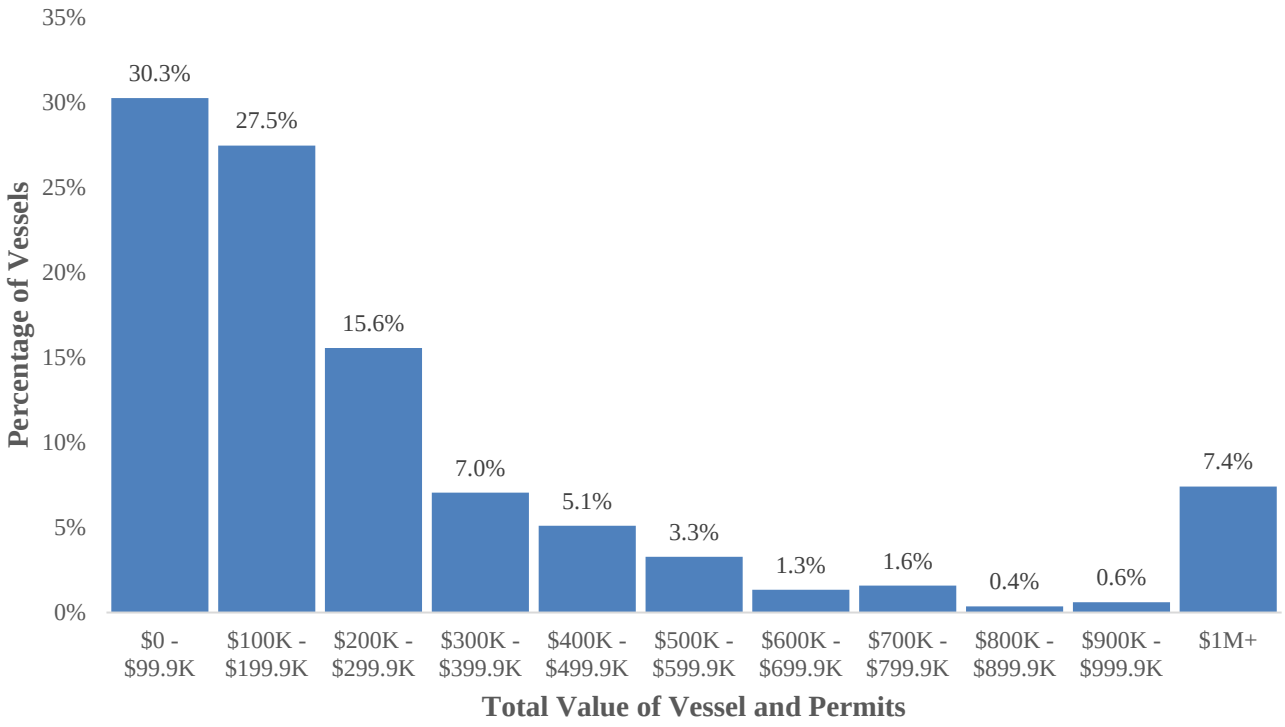
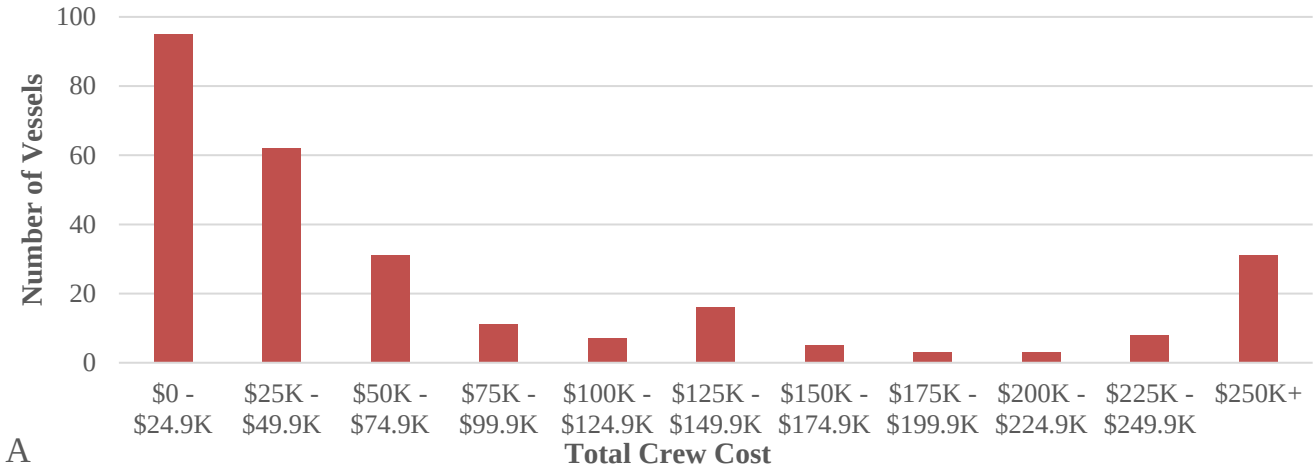
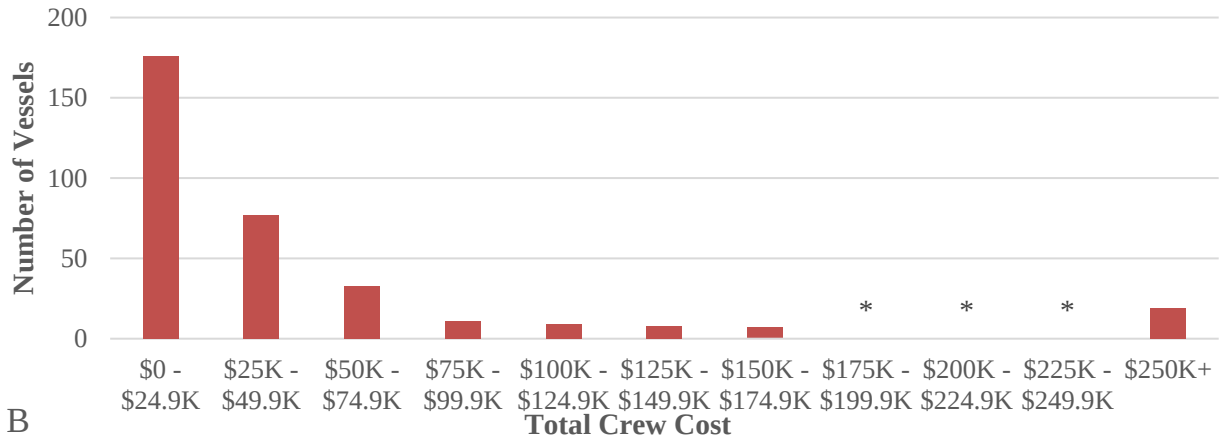


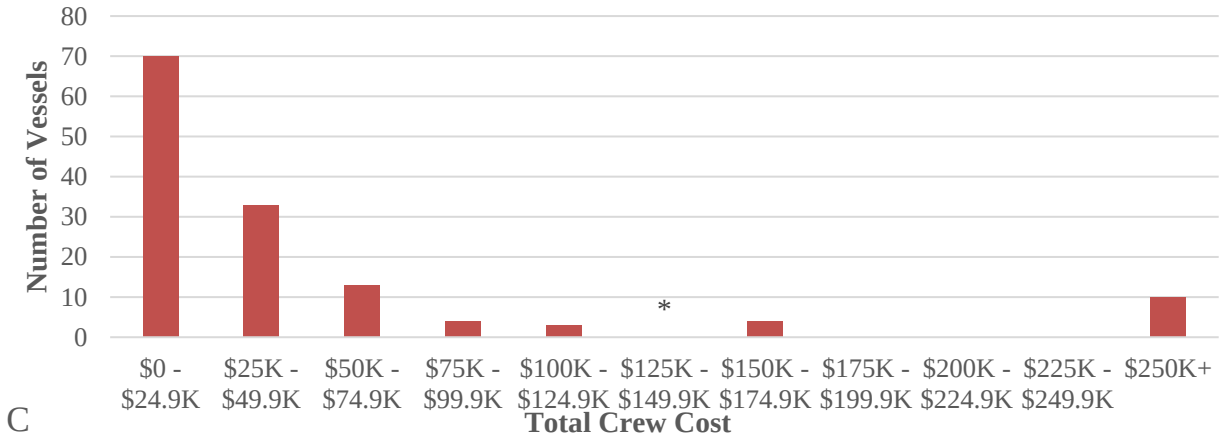
Figure 10. Percentage of vessels by value of vessel and associated permits, with 2011, 2012, and 2015 survey responses combined.



A



B



C

Figure 11. Number of vessels by total crew cost ranges for survey years 2011 (A), 2012 (B), and 2015 (C).

*Denotes confidential data
Note change in Y-axes across the 3 survey years.

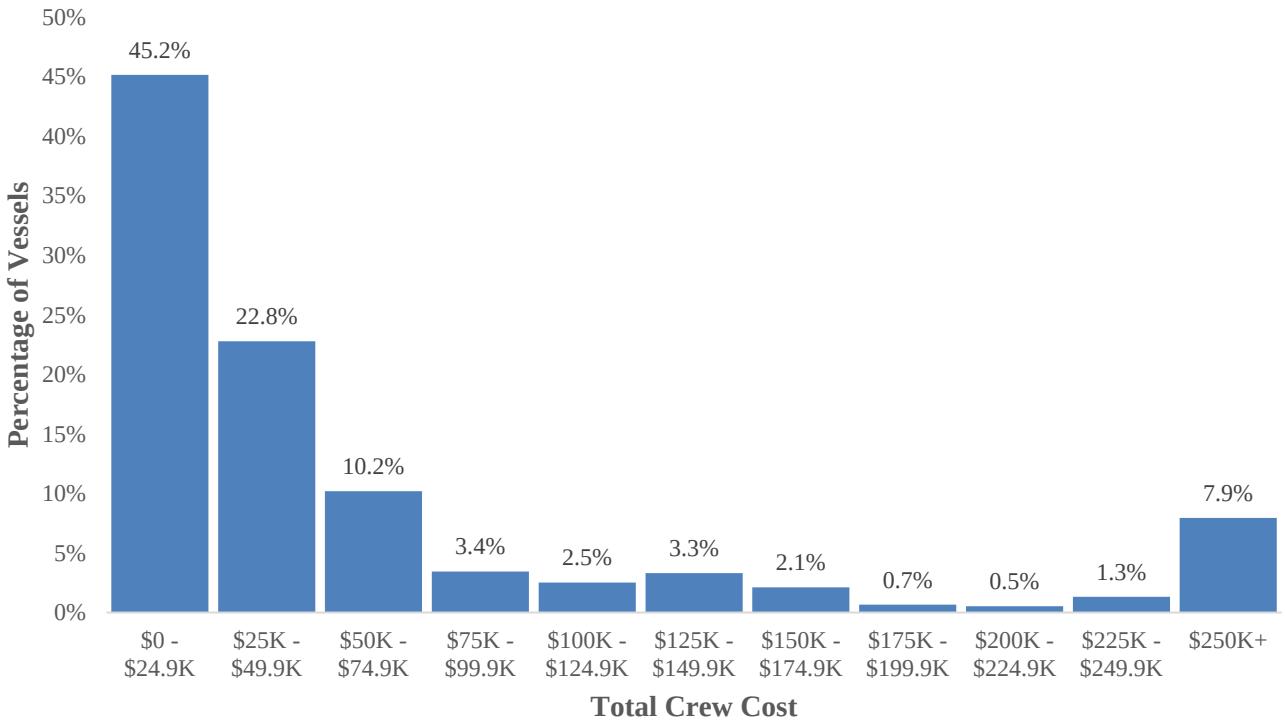


Figure 12. Percentage of vessels by total crew cost range, with 2011, 2012, and 2015 survey responses combined.

APPENDIX I

Strata-level t-test results[14] by vessel characteristics for 2011, 2012, and 2015 surveys.

Large Dredge

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	115	83.2	8.2	67	84.5	11.5	117	82.4	7.1
Respondent	29.0	85.9	8.3	16	82.1	5.6	6	88.6	12.4
T stat	-1.59			1.21			-1.21		
DF	142.0			49.0			5.2		
Pr > |t|	0.1138			0.2335			0.2780		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	115	149.5	33.7	67	154.8	33.2	117	155.8	33.4
Respondent	29	153.8	33.0	16	148.9	37.1	6	152.7	33.7
T stat	-0.62			0.62			0.23		
DF	142.0			81.0			121.0		
Pr > |t|	0.5392			0.5364			0.8211		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	115	794.4	299.6	67	756.4	258.2	117	820.0	276.4
Respondent	29	903.0	429.9	16	1,073.8	1068.7	6	904.2	520.3
T stat	-1.28			-1.18			-0.39		
DF	35.1			15.4			5.1		
Pr > |t|	0.2074			0.2561			0.7097		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	115	23.9	11.3	67	25.4	12.0	117	29.4	12.7
Respondent	29	24.5	9.0	16	31.0	16.9	6	24.0	9.8
T stat	-0.28			-1.54			1.03		
DF	142.0			81.0			121.0		
Pr > |t|	0.7811			0.1280			0.3073		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	111	77.9	30.3	66	80.9	31.0	117	67.7	32.5
Respondent	29	103.3	50.0	16	104.5	47.9	6	49.8	35.1
T stat	-2.61			-1.88			1.31		
DF	33.6			18.2			121.0		
Pr > |t|	0.0135*			0.0764			0.1928		

[14]*indicates rejection of the null hypothesis of equal means between respondents and non-respondents at the 5% statistical significance level. Use of Satterthwaite t-test indicated by shaded cells.

Small Dredge

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	71	54.5	12.0	82	50.8	12.2	114	47.9	10.2
Respondent	11	46.7	10.9	4	48.1	13.3	5	42.3	5.7
T stat	2.03			0.43			1.22		
DF	80.0			84.0			117.0		
Pr > |t|	0.0461*			0.6682			0.2254		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	71	54.9	39.1	82	46.6	36.6	114	36.3	27.1
Respondent	11	36.1	28.9	4	39.3	36.1	5	22.6	8.6
T stat	1.53			0.39			2.98		
DF	80.0			84.0			8.2		
Pr > |t|	0.1308			0.6951			0.0169*		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	71	428.1	175.9	82	396.8	151.3	114	394.9	311.0
Respondent	11	352.0	149.6	4	491.3	116.1	5	491.8	442.9
T stat	1.36			-1.23			-0.67		
DF	80.0			84.0			117.0		
Pr > |t|	0.1780			0.2231			0.5039		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	71	27.9	12.1	82	26.4	12.5	114	29.6	11.2
Respondent	11	30.9	15.2	4	21.0	12.8	5	30.6	6.8
T stat	-0.74			0.85			-0.19		
DF	80.0			84.0			117.0		
Pr > |t|	0.4618			0.3997			0.8506		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	57	54.2	31.3	64	52.4	31.7	90	41.9	29.6
Respondent	9	46.6	30.1	3	72.8	53.8	5	45.5	4.0
T stat	0.68			-1.06			-1.03		
DF	64.0			65.0			46.1		
Pr > |t|	0.4963			0.2946			0.3099		

Large Gillnet

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	36	43.9	2.6	47	44.7	4.0	93	44.8	4.6
Respondent	24	45.6	7.3	14	44.4	4.0	3	44.1	0.2
T stat	0.29			0.21			1.52		
DF	26.8			59.0			92.0		
Pr > |t|	0.2852			0.8315			0.1318		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	36	21.2	10.8	47	24.1	12.9	93	24.5	16.0
Respondent	24	25.4	15.8	14	25.8	15.8	3	21.7	4.0
T stat	-1.13			-0.42			0.30		
DF	37.1			59.0			94.0		
Pr > |t|	0.2645			0.6779			0.7617		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	36	437.3	184.4	47	402.3	184.6	93	416.9	151.7
Respondent	24	399.3	144.3	14	418.2	107.9	3	338.3	62.5
T stat	0.85			-0.40			0.89		
DF	58.0			37.5			94.0		
Pr > |t|	0.3988			0.6890			0.3753		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	36	18.8	10.3	47	22.5	11.3	93	22.5	10.6
Respondent	24	23.9	8.6	14	21.9	9.0	3	24.7	11.7
T stat	-2.01			0.16			-0.34		
DF	58.0			59.0			94.0		
Pr > |t|	0.0489*			0.8706			0.7320		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	32	42.2	38.3	43	49.9	38.8	89	42.9	35.6
Respondent	24	52.5	38.7	14	46.7	37.4	3	67.4	70.2
T stat	-0.99			0.28			-0.60		
DF	54.0			55.0			2.0		
Pr > |t|	0.3253			0.7837			0.6084		

Small Gillnet

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	42.0	35.6	4.674	50	34.9	4.7	77	34.5	5.6
Respondent	16	35.7	3.9	12	34.4	5.1	7	34.8	4.8
T stat	-0.08			0.32			-0.13		
DF	56.0			60.0			82.0		
Pr > |t|	0.9339			0.7537			0.8942		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	42	12.1	6.2	50	14.1	7.4	77	12.8	6.3
Respondent	16	13.4	5.0	12	11.7	6.7	7	11.4	5.4
T stat	-0.74			1.06			0.56		
DF	56.0			60.0			82.0		
Pr > |t|	0.4635			0.2929			0.5766		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	42	292.0	120.1	50	285.2	95.1	77	291.4	101.9
Respondent	16	322.1	82.1	12	312.8	89.1	7	309.6	72.6
T stat	-0.92			-0.92			-0.46		
DF	56.0			60.0			82.0		
Pr > |t|	0.3623			0.3635			0.6468		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	42	25.8	9.8	50	28.5	18.0	77	28.8	12.8
Respondent	16	24.8	10.9	12	29.4	10.4	7	25.4	12.2
T stat	0.32			-0.18			0.66		
DF	56.0			60.0			82.0		
Pr > |t|	0.7496			0.8608			0.5112		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	36	25.3	21.0	39	33.1	25.8	68	21.1	17.9
Respondent	15	26.6	17.8	10	17.6	10.2	7	16.0	18.0
T stat	-0.22			2.97			0.72		
DF	49.0			38.1			73.0		
Pr > |t|	0.8305			0.0051*			0.4713		

Large Handgear

Characteristic		*2011*			*2012*			*2015*	
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	28	44.3	5.6	20	54.0	21.3	80	38.5	5.4
Respondent	4	42.0	2.1	7	47.7	7.3	7	41.8	12.9
T stat	0.82			1.14			-0.69		
DF	30.0			25.0			6.2		
Pr > |t|	0.4189			0.2650			0.5176		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	28	25.5	11.2	20	38.8	30.6	80	19.1	9.5
Respondent	4	26.5	6.6	7	31.1	15.7	7	27.3	27.5
T stat	-0.17			0.62			-0.78		
DF	30.0			25.0			6.1		
Pr > |t|	0.8644			0.5386			0.4633		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	28	602.4	250.9	20	810	453.5	80	486.3	263.1
Respondent	4	513.8	73.0	7	793.4	368.5	7	670.0	511.5
T stat	0.69			0.09			-0.94		
DF	30.0			25.0			6.3		
Pr > |t|	0.4935			0.9315			0.3823		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	28	19.9	18.1	20	21.6	12.2	80	23.2	14.0
Respondent	4	20.3	14.5	7	37.4	15.6	7	35.3	7.9
T stat	-0.04			-2.75			-2.25		
DF	30.0			25.0			85.0		
Pr > |t|	0.9703			0.0110*			0.0274*		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	18	23.7	29.1	12	30.9	32.6	48	16.8	21.3
Respondent	2	22.2	17.4	6	33.2	22.8	6	22.1	22.4
T stat	0.07			-0.15			-0.57		
DF	18.0			16.0			52.0		
Pr > |t|	0.9449			0.8809			0.5714		

Small Handgear

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	71	29.9	5.4	141	29.2	5.4	126	26.3	3.9
Respondent	43	28.0	6.1	45	28.2	4.8	14	25.3	4.1
T stat	1.71			1.02			0.88		
DF	112.0			184.0			138.0		
Pr > |t|	0.0896			0.3083			0.3801		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	70	9.0	6.8	141	8.9	6.5	126	6.1	4.3
Respondent	43	8.6	6.6	45	7.7	5.3	14	5.9	5.0
T stat	0.31			1.14			0.16		
DF	111.0			184.0			138.0		
Pr > |t|	0.7609			0.2552			0.8711		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	71	313.1	121.2	141	322.4	150.8	126	250.4	97.0
Respondent	43	298.3	168.6	45	300.9	141.9	14	219.8	78.1
T stat	0.50			0.84			1.14		
DF	68.4			184.0			138.0		
Pr > |t|	0.6159			0.3994			0.2566		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	71	21.0	11.7	141	22.1	10.8	126	25.4	11.1
Respondent	43	22.8	12.4	45	22.4	9.8	14	25.7	11.3
T stat	-0.77			-0.18			-0.09		
DF	112.0			184.0			138.0		
Pr > |t|	0.4420			0.8590			0.9297		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	46	12.9	14.1	107	9.9	11.6	85	9.5	11.2
Respondent	38	12.7	13.4	37	15.4	15.4	14	13.1	12.5
T stat	0.05			-2.01			-1.10		
DF	82.0			50.9			97.0		
Pr > |t|	0.9638			0.0502			0.2754		

Longline & Seine

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	17	45.6	19.6	32	46.1	15.5	53	48.9	16.5
Respondent	8	51.2	18.4	6	58.3	19.4	5	41.8	15.8
T stat	-0.69			-1.72			0.92		
DF	23.0			36.0			56.0		
Pr > |t|	0.4974			0.0944*			0.3601		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	17	38.8	34.5	32	45.1	50.2	53	48.6	49.5
Respondent	8	47.1	59.2	6	67.2	59.2	5	30.2	28.9
T stat	-0.44			-0.96			0.81		
DF	23.0			36.0			56.0		
Pr > |t|	0.6608			0.3434			0.4189		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	17	346.9	149.6	32	407.1	208.8	53	466.3	196.6
Respondent	8	517.9	205.1	6	454.2	150.3	5	427.0	242.6
T stat	-2.37			-0.52			0.42		
DF	23.0			36.0			56.0		
Pr > |t|	0.0267*			0.6034			0.6762		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	17	24.8	8.3	32	26.3	12.0	53	23.1	11.8
Respondent	8	16.6	12.1	6	26.3	11.5	5	36.2	20.0
T stat	1.98			-0.01			-2.22		
DF	23.0			36.0			56.0		
Pr > |t|	0.0598			0.9922			0.0303*		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	13	44.3	48.7	21	48.4	42.2	25	68.9	75.0
Respondent	6	59.3	71.5	5	53.0	67.0	5	13.9	6.1
T stat	-0.54			24.00			3.61		
DF	17.0			-0.2			25.5		
Pr > |t|	0.5969			0.8448			0.0013*		

Large Pot/Trap

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	196	43.7	9.7	288	44.2	9.1	582	43.2	6.7
Respondent	80	42.6	7.1	92	44.0	9.1	36	45.2	11.1
T stat	1.02			0.20			-1.10		
DF	199.2			378.0			36.6		
Pr > |t|	0.3103			0.8455			0.2768		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	196	26.8	23.2	288	28.2	27.2	582	26.6	20.4
Respondent	80	27.0	19.0	92	28.7	24.4	36	31.5	26.6
T stat	-0.07			-0.14			-1.07		
DF	177.9			378.0			37.6		
Pr > |t|	0.9469			0.8906			0.2917		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	196	451.4	177.3	288	487.8	181.4	582	502.6	187.3
Respondent	80	465.6	162.8	92	486.4	174.0	36	415.8	137.2
T stat	-0.62			0.07			3.60		
DF	274.0			378.0			43.5		
Pr > |t|	0.5380			0.9467			0.0008*		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	196	18.1	10.8	288	18.4	10.3	582	18.7	10.2
Respondent	80	16.9	11.0	92	16.6	9.5	36	22.1	9.1
T stat	0.86			1.48			-1.93		
DF	274.0			378.0			616.0		
Pr > |t|	0.3880			0.1395			0.0537		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	70	65.6	68.9	105	52.8	51.5	172	50.9	39.6
Respondent	35	55.3	43.4	34	60.5	60.5	18	68.1	80.5
T stat	0.94			-0.73			-0.89		
DF	97.5			137.0			17.9		
Pr > |t|	0.3513			0.4655			0.3843		

Small Pot/Trap

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	199	32.7	4.5	528	34.2	4.1	858	34.3	3.9
Respondent	96	33.8	3.3	128	34.6	3.8	60	34.1	4.1
T stat	-2.45			-1.14			0.35		
DF	244.7			654.0			916.0		
Pr > |t|	0.0149*			0.2534			0.7245		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	199	12.6	5.9	527	13.5	6.2	858	14.3	6.1
Respondent	96	12.6	5.6	128	14.2	6.0	60	13.4	5.8
T stat	0.04			-1.17			1.14		
DF	293.0			653.0			916.0		
Pr > |t|	0.968			0.2423			0.2553		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	199	292.2	118.1	527	314.0	125.4	858	317.1	118.8
Respondent	96	290.3	109.8	128	307.9	128.2	60	292.8	114.9
T stat	0.13			0.49			1.54		
DF	293.0			653.0			916.0		
Pr > |t|	0.8976			0.6243			0.1243		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	199	21.2	10.9	528	21.1	10.7	858	24.0	10.7
Respondent	96	21.9	11.1	128	21.0	11.4	60	24.3	9.8
T stat	-0.49			0.08			-0.16		
DF	293.0			654.0			916.0		
Pr > |t|	0.6250			0.9352			0.8699		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	40	22.3	16.9	107	23.0	18.0	159	26.7	17.4
Respondent	21	19.8	16.3	31	28.0	17.1	12	23.5	17.3
T stat	0.55			-1.37			0.61		
DF	59.0			136.0			169.0		
Pr > |t|	0.5846			0.1731			0.5426		

Large Trawl

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	68	75.0	13.5	64	79.4	14.6	90	76.9	15.3
Respondent	33	77.0	12.4	22	74.3	7.9	7	68.5	4.1
T stat	-0.72			2.07			3.79		
DF	99.0			68.2			24.6		
Pr > |t|	0.4723			0.0421*			0.0009*		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	68	120.1	55.4	64	135.3	39.2	90	132.5	50.1
Respondent	33	132.1	43.2	22	124.0	34.0	7	110.4	37.6
T stat	-1.08			1.21			1.14		
DF	99.0			84.0			95.0		
Pr > |t|	0.2808			0.2312			0.2582		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	68	643.7	483.2	64	671.6	387.6	90	679.3	473.2
Respondent	33	731.1	450.1	22	599.8	256.8	7	506.4	160.9
T stat	-0.87			0.98			2.20		
DF	99.0			55.4			16.3		
Pr > |t|	0.3858			0.3302			0.0428*		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	68	29.2	9.1	64	29.3	9.6	90	33.5	8.7
Respondent	33	33.4	11.1	22	31.3	7.6	7	32.7	5.2
T stat	-2.03			-0.85			0.24		
DF	99.0			84.0			95.0		
Pr > |t|	0.0455*			0.3979			0.8118		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	67	119.3	57.3	61	126.8	67.1	88	135.5	53.5
Respondent	31	132.9	66.8	22	149.0	63.6	6	113.2	62.0
T stat	-1.03			-1.35			0.98		
DF	96.0			81.0			92.0		
Pr > |t|	0.3038			0.1802			0.3299		

Small Trawl

Characteristic	*2011*			*2012*			*2015*		
Length	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	72	45.4	8.1	100	44.5	8.3	140	47.0	7.7
Respondent	28	46.9	7.3	12	47.0	8.1	9	50.4	7.9
T stat	-0.90			-1.00			-1.27		
DF	98.0			110.0			147.0		
Pr > |t|	0.3729			0.3191			0.2061		
Gross Tonnage	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	72	32.6	18.4	100	28.1	18.0	140	34.8	18.1
Respondent	28	31.1	12.9	12	35.3	15.6	9	39.6	18.6
T stat	0.46			-1.34			-0.76		
DF	70.1			110.0			147.0		
Pr > |t|	0.6497			0.1823			0.4507		
Horsepower	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	72	340.2	114.2	100	330.3	117.6	140	338.0	99.7
Respondent	28	326.3	122.6	12	301.5	70.2	9	295.6	103.2
T stat	0.54			83.00			1.24		
DF	98.0			110.0			147.0		
Pr > |t|	0.5931			0.4096			0.2181		
Vessel Age	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	72	30.9	13.8	100	27.1	12.2	140	32.3	11.6
Respondent	28	32.0	17.3	12	29.2	15.2	9	47.1	15.9
T stat	-0.34			-0.54			-3.61		
DF	98.0			110.0			147.0		
Pr > |t|	0.7328			0.5933			0.0004*		
Days Absent	N	Mean	St. Dev	N	Mean	St. Dev	N	Mean	St. Dev
Nonrespondent	62	36.6	28.5	75	45.6	32.5	121	46.2	40.6
Respondent	28	37.3	25.1	11	42.4	22.9	9	62.8	58.5
T stat	-0.10			0.31			-1.14		
DF	88.0			84.0			128.0		
Pr > |t|	0.9180			0.7559			0.2544		

OMB CONTROL NUMBER: 0648-0643
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Social Sciences Branch
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Woods Hole, MA

Northeast Fishing Vessel Annual Cost Survey for 2011

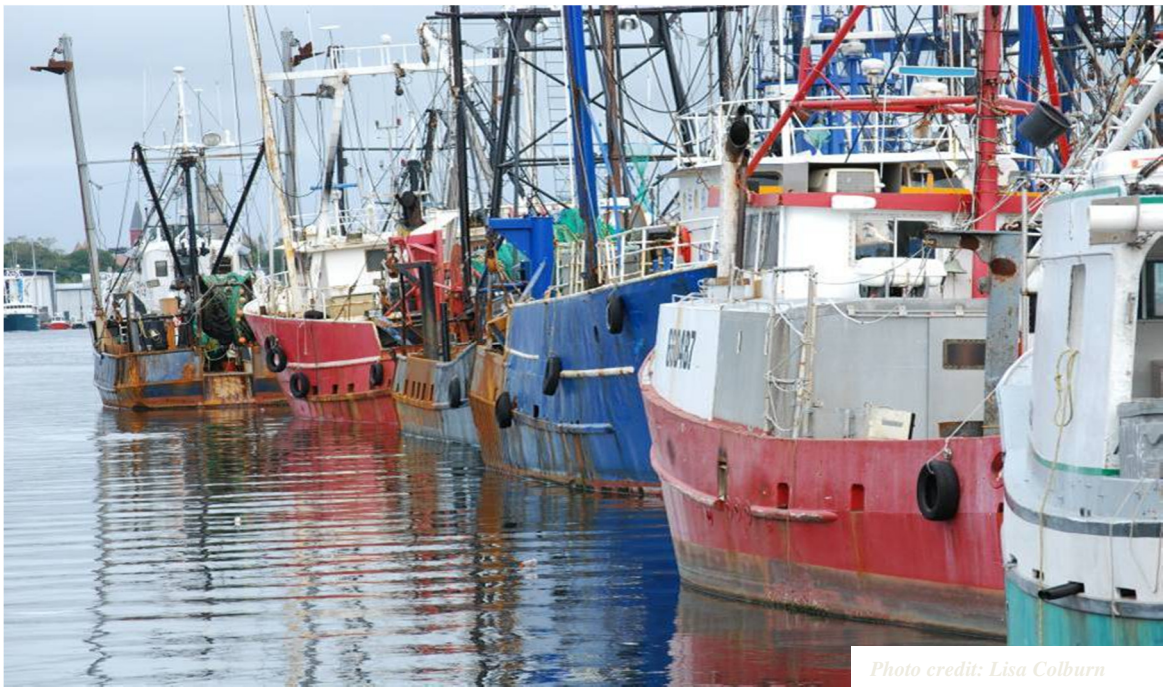


Photo credit: Lisa Colburn

Thank you very much for participating in this important survey! Your responses and experience will help the Social Sciences Branch as we communicate the economic pressures faced by fishing vessel owners to regulatory agencies.

The questions in this survey relate to the following vessel only:

{vessel name}

{12345678} (Coast Guard Documentation or State Registration Number)

You can take this survey online at:	**www.vesselsurvey.org**
Your Password :	**[12345678]**
This is a secure website.	

Your responses and participation in this survey are CONFIDENTIAL. A private contractor, Eastern Research Group, Inc., will collect the data you provide. No one outside their survey team will see the individual surveys.

Questions about the survey? ***Toll-free Survey Helpline: 1-855-314-0779; Email: vesselsurvey@erg.com***

Public reporting burden for this collection of information is estimated to average 60 minutes per survey, including the time for reviewing instructions, 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 suggestions for reducing this burden to Tammy Murphy, NOAA Line office, 166 Water Street, Woods Hole, MA, 02543.

Responses to this information request are confidential under section 402(b) of the Magnuson-Stevens Act as amended in 2006. Responses are also confidential under NOAA Administrative Order 216-100, which sets forth procedures to protect confidentiality of 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.

General Instructions:

- **This survey is about your costs in 2011 for the vessel identified on the cover of this survey.** In your answers, include combined costs for all state and/or federal fisheries for this vessel in 2011, including costs incurred while the vessel was inactive.
- **If you owned more than one vessel in 2011:** Some costs we ask about are general and not tied to one vessel. For these overall costs, please divide the total overall cost by the number of vessels you owned in 2011, and enter that amount.

Please note that all responses are completely confidential.

Section A: Vessel Information

This survey is only about the vessel identified on the cover page of this survey. All costs requested are for 2011.

1. Please describe the ownership type of this vessel by checking the appropriate box in 1(a) and/or 1(b):

1a). Vessel Ownership Type (*check one*):

A. Sole proprietorship ☐
B. General partnership ☐
C. Limited partnership ☐
D. Corporation ☐
E. Other ☐ _____

1b). If you checked "D" (corporation), please check which type of corporation:

C corporation ☐
S corporation ☐
Limited Liability Corporation (LLC) ☐
Other ☐ _____

2. Please list the number of owners: _____

3. Was this vessel acquired from a previous owner or was it bought new?
   Acquired from a previous owner ☐ New ☐

4. In what calendar year did you acquire the vessel? _____

5. Please estimate the market value of your vessel **at this point in time** including all equipment, fishing gear, **permits**, and fishing history. (Note: This estimate should be based on your best assessment of the most someone else would be willing to pay for your vessel. **The estimate should not be based on what you paid for the vessel, how much you owe, or what you would like to receive for the vessel**).

   $ _____

Section B: Repair/Maintenance/Upgrade/Improvements Costs

6a). Was this vessel hauled out in 2011 for any reason? (Possible reasons include regular repair and maintenance, emergency haul-out, long term storage, etc.)

Yes ☐ No ☐ [If No, please go to 6c.]

6b). If yes, what was the cost of the haul-out (the cost for taking the vessel in and out of the water and for any transportation)? If hauled out for repair/maintenance, **do not include the actual repair/maintenance costs.** You will record these in question 7 below.

$ _____

6c) .What is the typical haul-out frequency for this vessel?

☐ Every year ☐ Every other year ☐ Every ____years ☐ Every ____months

☐ Other (please describe) _____

7. Please record any repair/maintenance and upgrade/improvement costs that were made to the vessel in year 2011 in the table on the next page.

Instructions:

- For each category listed in the first column of the table below, indicate whether you spent any amount by checking the "Yes" box and listing the amount spent in the blank space in the appropriate column.
- If you did not have an expense in 2011, then check the "No" box.
- Describe the upgrade/improvement in the assigned row for each cost category.
- Include the cost of any tools and equipment you may have purchased.

Note: You may find some of these expenses listed on your 2011 tax form, Schedule C.

We are aware that these kinds of costs may vary significantly year to year. However, ***this survey is about 2011 expenses only.***

	*Please use your best judgment to assign your expenses to either repair/maintenance or upgrade/improvement. **Do not** report the same cost under both types of expenses.*	
Expense Category	**Annual Amount Spent in 2011 on Regular Repair/Maintenance**	**Annual Amount Spent in 2011 on Upgrades/Improvements**
Propulsion Engine (such as engine, drive train, exhaust/cooling systems)	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
	Describe Upgrade/Improvement:	
Deck equipment/other machinery (such as winches, haulers, generators, hydraulics, compressors, reels, pumps)	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
	Describe Upgrade/Improvement:	
Hull (such as frame, deck, wheelhouse, keel, steering, rigging, fish holds, fuel tanks)	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
	Describe Upgrade/Improvement:	
Fishing Gear (such as Codends, nets/panels, dredges, buoys, highfliers, doors, pots/traps, cables)	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
	Describe Upgrade/Improvement:	

Wheelhouse and gear electronics (such as Radar, GPS, VMS, sounder, radio, depth/temperature/net sensors)	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
	Describe Upgrade/Improvement:	
Processing/Refrigeration (such as RSW, packaging equipment, icemaker)	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
	Describe Upgrade/Improvement:	
Safety equipment (such as EPIRB, rafts, fire extinguishers, flares, survival suits)	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
	Describe Upgrade/Improvement:	

Section C: Fishing Business Related Costs

8. For each category listed in the table below, indicate whether you spent any amount by checking the "Yes" box and listing the total amount spent in 2011 in the blank space. If you did not have an expense in 2011, then check the "No" box.

Note: *If you own multiple vessels, certain costs may need to be divided among vessels. Please record the annual costs associated with this vessel only.*

Mooring/Dockage Fees for this vessel in 2011 (including upkeep expenses): ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	**Workshop/Storage Expenses** for this vessel in 2011 (such as gear shed rental, workshop expense): ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
Office Expenses for this vessel in 2011 (such as office supplies, office rental, home office, office utilities (electric, heat etc.), postage, photocopying, computer etc; exclude communication costs): ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	**Permit and/or License fees** for this vessel in 2011: ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
Business Vehicle Usage Costs in 2011for this vessel only (for fishing business related purposes only; such as, number of miles the vehicle was used for business multiplied by a standard mileage rate): ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	**Business Travel Costs** in 2011 for this vessel only (such as cost of lodging, travel, and transportation for business associated travel **excluding business vehicle costs**): ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00
Association Fees Paid in 2011 for this vessel (such as co-operative, fishing organization, sector fees, union dues): ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00	**Professional Fees Paid** in 2011 for this vessel (such as settlement, accounting, legal fees): ☐ Yes; $___ ___ ___, ___ ___ ___.00 ☐ No; $0.00

Vessel Insurance Premium in 2011 for this vessel (premium paid for either hull or P & I insurance):

☐ Yes; $___ ___ ___, ___ ___ ___.00

Number of months insured: ___ ___

☐ No; $0.00

Quota or DAS lease in 2011 for this vessel (if non-monetary payments were used to obtain quota or DAS, please estimate the value of those non-monetary payments):

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No; $0.00

Principal Paid on Business Loans in 2011 for this vessel only (enter only payment made, *not* the amount owed):

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No; $0.00

Interest Paid on Business Loan for this vessel in 2011:

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No; $0.00

Vessel Activity/Quota Monitoring Costs for this vessel in 2011 (such as observer or dock side monitoring costs):

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No; $0.00

Advertising Costs for this vessel in 2011:

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No; $0.00

Total Payments to Crew and Hired Captain in 2011 for this vessel only (do not include what you, as the owner, keep as the boat's share):

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No; $0.00

Crew Benefits for this vessel in 2011
(the cost to you, as the vessel owner, for providing retirement benefits; health, life, or disability insurance premiums; and unemployment insurance for your crew):

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No; $0.00

Non-crew Labor Services for this vessel in 2011 (such as: night watchman, office secretary etc.):

☐ Yes; $___ ___ ___, ___ ___ ___.00

Describe: _____

☐ No; $0.00

Section D: Operating Costs

9. For each expense category listed in the table below, indicate whether you spent any amount by checking the "Yes" box and listing the **ANNUAL** amount spent in 2011 in the blank space. If you did not have an expense, then check the "No" box.

   Please enter the total amount spent in each category, irrespective of whether it was paid by you or the crew.

   We are aware that these kinds of costs may vary significantly year to year. ***Please bear in mind that this survey is about 2011 expenses only.***

Fuel for this vessel in 2011: ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ; ☐ I don't know	**Food and drinking water** for this vessel in 2011: ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know
Ice for this vessel in 2011: ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know	**Bait** for this vessel in 2011: ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know
Fresh Water for use in this vessel in 2011: ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know	**Communication Costs** (such as: cell phones, radio etc.) for this vessel in 2011: ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know
General Fishing Supplies for this vessel in 2011 (such as: knives, picks, hooks, boxes, bags, ties, lobster bands, rags, tape, links/rings, lines/twine etc.): ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know	**General Crew Supplies** for this vessel in 2011(such as: gloves, boot liners, foul weather gear etc.): ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know
Catch handling costs for this vessel in 2011(such as: auction, lumping, grading, shipping etc): ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know	**Other costs** for this vessel in 2011: ☐ Yes; $_ _, _ _ _,_ _ _.00 ☐ No; $0.00 ☐ I don't know

Section E: Typical Crew Payment System

10a). Did you hire a captain for the majority of this vessel's trips in 2011, or were you the captain for most trips?

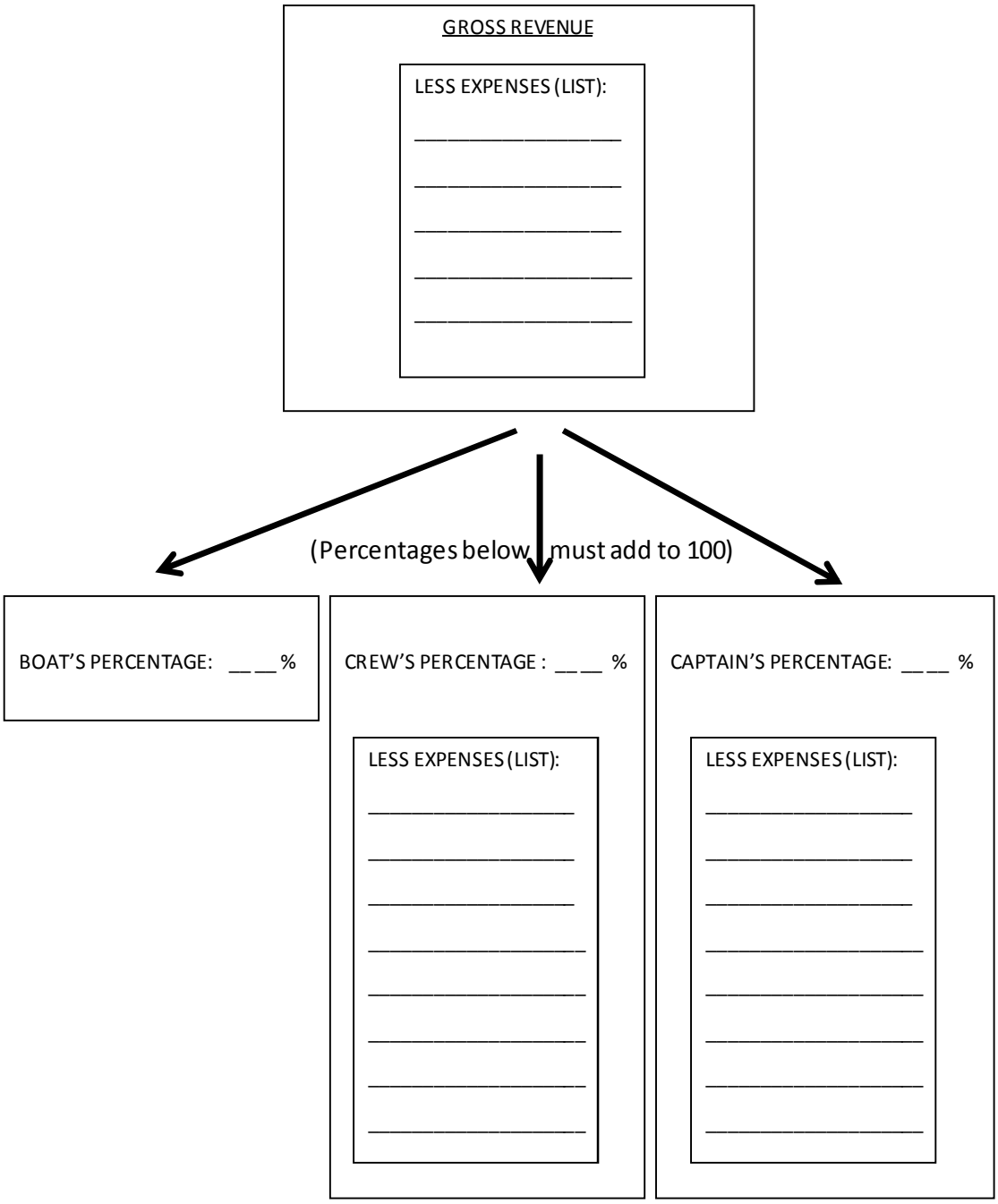
☐ Owner-operated ☐ Hired captain ☐ Other _____

10b). Excluding the captain, what is the size of the crew (on average) in the fishery you participated?

_____ crew members

IF YOU ARE AN OWNER/OPERATOR AND HAVE NO CREW, PLEASE SKIP TO QUESTION 11. OTHERWISE, PLEASE CONTINUE WITH QUESTION 10C.

10c). Please use the diagram **on the next page** to indicate the crew payment system you typically use (or use for your primary fishery) to describe how your crew is paid. Use the diagram to provide information on the expenses that are typically taken out of gross revenue, net revenue or crew's share. You only need to list the *type* of expenses deducted (for example: "fuel", "ice", "food"); you do not need to list the cost.


GROSS REVENUE
LESS EXPENSES (LIST):
_____
_____
_____
_____
_____
(Percentages below must add to 100)
BOAT'S PERCENTAGE: __ __ %
CREW'S PERCENTAGE : ___ %
LESS EXPENSES (LIST):
_____
_____
_____
_____
_____
_____
_____
_____
CAPTAIN'S PERCENTAGE: ___ %
LESS EXPENSES (LIST):
_____
_____
_____
_____
_____
_____
_____
_____

10d). Please list the *types* (not the cost) of items crew members purchase for themselves and are NOT part of the crew payment system (these expenses would not be included in the diagram above). Examples include: “food on day boats”, “foul weather gear”, “gloves”, etc.

_____ _____

_____ _____

_____ _____

NOTE: If the diagram displayed in the above is not appropriate for your crew payment system, please use the space below to describe your crew payment system.

Section F: Other 2011 *Annual* Costs for this vessel (not listed in previous sections)

11. Please record costs here that you have incurred in 2011 but **have not reported elsewhere in this survey** (Please do not report your personal costs).

Cost	Description of other annual costs
$ _____	_____
$ _____	_____
$ _____	_____

12. While not typically a business expense, personal health insurance (the cost of the insurance premium **you** pay for your and/or your family's health insurance) can be a significant expense for fishing families. Please answer below if you have spent any amount on personal health insurance cost in 2011:

☐ Yes; $___ ___ ___, ___ ___ ___.00

☐ No, I (and my family) don't have health insurance; $0.00

☐ No, I am covered by my spouse's/partner's plan; $0.00

Thank you for your response. Please use the space below and the next page to provide additional information or comments.

Comments

Northeast Vessel Annual Cost Survey hits the mail on August 10th, 2012

The Northeast Vessel Annual Cost Survey is being conducted by the Social Sciences Branch in the Northeast Fisheries Science Center in Woods Hole, Massachusetts. This survey is driven by the need for economic data on the total costs of operating commercial fishing businesses. The Social Science Branch needs to understand the total costs to fishermen to maintain their fishing businesses, and communicate this information to decision makers in fisheries management. In addition to trip cost information collected by observers, annual costs (for example, hull insurance, gear, monitoring, repair and upgrade costs) need to be considered in the decision-making process. The survey will be sent to commercial fishing vessel owners in the Northeast across fisheries, gear types, and vessel sizes to capture how these costs may vary among vessel owners. This economic data will be collected over time, and used in many of the frameworks and amendments to fishery management plans, to provide a more complete picture of economic impacts from regulatory actions in the fisheries. Approximately 1700 permit holders in the Northeast will receive the survey. The survey will be mailed on August 10, 2012 and may be returned by mail or filled out online. Permit holders will receive instructions on how to request survey materials in Portuguese or Spanish.

The NOAA FISHERIES NAVIGATOR

NOAA Fisheries Considering Increasing Opportunities to Sustainably Harvest Swordfish

In a few months, complying with swordfish minimum size requirements might be a little easier. NOAA Fisheries Service recently proposed a new minimum size measurement. The proposed change would mean that dressed swordfish (gutted with the head and tail removed) could be retained as long as the cleithrum-to-caudal-keel (CK) measurement is 25" or greater, which is 4" smaller than the current CK minimum size.

This smaller CK size is not a reduction in the swordfish minimum size. Rather, it is a size that more closely equates to the existing lower jaw-fork length (LJFL) measurement.

Currently, US fishermen must ensure that swordfish measure at least 47" LJFL if the head is attached to the body or 29" CK if the head has been removed. In most instances, swordfish meet both of these minimum sizes. But, there are some cases when a fish meets only one.

Just like people, swordfish come in all shapes and sizes: short, squat fish; long, lean fish; and everything in between.

Some swordfish that measure 47" LJFL might measure less than 29" CK. In order to legally retain a swordfish that meets the LJFL measurement but not the CK measurement, the head must remain attached to the body.

This does not present a problem if a fishermen wishes to leave the head on the fish, as is the case for many recreational anglers, but it can create complications if a fishermen does not need or want the head. This is particularly true in the commercial fishery where packing the fish well in ice is essential since the fish are going to be sold for consumption by the general public.

That is where the new 25" CK minimum size comes in. The new 25" CK is an equivalent measurement for a greater number of 47"LJFL swordfish than the current 29" CK minimum size.

Consequently, fishermen would rarely need to keep the head on a swordfish to prove that it meets the minimum size, simplifying compliance and increasing fishing and storage efficiency.

Simplifying enforcement and compliance could lead to an increase in the number of fish retained, but NOAA Fisheries expects that this increase would be modest and well within the minimum size requirements established by the International Commission for the Conservation of Atlantic Tunas.

And, the best part is that all of these benefits can be realized without impacting the sustainability of the North Atlantic swordfish fishery. This measure, if implemented, would not reduce the scientifically determined minimum size for swordfish and would continue to ensure a sustainable harvest.

Total landings also would continue to be constrained by the allocated quota. Modifying the CK measurement for dressed swordfish really could be a win-win situation for fishermen and swordfish. The 25" CK minimum size may become effective later this year.

Amendment 8

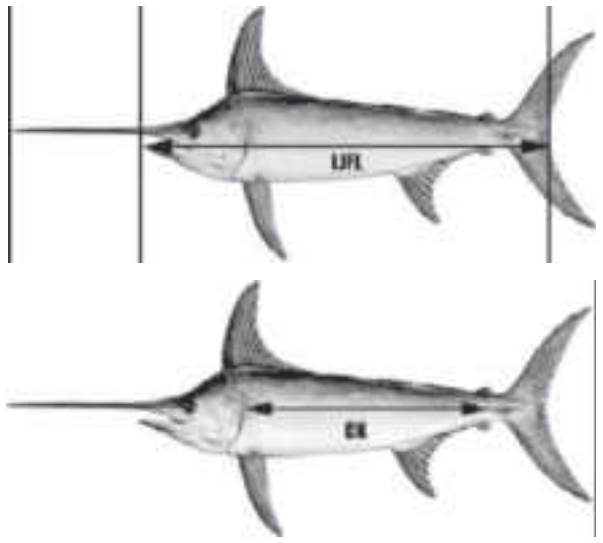
NOAA Fisheries also is considering changes to the 2006 Consolidated Highly Migratory Species (HMS) Fishery Management Plan (FMP) through Amendment 8 to the HMS FMP that would provide additional opportunities to sustainably harvest swordfish.

In recent years, the North Atlantic swordfish stock has experienced significant growth due largely to ongoing domestic and international conservation measures designed to reduce mortality, protect juvenile swordfish, monitor international trade, reduce bycatch, and improve data collection. The 2009 ICCAT stock assessment found the North Atlantic swordfish population to be fully rebuilt and that overfishing is no longer occurring.

Although NOAA Fisheries' fishery revitalization efforts and the increased availability of fish due to stock rebuilding have resulted in a 40% increase in domestic catch since 2006, additional revitalization action may be necessary.

As the swordfish stock rebuilds, more fish recruit to larger sizes, which increases the economic viability of gears with lower bycatch interaction and post-release mortality rates (e.g., handgear such as rod and reel, handline, bandit gear, and harpoon). Amendment 8 considers establishing a new swordfish permit to increase access by these gear types.

The HMS Advisory Panel reviewed a predraft of a possible amendment in March 2012. The predraft and



the AP presentation can be found online under "Day 2 meeting materials" at <www.nmfs.noaa.gov/sfa/hms/Advisory%20Panels/AP2012/Spring/Agenda.htm>.

The predraft presents a range of options that could be considered in the creation of this new permit. Advisory panel members provided thoughtful feedback that will be incorporated into alternatives for a proposed rule, which is expected to be published later this summer.

NOAA Fisheries is still considering next steps for the proposed rule, and we encourage interested individuals to share their thoughts on the predraft.

Please call Rick Pearson or Randy Blankinship at (727) 824-5399 for more information on Amendment 8. For information on Amendment 8 or the new swordfish minimum size, please call (301) 427-8503.

Watch for Socio-economic Surveys this Summer

Last year, NOAA economist Drew Kitts and his colleagues at the Northeast Fisheries Science Center (NESC) reported on fishery revenues and employment for one segment of the Northeast commercial fisheries –groundfish. Despite being the most detailed look yet at an ongoing fishery's performance, the results left many wanting more.

What was missing?

"The people," said Matt McPherson. "It's as simple and as complicated as that. To truly understand and measure fishery performance, we need more than trip revenue, effort, costs, and employment, and we don't have it right now."

McPherson leads the NEFSC Social Science Branch. This team has been working toward comprehensive evaluations of fishery performance for about three years. To make comprehensive evaluations, they need to fill the data gaps by getting better information on fishery businesses, communities, income, and attitudes across the region and across all fisheries.

Tammy Murphy is the NEFSC's point person on the multi-year effort, which includes a series of surveys that will start this summer.

"Telling us more about your situation will be voluntary," said Murphy. "Collecting this information is absolutely essential to showing how fisheries and fishermen are faring as management and fishery stock conditions change."

NOAA Fisheries Service now collects some financial information and a bit of social data from vessel owners, but there's nothing on either for crew. Because the data gaps and ways of connecting with owners and crew differ, two different surveys for social and economic

See SURVEYS, next page

THIS SUPPLEMENT PROVIDED BY NOAA FISHERIES SERVICE'S NORTHEAST REGIONAL OFFICE

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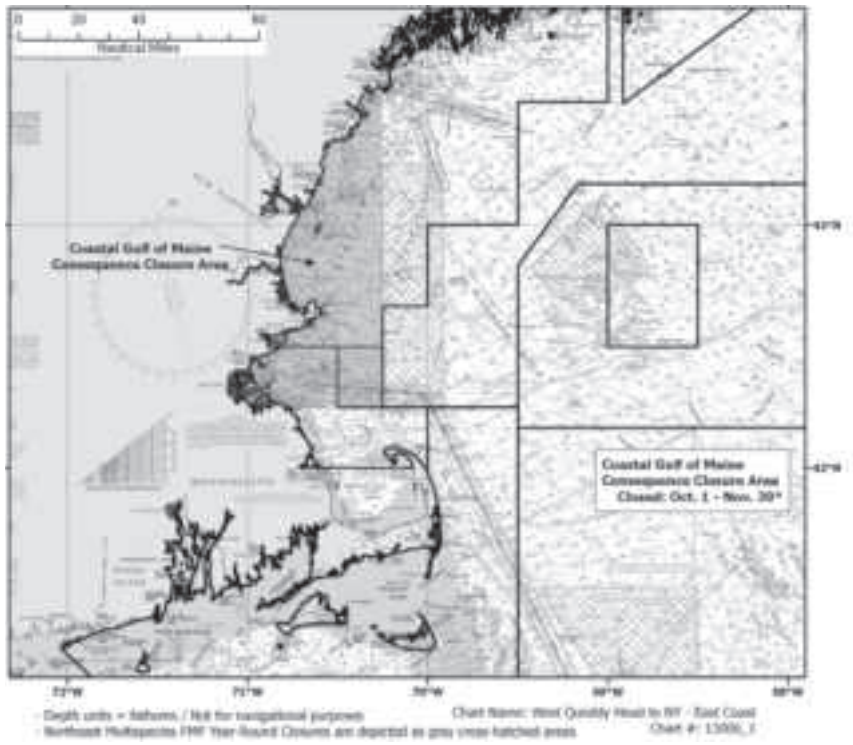
High Rate of Harbor Porpoise Take Results in Fall GOM Gillnet Closure

In 2010, NOAA Fisheries Service implemented a "consequence closure" strategy to ensure compliance with the Harbor Porpoise Take Reduction Plan's (TRP) pinger requirements.

The plan aims to reduce harbor porpoise bycatch in gillnets through a variety of measures. Consequence closure areas are specific areas of historically high levels of harbor porpoise bycatch that seasonally close if the average bycatch rates over two consecutive management seasons in surrounding management areas exceed a specified rate.

Under the TRP, if the combined harbor porpoise bycatch rate in the three Gulf of Maine management areas – Mid-Coast, Massachusetts Bay, and Stellwagen Bank – exceeds 0.031 harbor porpoises per metric ton of fish landed after two consecutive management seasons, the Coastal Gulf of Maine Consequence Closure Area will be closed to gillnet fishing each year during the months of October and November.



Please note that this figure depicts the location of Coastal Gulf of Maine Consequence Closure Area. This closure area will be in effect from Oct. 1, 2012 through Nov. 30, 2012 and will remain in effect annually during this timeframe until further notice.

The 0.031 figure is equivalent to one harbor porpoise take per 71,117 pounds of fish landed.

NOAA Fisheries Service recently completed the analysis of the bycatch rates for these areas for the first management season, which was September 2010 through May 2011, and determined that the bycatch rate for the Coastal Gulf of Maine Consequence Closure Area exceeded the target rate.

In fact, the bycatch rate in the Coastal Gulf of Maine Consequence Closure Area for that time period was more than *twice* the target bycatch rate.

Therefore, it was so high that the two-season average – September 2010 through May 2011 season and September 2011 through May 2012 season combined – cannot be reduced below the target bycatch rate for this area, even if no harbor porpoises are observed captured during the second season.

As a result, beginning Oct. 1, 2012 through Nov. 30, 2012, the Coastal Gulf of Maine Closure Area closure will be in effect and will remain in effect annually during October and November each year until further notice.

Other areas

For the Southern New England Management Area, the TRP further specifies that a harbor porpoise bycatch rate of over 0.023 harbor porpoises per metric ton landed – equivalent to one harbor porpoise take per 95,853 pounds of fish landed – after two consecutive management seasons will result in the closure to gillnet fishing of both the Cape Cod South Expansion Consequence Closure Area and the Eastern Cape Cod Consequence Closure Area each year from February through April.

Low compliance with pinger requirements is the primary cause of high harbor porpoise bycatch rates.

The bycatch rate for the Eastern Cape Cod and Cape Cod South Expansion Consequence Closure Areas has not exceeded the target rate, therefore, this consequence closure area will not be implemented at this time. A second analysis of bycatch rates for this area will be conducted at the end of the 2012 management season.

Low compliance with pinger requirements is the primary cause of high harbor porpoise bycatch rates. We urge gillnetters to comply with pinger requirements by using the appropriate number of functional pingers to prevent the implementation of additional closure areas, which will be required if harbor porpoise bycatch levels remain too high.

We would be happy to review the pinger requirements with you, and let you know how to determine whether or not your pingers are working properly.

For more information, please visit the Harbor Porpoise Take Reduction Plan website at <www.nero.noaa.gov/hptrp> or call the Northeast Regional Office Protected Resources Division at (978) 281-9328.

Surveys

Continued from previous page

data collection have been developed – one for each.

About 800 owners will get the survey, which will be sent and responded to by mail. It will be available in English, Spanish, and Portuguese. The crew survey will be conducted face-to-face on the docks with about 1,300 willing participants. It will continue for a year to capture seasonality and port diversity.

Survey responses are considered confidential data, just like vessel trip, observer, and dealer reports.

Much of the data collection is new, so Murphy is hoping for a high return rate.

"The more responses we get, the more accurate our results can be," she said.

Monthly updates

An annual vessel cost survey for vessel owners, last conducted in 2009, has been significantly redesigned with the help of fishermen. It also will be distributed to gather more detailed cost information across different fisheries, gear types, and vessel sizes than that collected by fishery observers. About 1,600 vessel owners will receive it by mail.

Aside from natural reluctance to provide detailed information on our lives to the government, we're also awash in surveys. A quick Google search for "take our survey" nets more than 43 million hits in a fraction of a second. McPherson and his group understand that these dynamics present a challenge.

"We have been talking to fishermen and have heard that they've taken other surveys but have not been kept informed about what happens to the data collected or how they are used" he said. "We are listening, and we are working hard to do a better job."

The NEFSC Social Sciences Branch intends to post monthly updates about the surveys on its website and to send a final report on the results to all participants.

"Fishermen have told us that our analyses do not reflect the complete story of the economic and social effects of fisheries regulations on fishermen, ports, and communities," said Murphy. "If you believe that the cost of running a fishing business and factors like family well-being, job satisfaction, and access to health insurance should be part of story when policy decisions are made, then tell us the story'" she said. "We need the story directly from the people who are living it."

For more information, call Tammy Murphy at (508) 495-2054 or e-mail her at <tammy.murphy@noaa.gov>.

Changes Implemented for the Northeast Small-Mesh Fishery

NOAA Fisheries Service has implemented a final rule affecting the small-mesh multispecies fishery. The measures that became effective on May 1, 2012 establish annual catch limits and accountability measures for silver hake, red hake, and offshore hake.

The specific measures include:

- A stock area-wide acceptable biological catch;
- Annual catch limits and total allowable landings (TAL) limits for the four stocks of small-mesh multispecies – northern red hake, northern silver hake, southern red hake, and southern silver and offshore hake combined;
- An in-season accountability measure that would be triggered if 90% of the TAL is reached and would reduce the possession limit of red hake to 400 pounds and the possession limit of silver and offshore hake combined to 1,000 pounds; and
- A pound-for-pound payback if an annual catch limit is exceeded.

These regulations were put in place by NOAA Fisheries Service. The New England Fishery Management Council is nearly finished with an additional action that will impact the small-mesh multispecies fishery. We expect the council to adopt the overall catch limit structure, but some of the measures may be changed in Amendment 19 to the Northeast Multispecies Fishery Management Plan.

The council is proposing to increase the incidental possession limit to 2,000 pounds for silver hake and offshore hake combined for both stock areas. It also is recommending a 5,000-pound year-round possession limit for both stocks of red hake.

The council prefers a yearly stock-wide TAL in the southern area, but it would switch to a quarterly system if two-thirds of a TAL were harvested in a year so that landings will be evenly distributed throughout the year.

Instead of the "pound-for-pound" payback that would occur if the annual catch limit is exceeded, the council proposes to reduce the incidental possession limit trigger – currently 90% – by the same percentage that the limit was exceeded. That is, if the annual catch limit is exceeded by 5% in one year, the incidental possession limit trigger for a later year would be 85%.

Lastly, to improve catch monitoring, the council is proposing to require vessel owners fishing for small-mesh multispecies to send in vessel trip reports on a weekly basis instead of monthly.

Also, a measure was added in April that would increase the combined possession limit for silver hake and offshore hake from 30,000 pounds to 40,000 pounds for vessels using mesh that is 3" or larger in the southern area. This measure will be discussed and voted on at the June 2012 council meeting in Portland, ME.

For more information, call Moira Kelly, Sustainable Fisheries Division, at (978) 281-9218 or e-mail her at <moira.kelly@noaa.gov>.

FW 47 Sets New Groundfish Catch Limits, Management Measures for '12

Last year, NOAA Fisheries Service supported efforts to pass new legislation that provides more flexibility in setting annual catch limits for groundfish stocks shared with Canada.

We implemented emergency measures in 2011 for Georges Bank yellowtail flounder so fishermen could immediately benefit from the legislation. As a result, Framework 47 to the Northeast Multispecies Fishery Management Plan extends the rebuilding timeframe for Georges Bank yellowtail flounder to 2032, enabling a more gradual rebuilding strategy and providing better fishing opportunities.

The new measures also give groundfish fishermen more opportunities to catch Georges Bank yellowtail flounder. If the scallop fishery does not catch its entire quota of Georges Bank yellowtail flounder, any remaining quota can be transferred to the commercial groundfish fishery. Any additional groundfish quota will be divided between sectors and the common pool fishery, which may help minimize some of the impacts of the reduced 2012 Georges Bank yellowtail flounder allocation.

Framework 47 removes some gear-restricted areas for common pool vessels that are no longer needed. Beginning in 2010, common pool vessels were required to use selective gear in certain areas in Southern New England and on Western Georges Bank. Removing these gear restrictions gives common pool vessels more flexibility and may result in greater landings of some groundfish stocks that are currently underutilized by the common pool fishery.

The accountability measures for several groundfish stocks that are not currently allocated to sectors also were revised. Gear-restricted areas were established for sector and common pool vessels if the total catch limit is exceeded for windowpane flounder or ocean pout. In addition, if the total catch limit for Atlantic halibut is exceeded, possession of this stock will be prohibited for sector and common pool vessels. These measures apply to all commercial groundfish vessels.

Further, a number of increased fishing opportunities were created for the Atlantic sea scallop fishery. Because the scallop fishery is restricted by a yellowtail flounder annual catch limit, Framework 47 removes the cap on the amount of yellowtail flounder that can be caught in the scallop access areas. Also, the amount of yellowtail flounder that can be caught before an accountability measure is triggered for the scallop fishery was increased.

Use of the mid-size Ruhle trawl also was approved to enable smaller groundfish vessels to reduce bycatch of yellowtail flounder and other stocks while targeting other groundfish species.

More information on these changes is available online at <www.nero.noaa.gov/sfd/sfdmulti.html>. You also may call Sarah Heil, NOAA Fisheries Service's Sustainable Fisheries Division, at (978) 281-9257 or e-mail her at <Sarah.Heil@noaa.gov>.

Summary of Framework 47 measures:

- Sets catch limits for 2012-2014 for nine groundfish stocks;
- Sets total allowable catches for three stocks that are managed in cooperation with Canada;
- Extends the Georges Bank yellowtail flounder rebuilding schedule;
- Allows unused Georges Bank yellowtail flounder quota to be transferred from the scallop fishery to the groundfish fishery;
- Revises the accountability measures for six groundfish stocks; and,
- Modifies yellowtail flounder management measures for the Atlantic sea scallop fishery.

Rec Bluefish Quota Shared with Commercial Industry

The Atlantic Bluefish Fishery Management Plan is unique because it allows a transfer of total allowable landings (TAL), or quota, from the recreational sector to the commercial sector.

This tool, available since 2000, provides a way to minimize the adverse economic impact of closing the commercial bluefish fishery when quota is still available in the overall fishery.

Any bluefish quota remaining after the expected recreational harvest is accounted for can be transferred from the recreational to the commercial fishery as long as the final commercial quota does not exceed 10.5 million pounds.

As part of the annual quota setting process, an annual catch limit (ACL) is established and then divided into catch targets for the commercial and the recreational fisheries.

The commercial catch target is 17% of the ACL and the recreational target is 83% of the ACL. Estimated discards in each fishery are then accounted for and deducted from the catch targets to determine the initial commercial and recreational quotas.

For 2012, the initial commercial TAL was 5.447 million pounds, while preliminary recreational total allowable landings equaled 22.819 million pounds.

However, the maximum transfer of 5.052 million pounds was made from the recreational fishery to the commercial fishery, which resulted in a maximum commercial quota of 10.5 million pounds and a recreational harvest limit of 17.767 million pounds.

It was possible to transfer this amount because the resulting recreational harvest limit was greater than the expected recreational harvest for the year.

NOAA Fisheries Service recently published the final 2012 Atlantic bluefish commercial and recreational quotas. The final quotas were adjusted based on updated information on research set-aside landings and state-level quota overages and/or transfers. The final commercial bluefish quota is 10.317 million pounds and the recreational harvest limit is 17.457 million pounds.

For more information, please call Carly Bari of NOAA Fisheries' Sustainable Fisheries Division at (978)-281-9224 or e-mail her at <carly.bari@noaa.gov>.

Northeast Port Biological Sampling Program:

Collecting Critical Stock Assessment Data

Since the 1930s, NOAA Fisheries Service's biological sampling program has been collecting information and materials from fish species landed at ports throughout the Northeast region on a daily basis.

These samples complement information collected through the Northeast Fisheries Science Center (NEFSC) observer and research survey programs by providing data on the ages of landed fish, which helps to determine the stock structure of sampled species.

Samples are collected throughout the year from most species, market categories, gears fished, and stock areas.

Every day, members of our staff, based in port offices from Portland, ME to Hampton, VA, go to seafood dealers, packing companies, and auction houses to measure and collect scales and ear bones from commercially landed fish at the docks.

They work with company floor managers to see what fish is available and from which boats that day. Based on a quarterly listing of desired samples and a list of sampling already completed, the port sampler then collects samples from those stocks needed to complete quarterly requests.

It takes coordination between the dealer and the sampler to move fish around in a way that causes the least disruption and to leave the fish in as marketable a condition as they were before sampling, minus an ear bone or two.

Once a plan for the day has been developed, the sampler measures up to 100 fish and removes age structures – ear bones (otoliths) or scales. They then send the collected parts to the NEFSC to determine the age of the fish measured. The samples and data collected by our staff at the docks are critical for determining the size makeup, age, and relative health of commercially landed fish. These data are used in the stock assessments conducted by the science center.

Measuring cod.

In 2011, our port sampling program collected almost 4,700 samples consisting of 50-100 individual measurements per sample. The samplers also measured at total of 330,000 fish and collected 52,000 age structures.

The sampling design depends on anticipated landings. Therefore, the most commonly landed fish are also the most frequently sampled species. Last year, samples were collected from approximately 40 species with cod, haddock and the flounders among the most commonly sampled.

While the program focuses on fish managed in the Northeast, we recently began working with the Southeast Fisheries Science Center to begin sampling bluefin tuna landed on the North Shore of Massachusetts.

For more information on this program, call Greg Power, Fisheries Data Services Division, at (978) 281-9304 or e-mail him at <greg.power@noaa.gov>.

NOAA Fisheries Begins Bluefin Tuna Scoping

In April, NOAA Fisheries Service announced the start of a public scoping process aimed at gathering input on potential adjustments to the management of the bluefin tuna fishery.

We are considering whether existing measures are the best means of achieving current management objectives and if they will provide the needed flexibility for future management actions.

We hope to identify all of the relevant issues that may be considered in the development of Amendment 7 to the 2006 Consolidated Highly Migratory Species (HMS) Fishery Management Plan (FMP).

The need for a comprehensive review of bluefin tuna management became apparent during another rulemaking process last year when many comments offered by the public indicated broad interest in updating bluefin management.

Some of the issues raised included: holding quota categories accountable for their own dead discards; changing domestic allocations among fishing categories; reducing bluefin tuna bycatch; improving monitoring of catch in all categories; examining time-area closures; and reducing dead discards in the pelagic longline fishery.

The HMS FMP Amendment 7 scoping document, including a description of these and other issues, is available online under the "Recent News" tab at <www.nmfs.noaa.gov/sfa/hms/hmsdocument_files/Tuna.htm>.

Accounting for dead discards is challenging, making the annual quota specification process difficult. Increasing catches, declining quotas, and recommendations of the International Commission for the Conservation of Atlantic Tunas (ICCAT) are factors that have contributed to this challenge.

Recent ICCAT recommendations have had the effect of reducing the amount of unharvested quota that can be carried forward from one year to the next and also have eliminated a separate allowance of total allowable catch for dead discards.

Although we were able to manage the bluefin tuna fishery in recent years without going over the quota, these emerging challenges and issues highlight the need for revised measures to manage bluefin tuna effectively into the future and meet all management objectives and legal requirements. The Amendment 7 scoping process will begin to define approaches to address these challenges.

In May and June, we held public scoping meetings in the geographic areas most likely to be affected by changes to bluefin tuna management measures. These included meetings in Maine, Massachusetts, New Jersey, North Carolina, Florida, and Louisiana.

The deadline for public comment is July 15, 2012. Written comments should be submitted online at <www.regulations.gov>. In the "Search" box, type "NOAA-NMFS-2012-0082" and click "enter." Comments also may be submitted by fax at (978) 281-9340. Or mail comments to: Tom Warren, Highly Migratory Species Management Division, NMFS, 55 Great Republic Drive, Gloucester, MA 01930.

After scoping has been completed and public comment analyzed, we will prepare a draft Environmental Impact Statement (EIS) and proposed rule, which also will be available for public review and comment. The draft EIS will include the range of actions, alternatives, and impacts to be considered in Amendment 7.

The process of developing this fishery management plan amendment is expected to take two years. In addition to future HMS Advisory Panel input, public comment, and future analyses, there are other relevant upcoming events that may impact the development of Amendment 7.

These include: a bluefin tuna stock assessment that will take place this fall; a meeting of the Convention on the International Trade of Endangered Species in the spring of 2013; a revisiting of the "Species of Concern" designation for bluefin tuna under the Endangered Species Act during 2013; and the annual meetings of ICCAT in November 2012 and 2013.

For further information about development of Amendment 7 or to ask questions about how to submit scoping comments, please call Tom Warren at (978) 281-9347 or e-mail him at <thomas.warren@noaa.gov>.

Outreach Efforts for the Cost Survey

December 2011: Meeting with the Commercial Fisheries Research Foundation, Point Judith, RI (Peg Parker and 4 commercial fishermen)

March 2012: Two nights of 2 hour focus group sessions, Providence, RI (Approximately 15 fishermen total)

April 2012:

Meeting with the Northeast Seafood Coalition, Gloucester, MA (Jackie Odell and Vito Giacalone)

Jim Weinberg presented announcements of the SSB data collection efforts in his normal reports to the MAFMC and NEFMC.

May 2012: Two nights of 2 hour focus group sessions, 2 concurrent sessions per night, Portland, ME (Approximately 36 fishermen total)

June 2012:

Presentation on SSB data collection efforts to the MAFMC, abbreviated due to fire at meeting location, New York City. Later recorded webinar, which was placed on MAFMC Website

Presentation on SSB data collection efforts to the NEFMC

July 2012:

Article in the NERO Navigator, Commercial Fisheries News.

Presentation and Webinar at NERO for field staff, Gloucester, MA.

Interview with Don Cuddy, New Bedford Standard Times, on SSB data collection efforts, published in the New Bedford Standard Times and the Cape Cod Times.

August 2012:

NOAA Press Release via Teri Frady

Announcement on Saving Seafood Blog.

Northeast Vessel Annual Cost Survey
Reminder Postcard

Dear {NAME},

Our records indicate that you have not yet returned the Northeast Vessel Annual Cost we sent to you on August 10, 2012. Please complete and return the survey as soon as possible. We need to hear from fishermen across fisheries, gear types and vessel sizes to assess how fishery management policies affect the total cost to you of running your commercial fishing business, and to communicate these impacts to fisheries management decision makers.

If you have already returned the survey, thanks! If not, we encourage you to fill out the survey and return it in the envelope we provided or complete the online survey. The online survey can be accessed via www.vesselsurvey.org. Please contact *** if you need the user ID and password to access the online version. If you have any questions or concerns related to this survey, or ***if you need a replacement survey***, please feel free to contact the toll-free survey hotline at 1-855-314-0779 or email vesselsurvey@erg.com. You can also download a copy of the survey from the web address provided above, and return it in the postage page envelope we provided.

Thank you once again!
The Social Sciences Branch
Northeast Fisheries Science Center

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, Massachusetts

We want to help you tell your story and be heard.

Please Participate in the Northeast Fishing Vessel Annual Cost Survey

Who are we and what do we do?

This survey is being conducted by a team of economists and anthropologists in the Social Sciences Branch of the Northeast Fisheries Science Center in Woods Hole, Massachusetts. The Social Sciences Branch:

- is a part of NOAA Fisheries, but does not have the ability to enact fisheries regulations.
- collects and analyzes economic, social, and cultural data on the people that depend on fisheries for their livelihood and well-being.

How can filling out the survey benefit you, the fisherman?

This spring we've been talking with fishermen in the Northeast. Here's what we've heard:

- past regulatory analysis failed to tell the complete story of the economic and social impacts of fisheries regulations on fishermen, ports and communities.
- fishermen have taken previous surveys, but have not been kept informed as to what happens to the data collected or what reports and analyses the data is used in.
- economic impacts are not considered as heavily as biological impacts.

We need data from fishermen, not only in periods of biological uncertainty and regulatory change, but also routinely and over the long term. Such data allows us to produce better, more complete economic and social analysis.

Stronger, more complete analysis of economic and social data will help fisheries managers to:

- understand the economic and social implications of fisheries management regulations
- recognize how, where and why some measures will have differential impacts on different sectors of the industry, different ports, and different groups of fishermen and fishing communities.
- increase the consideration given to economic and social impacts in regulatory decision-making.
- choose measures that generate the greatest net economic benefits.

Why are we collecting this data? The survey is driven by the need for economic data on the total costs of operating commercial fishing businesses.

- Fisheries observers currently collect costs associated with vessel trips (for example, ice and fuel costs), but…
- We want to accurately represent the total costs associated with your fishing business, so we also need information on your annual costs, such as your repair, insurance, and mooring and dockage costs.

Who are we asking to take this survey?

- Approximately half the owners of federally permitted Northeast U.S. commercial fishing vessels that landed any fish in 2011 (around 1600 vessel owners).
- The sample of fishermen receiving this survey includes fishermen across federally managed fisheries, gear types, and vessel sizes.

Hasn't this data been collected from me before?

Possibly – there were surveys of annual costs in 2006, 2007, 2008. Fishermen participation was low (25% or less) and we cannot accurately represent annual fishing costs across fishermen, fisheries, gear types and vessel sizes with so little data.

We also need data that is up to date, since costs change over time. We've been talking about the survey with groups of fishermen in the Northeast and made what we hope are some positive changes:

- The survey is clearer and easier to fill out.
- You now have the option to return it online via a secure web code.
- We are trying to do a better job of "closing the loop" – of making sure you know what happens to this data and what documents it is used in.

How can I be updated on that data that is being collected and find out how it is being used?

- This survey packet includes a card with the website address for our new Social Sciences Branch website.
- The website will provide monthly updates on the vessel annual cost data that is being collected as well as other Social Science Branch activities.
- The website will describe how the vessel annual cost data is being as time passes. As the data is used in various analyses, we will provide links to those documents on our website.
- You may also request hard copies of any documents.

Is taking the survey voluntary or mandatory? What about confidentiality?

- Responses to this survey are completely voluntary and completely confidential.
- By law, all survey data are confidential. Your responses are NOT being collected for ANY enforcement related purposes.
- In data analyses and reports, the information provided by individual vessel owners will be combined, resulting in a summary of costs by gear type, vessel size, region, etc.
- No individual owner's data will be published or made available to anyone other than those specifically authorized to analyze the data.

Questions or Comments? Please contact Tammy Murphy, an economist in the Social Sciences Branch by telephone at 508.495.2137 or email her at Tammy.Murphy@noaa.gov.

We are listening & we're working hard to do a better job for fishermen..now and in the future.

OMB CONTROL NUMBER: 0648-0643
Expires: 01/13/2015

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, MA

Northeast Fishing Vessel Annual Cost Survey for 2012

Thank you very much for participating in this important survey! Your responses and experience will help the Social Sciences Branch as we communicate the economic pressures faced by fishing vessel owners to regulatory agencies.

The questions in this survey relate to the following vessel only:
[**Vessel name**]
Coast Guard Documentation or State Registration Number: **[12345678]**

You can take this survey on line at:	**www.VesselSurvey.org**
Your Username:	**[12345678]**
Your Password:	**[abc123]**

Your responses and participation in this survey are **CONFIDENTIAL.** A private contractor, Eastern Research Group, Inc., will collect the data you provide.

Questions about the survey? ***Call toll free: 1-800-xxx-xxxx; or email: vesselsurvey@erg.com***

Public reporting burden for this collection of information is estimated to average 60 minutes per survey, including the time for reviewing instructions, 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 suggestions for reducing this burden to Tammy Murphy, NOAA Line office, 166 Water Street, Woods Hole, MA, 02543.

Responses to this information request are confidential under section 402(b) of the Magnuson-Stevens Act as amended in 2006. Responses are also confidential under NOAA Administrative Order 216-100, which sets forth procedures to protect confidentiality of 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.

General Instructions:

- **This survey is about your costs in 2012 for the vessel identified in this survey.** In your answers, include combined costs for all state and/or federal fisheries for this vessel in 2012, including costs incurred while the vessel was inactive.

Please note that all responses are completely confidential.

Section A: Vessel Information

This section is only about the vessel identified in this survey. **All costs requested are for 2012.**

1. Ownership type for this vessel (*check one*):

- ☐ Sole proprietorship
- ☐ General partnership
- ☐ Limited partnership
- ☐ C Corporation
- ☐ S Corporation
- ☐ Limited Liability Company (LLC)
- ☐ Other _____

2. Number of owners, including yourself: _____

3. Was this vessel acquired from a previous owner or was it bought new?

- ☐ Acquired from a previous owner
- ☐ Purchased New

4. In what calendar year did you become the owner of the vessel? _____

5. Current estimated market value* of this vessel, including all equipment, fishing gear, permits, and fishing history: $ _____

*Note: By "market value," we mean your estimate of the best price you could reasonably expect to get if you sold the vessel, equipment, gear, permits, and fishing history right now.

Section B: Repair/Maintenance/Upgrade/Improvements Costs

6a. Was this vessel hauled out in 2012 for any reason? (Possible reasons include regular repair and maintenance, emergency haul-out, long term storage, etc.)

- ☐ Yes
- ☐ No [please go to 6c]

6b. What **were the haul-out costs in 2012, including taking the vessel out of the water and any transportation?** *(Do not include any repair/maintenance costs – we'll ask you for them in question 7.)*

Haul out cost in 2012: $ _____

6c. How often do you usually haul out this vessel?

- ☐ Every year
- ☐ Every other year
- ☐ Every ____years
- ☐ Every ____months
- ☐ Other (please describe) _____

7. Please record any repair/maintenance and upgrade/improvement costs for this vessel in year 2012 in the table on the next page.

Instructions:

- For each category in column 1, record your 2012 repair/maintenance costs for this vessel in column 2, and 2012 upgrade/improvement costs in column 3.
- You may find some of these expenses listed on your 2012 tax form, Schedule C.
- Describe the upgrade/improvement in the assigned row for each cost category.
- Include the cost of any tools and equipment you may have purchased.
- If you did not have an expense in 2012, then check $0.

We know that these kinds of costs may vary significantly year to year. However, ***this survey is about 2012 expenses only.***

7.	*Please use your best judgment to assign your expenses to either repair/maintenance or upgrade/improvement.* ***Do not report the same cost under both types of expenses.***	
Expense Category	**Regular Repair/Maintenance, 2012**	**Upgrade/Improvements, 2012**
Propulsion Engine (such as engine, drive train, exhaust/cooling systems)	$_____ ☐ $0	$ _____ ☐ $0
	Describe Upgrade/Improvement:	
Deck Equipment/ Other Machinery (such as winches, haulers, generators, hydraulics, compressors, reels, pumps)	$_____ ☐ $0	$_____ ☐ $0
	Describe Upgrade/Improvement:	
Hull (such as frame, deck, wheelhouse, keel, steering, rigging, fish holds, fuel tanks)	$_____ ☐ $0	$_____ ☐ $0
	Describe Upgrade/Improvement:	
Fishing Gear (such as codends, nets/panels, dredges, buoys, highfliers, doors, pots/traps, cables)	$_____ ☐ $0	$_____ ☐ $0
	Describe Upgrade/Improvement:	

7.	*Please use your best judgment to assign your expenses to either repair/maintenance or upgrade/improvement.* ***Do not report the same cost under both types of expenses.***	
Expense Category	**Regular Repair/Maintenance, 2012**	**Upgrade/Improvements, 2012**
Wheelhouse and Electronics (such as Radar, GPS, VMS, sounder, radio, depth/temperature/net sensors)	$_____ ☐ $0	$_____ ☐ $0
	Describe Upgrade/Improvement:	
Processing/ Refrigeration (such as RSW, packaging equipment, icemaker)	$_____ ☐ $0	$_____ ☐ $0
	Describe Upgrade/Improvement:	
Safety Equipment (such as EPIRB, rafts, fire extinguishers, flares, survival suits)	$_____ ☐ $0	$_____ ☐ $0
	Describe Upgrade/Improvement:	
Other Repair/maintenance or upgrade/improvement:	$_____ ☐ $0	$_____ ☐ $0
	Describe Upgrade/Improvement:	

Section C: Vessel Related Costs

8. For each expense category listed in the table below, ***please enter the total amount spent in 2012 for this vessel***. If you did not have an expense in 2012, then check $0.

Mooring/Dockage Fees for this vessel in 2012 (including upkeep expenses): $_____ ☐ $0	**Permit and/or License fees** for this vessel in 2012: $_____ ☐ $0
Vessel insurance premium in 2012 for this vessel (premium paid for either hull or P & I insurance): $_____ *Number of months insured:* _____ ☐ $0	**Quota or DAS lease payments** in 2012 for this vessel (if non-monetary payments were used to obtain quota or DAS, please estimate the value of those non-monetary payments): $_____ ☐ $0
Total payments to crew and hired captain in 2012 for this vessel only: Crew: $_____ Hired Captain: $_____ (**Do not include** what you earn when you are the captain) ☐ $0	**Crew benefits** for this vessel in 2012 (the cost to you, as the vessel owner, for providing retirement benefits; health, life, or disability insurance premiums; and unemployment insurance for your crew and hired captain): $___ ___ ___, ___ ___ ___ ☐ $0
Vessel Activity/Quota Monitoring Cost for this vessel in 2012 (such as observer or dockside monitoring cost): $_____ ☐ $0	**Other costs** for this vessel in 2012: $_____ ☐ $0

Section D: Operating Costs

9. For each expense category listed in the table below, ***please enter the total amount spent in 2012 for this vessel, including all payments made by you and/or the crew.***

- If nothing was spent in a category, please check $0.
- *We are aware that these kinds of costs may vary significantly from year to year.* ***Please bear in mind that this survey is about 2012 expenses only.***

Fuel/oil/filter for this vessel in 2012: $_____ ☐ $0 ☐ I Don't Know	**Food and Drinking Water** for this vessel in 2012: $_____ ☐ $0 ☐ I Don't Know
Ice for this vessel in 2012: $_____ ☐ $0 ☐ I Don't Know	**Bait** for this vessel in 2012: $_____ ☐ $0 ☐ I Don't Know
Fresh Water for use in this vessel in 2012: $_____ ☐ $0 ☐ I Don't Know	**Communication Costs** for this vessel in 2012 (such as cell phones, radio, VMS etc.): *Do not include office phone use*. $_____ ☐ $0 ☐ I Don't Know
General Fishing Supplies for this vessel in 2012 (such as knives, picks, hooks, boxes, bags, ties, lobster bands, rags, tape, links/rings, lines/twine, etc.): $_____ ☐ $0 ☐ I Don't Know	**General Crew Supplies** for this vessel in 2012 (such as gloves, boot liners and foul-weather gear): $_____ ☐ $0 ☐ I Don't Know
Catch Handling Costs for this vessel in 2012 (such as auction, lumping, grading, shipping and sales rep): $_____ ☐ $0 ☐ I Don't Know	**Other Costs** for this vessel in 2012: $_____ ☐ $0 ☐ I Don't Know

Section E: Typical Crew Payment System

10a. Did you hire a captain for the majority of this vessel's trips in 2012, or were you the captain for most trips?

- ☐ Mostly Owner-operated
- ☐ Mostly Hired Captain
- ☐ Other _____

10b. On average, how many crew were on this vessel when it went out in 2012? DO NOT COUNT YOURSELF OR THE CAPTAIN.

_____ Average number of crew members, not including you or the captain, in 2012

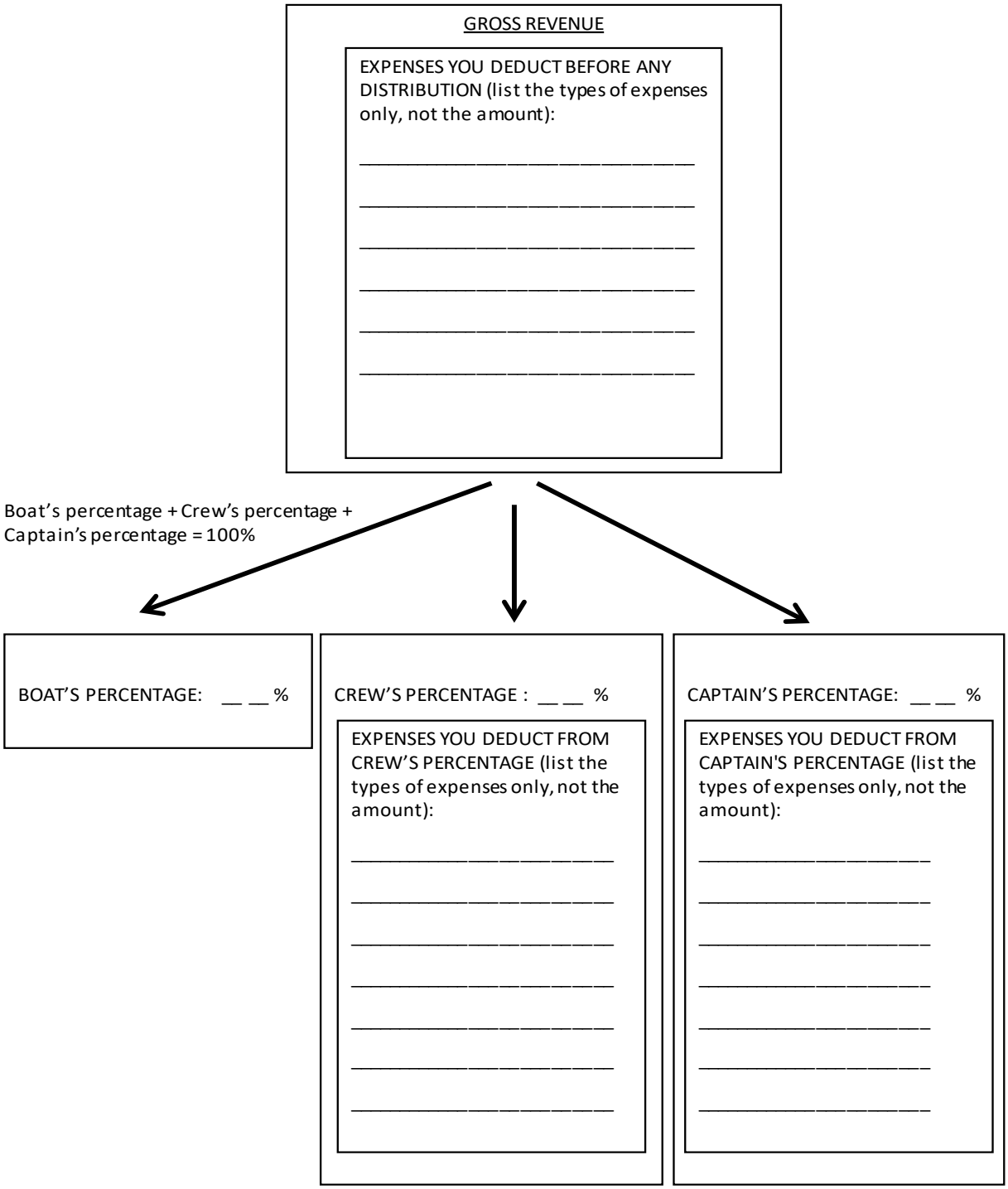
- **If you answered 0 (you had no crew except yourself in 2012), SKIP TO QUESTION 11**
- If you **DID** have a crew in 2012, please CONTINUE WITH QUESTION 10c

10c. Please use the diagram on the next page to list the types of expenses that were normally taken out of gross revenue, crew's share, and captain's share in 2012.

You do not need to list the dollar costs. Just list the *types* of expenses deducted (for example: "fuel" "ice" "food").

Diagram is on the next page

NOTE: If the diagram below is not appropriate for your settlement system, please describe your system on the next page.



If the diagram displayed on the previous page is not appropriate for your crew payment, then please describe your crew payment system in the space below:

10d. Please list the *types* (not the cost) of items crew members purchase for themselves.
Examples include: "food on day boats", "foul weather gear", "gloves", etc.
(These expenses would NOT be included in the diagram above.)

_____ _____

_____ _____

_____ _____

Section F: Overall Business Cost

11a. Including the vessel listed in this survey, how many vessels did your fishing business operate or maintain in 2012?

_____vessel(s) operated or maintained in 2012

11b. For each expense category listed below, please enter the amount spent for all your vessels in 2012:

If you did not spend anything on that expense category in 2012, please check $0.

Workshop/Storage Expenses for 2012 (such as gear shed rental and workshop expense): $_____ ☐ $0	**Office Expenses** for 2012 (such as office supplies, office rental, home office, office utilities (such as electric, heat, etc.), postage photocopying, computer and office phone use, excluding **communication costs**): $_____ ☐ $0
Business Vehicle Usage Costs for 2012 (for fishing business related purposes only; such as number of miles the vehicle was used for business multiplied by a standard mileage rate): $_____ ☐ $0	**Business Travel Costs** for 2012 (such as cost of lodging, travel, and transportation for business associated travel **excluding business vehicle costs**): $_____ ☐ $0
Association Fees Paid in 2012 (such as co-operative, fishing organization, sector fees and union dues): $_____ ☐ $0	**Professional Fees Paid** in 2012 (such as settlement, accounting, and legal fees): $_____ ☐ $0
Principal Paid on Business Loans for 2012 (enter only payments made, ***not*** amount owed): $_____ ☐ $0	**Interest Paid on Business Loans** for 2012: $_____ ☐ $0
Advertising Costs for 2012: $_____ ☐ $0	**Non-Crew Labor Services** for 2012 (such as night watchman and office secretary): $_____ *Describe:* _____ ☐ $0

Section G: Other Costs and Earnings

12. Did you have any other costs in 2012 that we have not asked about in this survey? If so, please list them below. (Please do not report your personal costs).

Other costs for the identified vessel only:

Cost	Description of other annual costs incurred in 2012
$ _____	_____
$ _____	_____

Other costs for your entire business:

Cost	Description of other annual costs incurred in 2012
$ _____	_____
$ _____	_____

13. Personal health insurance can be a significant expense for fishing families. Please check the response that best describes your health insurance situation in 2012:

- ☐ I (and my family) purchased health insurance during 2012. The cost was $_____ .
- ☐ I (and my family) did not have health insurance in 2012.
- ☐ I (and my family) was covered by my spouse/partner's health insurance.
- ☐ Other, please explain: _____

14. **Please record the total gross revenue from all activities generated by this vessel in 2012.** *(Note: Although we collect revenue information from the dealer reporting system, this question is for cross-checking our record in order to improve our overall data quality.)* **:**

Gross revenue from commercial trips: $_____
Gross revenue from non-commercial trips (e.g. charter trips): $_____
Gross revenue (vessel was inactive during 2012): ☐ $0

Thank you for your response! Please use the space below for comments.

Science, Service, Stewardship

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, Massachusetts

Northeast Fishing Vessel Annual Cost Survey 2011

PRELIMINARY RESULTS

Purpose of Study

The Social Sciences Branch (SSB) of the NEFSC recently conducted a survey of vessel owners about their annual fishing costs for calendar year 2011. This cost information, along with the trip cost data collected by the Northeast Fisheries Observer Program, helps SSB improve its analyses. Improved analyses help fisheries managers to:

- Better understand the economic and social impacts of fisheries management regulations and incorporate this information in the decision making process.
- Recognize differential impacts of the regulations on different fishing industries, ports, fishing groups, and fishing communities.
- Evaluate measures based on impacts on net benefits.

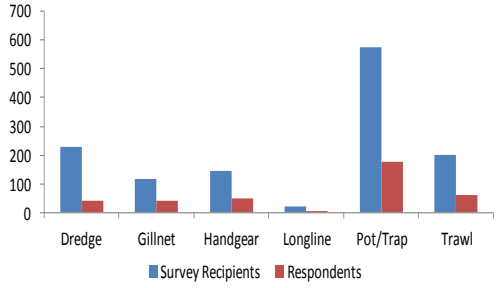
Participation Data

The survey effort began in early August 2012 and was completed in early January 2013. The survey was offered via mail and on the web.

- The number of commercial fishing vessels that received the survey was: **1,290**
- The number of complete and partially complete surveys was: **375 (29%)**

Mail submission: 307(82%)

Online submission: 68(18%)



Survey Structure

I. Vessel Information

II. Repair/Maintenance/ Upgrade/Improvement Costs

III. Fishing Business Costs (e.g. mooring fees, interest, and insurance premium.)

IV. Operating Costs (e.g. fuel, food, and supplies.

V. Crew Payments

VI. Other Costs

Vessel Information

Average Market Value of the Vessel

(Including gear, permit, and history): $528,369

% of Vessels With:

Sole Proprietorship: 60%; Corporation: 37%

Owner operated: 83%; Hired captain: 16%

Loan on vessels: 49%

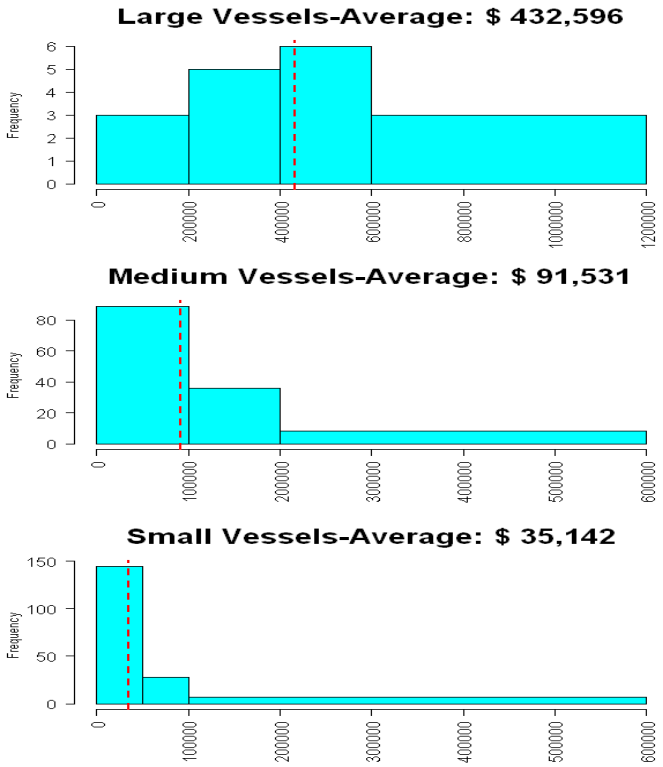
Insurance Coverage (Hull and P& I): 85%

Note: The cost summaries presented here are for commercial vessels only. Responses from charter/party boats are not included.

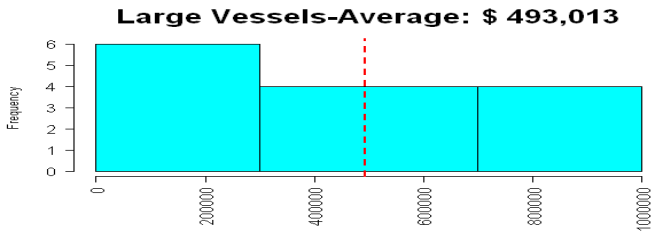
Average Values

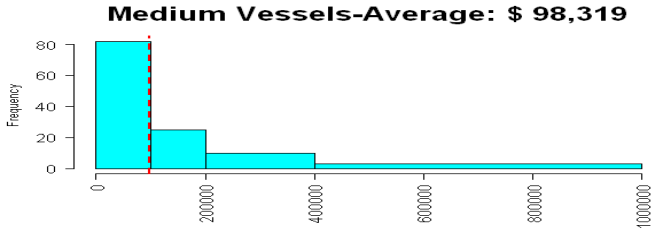
Major Cost Components	Number of Non-zero Responses	Annual Average Cost
Repair/Maintenance Upgrade/Improvement Costs	331	$32,697
Fishing Business Costs	323	$38,531
Operating Costs	374	$61,754
Crew Costs	238	$88,662

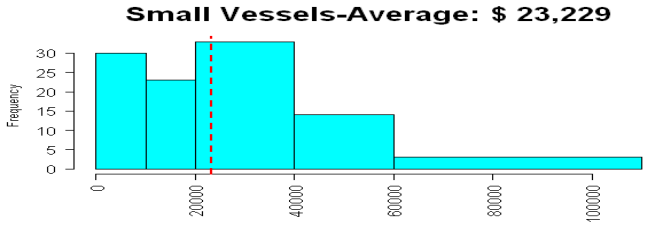
Annual Non-crew Costs By Length Category



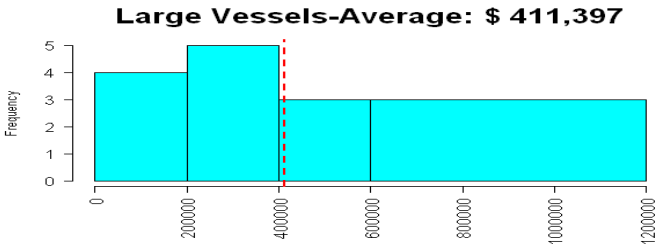
Crew Costs By Length Category

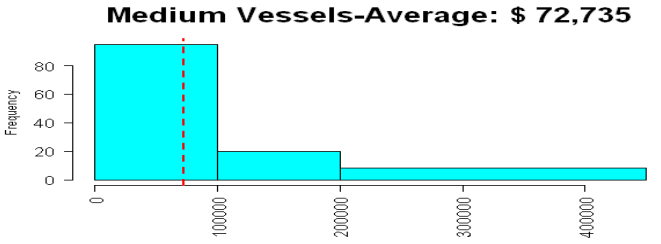


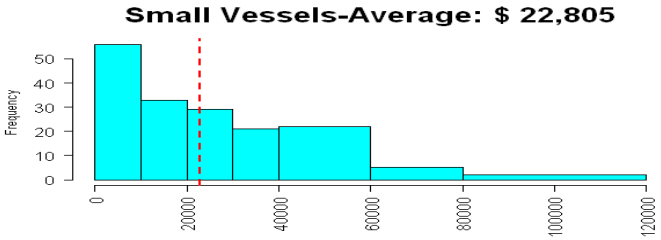




Operating Costs by Length Category







Notes:

I. *Large vessels (>80 ft); Medium vessels (between 40 and 80 ft); Small vessels (<40 ft).*

II. *The Cost distributions include only the non-zero cost values. The Red dotted line shows the average costs.*

III. *Data is summarized after removing outliers .*

IV. Annual Non-crew Costs*=Repair/Maintenance/ Upgrade/Improvement Costs + Fishing Business Costs + Haul Costs + Other Costs.*

Contact Information

1. Tammy Murphy, Economist
Ph: 508 495 2137
Email: Tammy.Murphy@noaa.gov

2. Matthew McPherson, Branch Chief
Ph: 508 495 2267
Email: Matthew.Mcpherson@noaa.gov

We are on the web
http://nefsc.noaa.gov/read/socialsci/

PLEASE NOTE: Information displayed within this document is preliminary and **SUBJECT TO CHANGE** until the final release of the results. **Additional results, including cost and revenue breakdowns by gear type and vessel size, will be available on our website. Results will be updated as they are finalized.**

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, Massachusetts

We want to help you tell your story and be heard.

Please Participate in the Northeast Fishing Vessel Annual Cost Survey

Who are we and what do we do?

This survey is being conducted by a team of economists in the Social Sciences Branch (SSB) of the Northeast Fisheries Science Center in Woods Hole, Massachusetts.
The Social Sciences Branch:

- is a part of NOAA Fisheries, but does not have the ability to enact fisheries regulations.
- collects and analyzes economic, social, and cultural data on the people that depend on fisheries for their livelihood and well-being.

How can filling out the survey benefit you, the fisherman?

Here's what we've heard from the fishermen:

- past regulatory analysis failed to tell the complete story of the economic and social impacts of fisheries regulations on fishermen, ports and communities.
- fishermen have taken previous surveys, but have not been kept informed as to what happens to the data collected or what reports and analyses the data is used in.
- economic impacts are not considered as heavily as biological impacts.

We need data from fishermen, not only in periods of biological uncertainty and regulatory change, but also routinely and over the long term. Such data allows us to produce better, more complete economic and social analyses. The SSB's goal is that these analyses will help fisheries managers to:

- understand the economic and social implications of fisheries management regulations.
- recognize how, where and why some measures will have varying impacts on different sectors of the industry, ports, and groups of fishermen and fishing communities.
- increase the consideration given to economic and social impacts in regulatory decision-making.
- choose measures that generate the greatest net economic benefits.

Why are we collecting this data? The survey is driven by the need for economic data on the total costs of operating commercial fishing businesses.

- Fisheries observers currently collect costs associated with vessel trips (for example, ice and fuel costs), but…
- We want to accurately represent the total costs associated with your fishing business, so we also need information on your annual costs (for example your repair and maintenance, insurance, and other non-trip costs).

Hasn't this data been collected from me before? We recently finished collecting 2011 cost data. We received 450 responses from a survey of about 1700 vessel owners. This data request is for 2012 cost data. We are requesting this data again, because:

- We need data that is up to date, since costs change over time.
- We need to hear from more fishermen to get a better idea about the diversity in costs across fisheries.
- We are continuously trying to improve our data quality by getting feedback from you on the collected data.

Who are we asking to take this survey?

- The owners of federally permitted Northeast U.S. commercial fishing vessels that landed any fish in 2012 but have not participated in 2011 cost survey (around 1800 vessel owners).
- The sample of fishermen receiving this survey includes fishermen across federally managed fisheries, gear types, and vessel sizes.

How can I be updated on that data that is being collected and find out how it is being used?

- This survey packet includes a card with the website address for our SSB website, where you can find additional details about the vessel annual cost data that is being collected and analyzed, as well as other SSB activities.
- The website will describe how the vessel annual cost data is being used as time passes. As the data is used in various analyses, we will provide links to those documents on our website.

Is taking the survey voluntary or mandatory? What about confidentiality?

- Responses to this survey are completely voluntary and completely confidential.
- By law, all survey data are confidential. Your responses are NOT being collected for ANY enforcement related purposes.
- In data analyses and reports, the information provided by individual vessel owners will be combined, resulting in a summary of costs by gear type, vessel size, region, etc.
- No individual owner's data will be published or made available to anyone other than those specifically authorized to analyze the data.

Questions or Comments? Please contact Tammy Murphy, an economist in the Social Sciences Branch by telephone at 508.495.2137 or email her at Tammy.Murphy@noaa.gov.

We are listening & we're working hard to do a better job for fishermen…now and in the future.

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, Massachusetts

May 3, 2013

{RESPONDENT NAME}
{RESPONDENT ADDRESS}

Dear {NAME},

Within the next few days you will be receiving a survey from the Social Sciences Branch (SSB) of the Northeast Fisheries Science Center in Woods Hole, MA. The SSB is a part of NOAA Fisheries, but does not have the ability to enact fisheries regulations. What we do is advocate for increased attention to economic and social impacts to fishing communities in the fisheries management process, and we work to provide complete and accurate information on such impacts to decision makers.

We recently finished collecting annual fishing cost data for costs incurred by vessel owners during 2011. In this phase, we have surveyed about 1,700 randomly selected vessel owners. A brief summary of this survey effort and preliminary results are enclosed with this letter. As additional results become available and the analysis is used, we will be posting this information to our Social Sciences Branch website.

You have been selected in the survey sample for costs incurred during 2012. Total costs are likely to vary depending on fishery, gear type, and vessel size. To capture those cost differences and communicate them to fisheries managers, we need to hear from every fisherman in the sample, including you.

We encourage you to complete the survey once you receive it. You may complete the survey on paper or on the web. The survey will ask you a number of questions on your annual fishing costs. Responses to the survey are completely voluntary and confidential, as required by law. A self-addressed stamped envelope will be sent in case you choose to complete the paper survey and return it by mail. The survey will also be available online at a secured site. You will be given a user ID and password to access the online survey. We estimate the survey will take about an hour to complete. Responses to the survey are voluntary, but by completing it, you will be helping us understand how fishery management policies affect you. We want to help you tell your story to decision-makers in fisheries management.

Thank you in advance for your participation.

Sincerely,

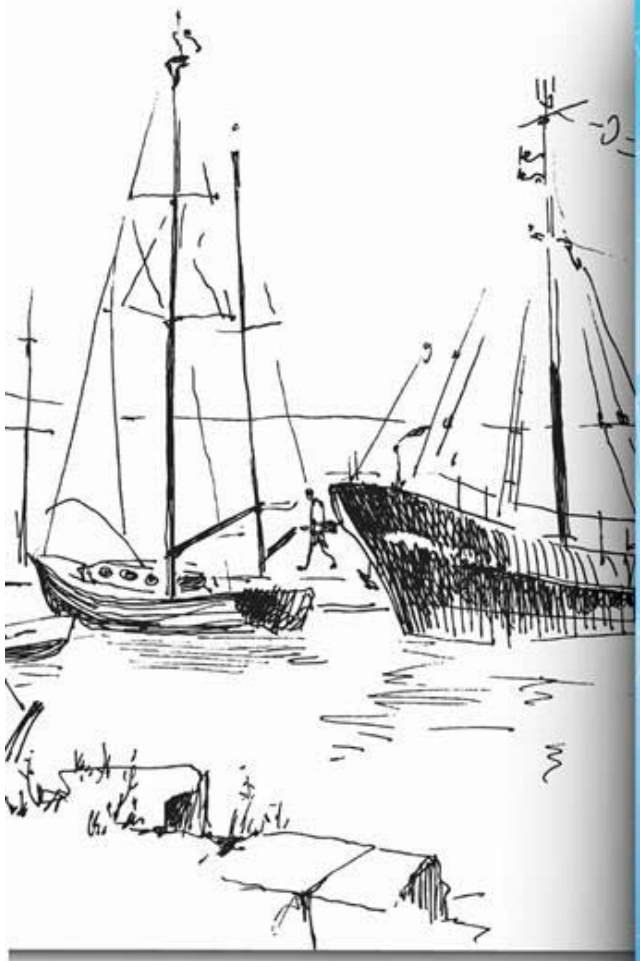
Tammy Murphy, Economist
Social Sciences Branch

Questions, comments or concerns? Please contact Tammy Murphy, an economist in the SSB, by telephone at 508.495.2137 or by email at Tammy.Murphy@noaa.gov.

OMB CONTROL NUMBER: 0648-0643
Expires: 03/31/2018

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, MA

NORTHEAST COMMERCIAL FISHING BUSINESS COST SURVEY FOR 2015



Thank you very much for participating in this important survey!

Your responses and experience will help the Social Sciences Branch communicate the economic pressures faced by commercial fishing businesses to regulatory agencies and decision-makers.

Your responses and participation in this survey are **CONFIDENTIAL**.

2015

Questions about the survey?
Call toll free: 844-604-4387; or
Email: FishingCostSurvey@icfsurveysupport.com

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General Instructions:

For all questions:

- DO report costs for **calendar year 2015**. All references to the year 2015 are for the calendar year.

For questions about **all** costs:

- DO consult your records; Schedule C (Form 1040) of your 2015 federal tax return will be helpful for many of the cost questions. If you cannot find the information in your records or cannot consult your records, please use your best estimates of the costs you incurred.
- DO remember to check the box if you have $0 (no cost) for the cost category in 2015. This is important because it allows us to determine if you had no cost in that category or if you would prefer not to respond to that question for some reason.

For questions about costs for a **specific vessel**:

- DO include:
  - Combined costs for all state and/or federal fisheries.
  - Costs incurred while the vessel was inactive.
  - Non-trip related costs, even if the vessel did not take any trips in 2015.

For questions about your **fishing business**:

- DO include the total cost for **all owners** in 2015, not just the share of the cost that you paid.

Your responses are completely confidential. Thank you for completing this survey.

Throughout the survey we will refer to a selected vessel. Please respond to these questions thinking only about this vessel:

[Vessel Name]

Coast Guard Documentation or State Registration Number: [12345678]

Photo credit: Lisa Colburn, NOAA Fisheries

Section A: Vessel Information and Costs

1. Ownership type for this vessel (check one):

- ☐ Sole proprietorship
- ☐ General partnership
- ☐ Limited partnership
- ☐ C Corporation
- ☐ S Corporation
- ☐ Limited Liability Company (LLC)
- ☐ Other ➔ Please Describe _____

2. Number of owners, including yourself: _____

3. Was this vessel acquired from a previous owner or was it bought new?

- ☐ Acquired from a previous owner
- ☐ Bought new

4. In what year did you become the owner of the vessel? ☐☐☐☐

5. What port did this vessel operate from most of the time during 2015?

Harbor _____ **City** _____ **State** _____

6. Check the box that best describes the activity of this vessel during 2015:

- ☐ This vessel took at least one trip in 2015 that landed fish for commercial sale.
- ☐ This vessel was inactive for all of 2015. (SKIP to Question 9 on Page 3).

7. Check the box that best describes how many different fisheries this vessel visited in 2015:

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6 or more

8. For your top three earning fisheries in Question 7, record:

A. A description of the fishery, including gear type, target species, fishing region, etc.

B. The total number of trips this vessel made in each fishery during 2015.

C. How many days per trip this vessel was typically at sea in each fishery during 2015 (on average).

A. Fishery Description	B. Number of Trips in 2015	C. Average Days at Sea Per Typical Trip
Fishery #1 Gear: _____ Species: _____ Region: _____		
Fishery #2 Gear: _____ Species: _____ Region: _____		
Fishery #3 Gear: _____ Species: _____ Region: _____		

Upgrade and Improvement Costs for the Selected Vessel

This part of the survey is about **upgrade and improvement costs** for the **selected vessel,** which are **costs incurred to add value to or extend the life of your vessel and gear.** These costs are usually not deducted in full on your federal tax return during the year they were incurred, but a portion of them is depreciated over each year.

- **For example**: your vessel's engine stopped working, or was not working properly, and could not be repaired, so you purchased a new engine with more power.

9. Record your total upgrade and improvement costs incurred in 2015 for the selected vessel in the shaded box below or check the box if you had no upgrade and improvement costs for this vessel in 2015.

- Upgrade and improvement costs may include costs for items in the list of categories below.
- **DO** include all upgrade and improvement costs for this vessel incurred in 2015 in Question 9. Question 10 will ask you about the amount of these costs you depreciated on your 2015 federal tax return.

Category	Examples	
Propulsion Engine	Engine, drive train, exhaust/cooling systems	
Deck Equipment/ Other Machinery	Winches, haulers, generators, hydraulics, compressors, reels, pumps	
Hull	Frame, deck, wheelhouse, keel, steering, rigging, fish holds, fuel tanks	
Fishing Gear	Codends, nets/panels, dredges, buoys, highfliers, doors, pots/traps, cables	
Wheelhouse and Electronics	Radar, GPS, VMS, sounder, radio, depth/temperature/net sensors	
Processing / Refrigeration	RSW, packaging equipment, ice maker	
Safety Equipment	EPIRB, rafts, fire extinguishers, flares, survival suits	
Total Upgrade and Improvement Costs for the selected vessel in 2015:	**$_____ .00**	☐ **No upgrade and improvement costs for this vessel in 2015**

10. Indicate the amount of the total upgrade and improvement costs in 2015 for the selected vessel that were depreciated on your 2015 federal tax return. (The amount you indicate for this question should not be greater than the total upgrade and improvement costs you indicated in Question 9).

$ _____ .00

☐ No upgrade and improvement costs for this vessel were depreciated on my 2015 federal tax return.

Repair and Maintenance Costs for the Selected Vessel

This part of the survey is about your **repair and maintenance** costs for the **selected vessel,** which are **costs incurred to keep your gear or vessel in working condition.** These costs are usually deducted on your federal income tax return and are not depreciated.

- **For example**, if your vessel's engine stopped working or was not working properly, and you paid for a repair.

11. Record your total repair and maintenance costs incurred in 2015 for the selected vessel in the shaded box below or check the box if you had no repair and maintenance costs for this vessel.

- Repair and maintenance costs may include costs for items in the list of categories below.

Category	Examples	
Propulsion Engine	Engine, drive train, exhaust/cooling systems	
Deck Equipment/ Other Machinery	Winches, haulers, generators, hydraulics, compressors, reels, pumps	
Hull	Frame, deck, wheelhouse, keel, steering, rigging, fish holds, fuel tanks	
Fishing Gear	Codends, nets/panels, dredges, buoys, highfliers, doors, pots/traps, cables	
Wheelhouse and Electronics	Radar, GPS, VMS, sounder, radio, depth/temperature/net sensors	
Processing / Refrigeration	RSW, packaging equipment, ice maker	
Safety Equipment	EPIRB, rafts, fire extinguishers, flares, survival suits	
Total Repair and Maintenance Costs for the selected vessel in 2015:	**$_____ .00**	☐ **No repair and maintenance costs for this vessel in 2015**

Crew Payment System for the Selected Vessel

12. Did you hire a captain for the majority of this vessel's trips in 2015, or were you the captain for most trips?

- ☐ Mostly hired captain
- ☐ Mostly owner-operated
- ☐ Trips were evenly split between hired captain and owner-operated.
- ☐ The selected vessel did not take any trips in 2015. (SKIP to Question 23)

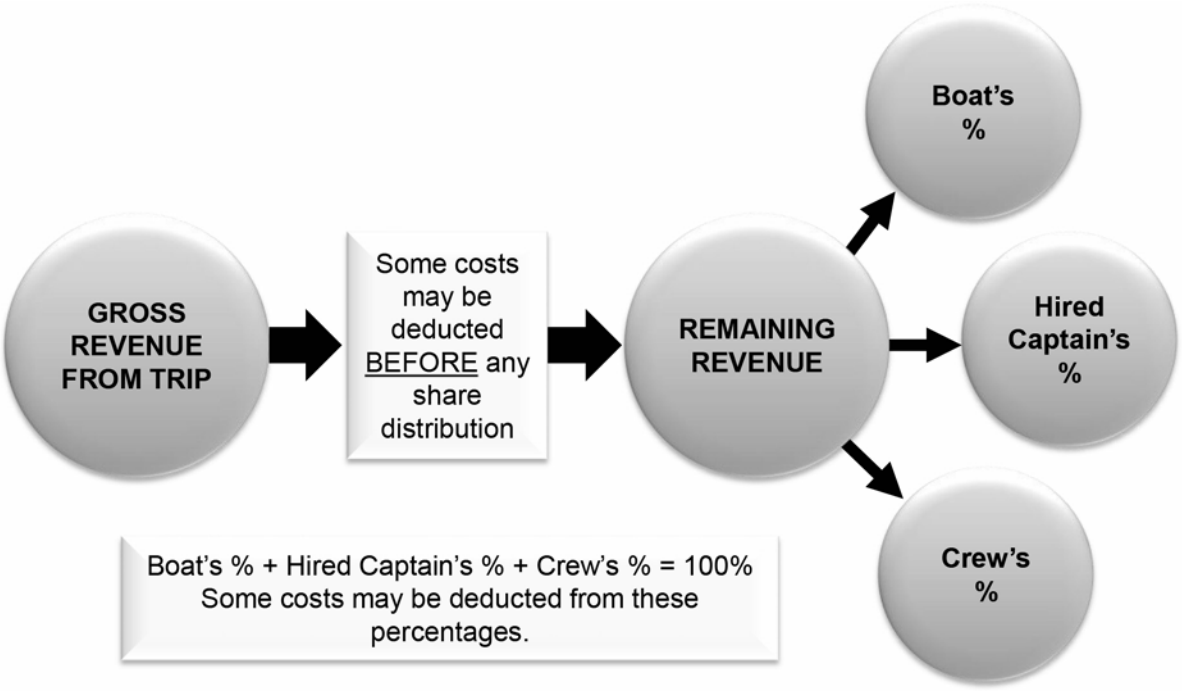
13. On average, how many crew were on this vessel when it went out in 2015?

DO NOT COUNT YOURSELF OR THE HIRED CAPTAIN.

_____ Average number of crew members in 2015, not including yourself or a hired captain.

- If you answered 0 (you had no crew except yourself or your hired captain in 2015), SKIP TO Question 22 on Page 8.

This diagram illustrates possible types of crew payment systems (sometimes called "lays"). In the crew payment system for some vessels, some costs may be taken out of gross revenue BEFORE distributing the boat share, hired captain share and crew share. Also, some crew payment systems may deduct some costs from the boat share, hired captain share and crew share.



14. Did you compensate your hired captain or crew in 2015 using a shared compensation method?

☐ Yes, I used a share system of this type to compensate all or some of my crew.
☐ No, I compensated crew only with a flat rate per day at sea, a flat rate per trip or some other flat rate (SKIP to Question 19).

15. Indicate whether the following costs were usually deducted from gross revenue earned from trips taken in 2015 BEFORE distributing the boat, hired captain and crew shares. These are sometimes called "off the top" costs.

Type of Cost	Deducted Before Share Distribution?	
Observer Coverage/Science	☐ Yes	☐ No
Fuel	☐ Yes	☐ No
Ice	☐ Yes	☐ No
Food	☐ Yes	☐ No
Tackle	☐ Yes	☐ No
Bait	☐ Yes	☐ No
Quota Leasing	☐ Yes	☐ No
All other costs	☐ Yes	☐ No

16. Indicate whether the following costs were deducted from the boat's percentage/share.

Type of Cost	Deducted From Boat's Share?	
Observer Coverage/Science	☐ Yes	☐ No
Fuel	☐ Yes	☐ No
Ice	☐ Yes	☐ No
Food	☐ Yes	☐ No
Tackle	☐ Yes	☐ No
Bait	☐ Yes	☐ No
Quota Leasing	☐ Yes	☐ No
All other costs	☐ Yes	☐ No

17. Indicate whether the following costs were deducted from the hired captain's percentage/share.

Type of Cost	Deducted From Hired Captain's Share?	
Observer Coverage/Science	☐ Yes	☐ No
Fuel	☐ Yes	☐ No
Ice	☐ Yes	☐ No
Food	☐ Yes	☐ No
Tackle	☐ Yes	☐ No
Bait	☐ Yes	☐ No
Quota Leasing	☐ Yes	☐ No
All other costs	☐ Yes	☐ No

18. Indicate whether the following costs were deducted from the crew's percentage/share.

Type of Cost	Deducted From Crew's Share?	
Observer Coverage/Science	☐ Yes	☐ No
Fuel	☐ Yes	☐ No
Ice	☐ Yes	☐ No
Food	☐ Yes	☐ No
Tackle	☐ Yes	☐ No
Bait	☐ Yes	☐ No
Quota Leasing	☐ Yes	☐ No
All other costs	☐ Yes	☐ No

19. How many crew members did you compensate with a flat rate on a typical trip in 2015?

☐ 0 (SKIP to Question 21)
☐ 1
☐ 2
☐ Other, indicate the number of crew: _____ crew members.

20. Check the box that best describes how you compensated any crew not paid a share on trips taken in 2015.

- ☐ I compensate all or some of my crew with a flat rate per day at sea (DAS). The average rate is $ _____ .00 per DAS.
- ☐ I compensate all or some of crew with a flat rate per trip. The average rate is $ _____ .00 per trip.
- ☐ Other flat rate of compensation. Describe below.

_____

_____

_____

21. Check the boxes to indicate whether the following were items that crew members purchased for themselves.

Item	Crew paid this cost themselves?	
Food	☐ Yes	☐ No
Foul Weather Gear	☐ Yes	☐ No
Boots	☐ Yes	☐ No
Gloves	☐ Yes	☐ No
Knives	☐ Yes	☐ No

Operating Costs for the Selected Vessel

22. Record your total operating costs in 2015 for the selected vessel in the shaded box below or check the box if you had no operating costs for this vessel in 2015.

- DO include amounts spent by you, your hired captain and crew.
- Operating costs include costs for items in the list of categories below.

Category	Examples	
Fuel/Oil/Filter		
Ice		
Fresh Water		
Food and Drinking Water		
Bait		
Communications Costs	Cell phones, radios, VMS, etc. DO NOT INCLUDE office phone use.	
General Fishing Supplies	Knives, picks hooks, bags, ties, lobster bands, rags, tape, links/ring, lines/twines, etc	
General Crew Supplies	Gloves, boot liners, foul weather gear	
Catch Handling Costs	Costs for auction, lumping, grading, shipping, and sales rep.	
Total Operating Costs for the selected vessel in 2015:	**$ _____ .00**	☐ **No operating costs for this vessel in 2015**

Other Costs for the Selected Vessel

This part of the survey about other costs you may have incurred in 2015 to operate and fish with the selected vessel.

23. Record the amount spent in 2015 for the selected vessel in each of the categories below. For any cost you did not incur, check the "no cost" box.

Category	2015 Cost for selected vessel	Check if NO Cost in 2015
Mooring/Dockage fees (including upkeep expenses)	**$** _____ **.00**	☐ No cost
Permit and/or License fees	**$** _____ **.00**	☐ No cost
Vessel insurance premium (premium paid for either hull or P & I insurance)	Number of months insured: _____ **$** _____ **.00**	☐ No cost
Quota or DAS lease payments (if non-monetary payments were used to obtain quota or DAS, please estimate the value of those non-monetary payments)	**$** _____ **.00**	☐ No cost
Total payments to crew and hired captain (DO NOT INCLUDE what you earn when you are the captain of the vessel).	Crew: **$** _____ **.00** Hired Captain: **$** _____ **.00**	☐ No cost
Crew benefits (the cost to you, as the vessel owner, for providing retirement benefits; health, life, or disability insurance premiums; and unemployment insurance for your crew and hired captain for this vessel only):	Indicate the total number of crew you paid benefits for in 2015: _____ crew **$** _____ **.00**	☐ No cost
Vessel Activity/Quota Monitoring (such as observer or dockside monitoring cost):	**$** _____ **.00**	☐ No cost

The Value of the Selected Vessel

This part of the survey is about the current value of the selected vessel, its equipment and gear, as well as its permits and fishing history.

The total current value of these assets may not be equal to the total amount of money you spent to get them or equal to the total amount of money that you would have to spend to replace them.

All of your responses are completely confidential.

24. Indicate the current estimated fair market value of this vessel, <u>including all equipment, fishing gear, permits, and fishing history</u>. By "fair market value," we mean your estimate of the best price you could reasonably expect to get if you sold the vessel, equipment, gear, permits, and fishing history right now.

$ _____ **.00**

- ☐ I don't know.
- ☐ I prefer not to answer.

25. Indicate when a marine surveyor last performed a marine survey for this vessel (for example, for purposes of obtaining vessel insurance).

- ☐ In calendar year _____
- ☐ I don't remember or I don't know. (SKIP to Question 29)
- ☐ A marine survey has not been performed for this vessel. (SKIP to Question 29)
- ☐ I prefer not to answer. (SKIP to Question 29)

26. What was the estimated fair market value of this vessel <u>(not including fishing permits or fishing history)</u> at the time of its last marine survey?

$ _____ **.00**

- ☐ I don't know.
- ☐ I prefer not to answer.

27. Has the fair market value of the <u>permits and fishing history</u> associated with this vessel ever been evaluated by a marine surveyor?

- ☐ Yes, in calendar year _____
- ☐ No (SKIP to Question 29)
- ☐ I don't remember or I don't know (SKIP to Question 29)
- ☐ I prefer not to answer. (SKIP to Question 29)

28. What was the estimated fair market value of the <u>fishing permits and fishing history</u> associated with this vessel at the time of the last marine survey?

$ _____ **.00**

- ☐ I don't know.
- ☐ I prefer not to answer.

29. Record the total amount of revenue your fishing business received in 2015 from <u>leasing out quota from permits</u> associated with this vessel. Your responses are confidential.

$ _____ **.00**

- ☐ No revenue received in 2015 from leasing out quota from permits associated with the selected vessel.
- ☐ I prefer not to answer.

30. Record the total amount of any payments your fishing business received from the government in 2015 that were associated with this vessel

$ _____ **.00**

- ☐ Record the total amount of any payments your fishing business received from the government in 2015 that were associated with this vessel.
- ☐ I prefer not to answer.

Section B: Fishing Business Information and Costs

This section is about costs associated with your overall fishing business. In the costs for this section, DO include the selected vessel, as well as any other vessels your business operated or maintained in 2015.

31. Including the selected vessel, how many vessels did your fishing business operate or maintain in 2015?

- ☐ 1 (SKIP to Question 29)
- ☐ 2
- ☐ 3
- ☐ 4 or more; Indicate the number of vessels operated or maintained in 2015: _____

Upgrade and Improvement Costs for Your Fishing Business

32. Record your total upgrade and improvement costs incurred in 2015 for your overall fishing business in the shaded box below or check the box if you had no upgrade and improvement costs for your fishing business in 2015.

- **REMINDER:** upgrade and improvement costs add value to or extend the life of your vessels and gear and are typically depreciated. Upgrade and improvement costs may include costs for items in the list of categories below.
- **DO** include all upgrade and improvement costs for all the vessels that were operated or maintained in 2015 by your fishing business in Question 32. Question 33 will ask you about the amount of these costs you depreciated on your 2015 federal tax return.

Category	Examples	
Propulsion Engine	Engine, drive train, exhaust/cooling systems	
Deck Equipment/ Other Machinery	Winches, haulers, generators, hydraulics, compressors, reels, pumps	
Hull	Frame, deck, wheelhouse, keel, steering, rigging, fish holds, fuel tanks	
Fishing Gear	Codends, nets/panels, dredges, buoys, highfliers, doors, pots/traps, cables	
Wheelhouse and Electronics	Radar, GPS, VMS, sounder, radio, depth/temperature/net sensors	
Processing / Refrigeration	RSW, packaging equipment, ice maker	
Safety Equipment	EPIRB, rafts, fire extinguishers, flares, survival suits	
Total Upgrade and Improvement Costs my fishing business in 2015:	**$**_____ **.00**	☐ **No upgrade and improvement costs for my fishing business in 2015**

33. Indicate the amount of your total upgrade and improvement costs in 2015 for your overall fishing business that will be depreciated on your 2015 federal tax return. (The amount you indicate for this question should not be greater than the total upgrade and improvement costs you indicated in Question 32).

$ _____ **.00**

☐ No upgrade and improvement costs for my fishing business were depreciated on my 2015 federal tax return.

Repair and Maintenance Costs for Your Fishing Business

34. Record your total repair and maintenance costs incurred in 2015 for your fishing business in the shaded box below or check the box if you had no repair and maintenance costs for your fishing business.

- **REMINDER:** repair and maintenance costs are incurred to keep your vessels and gear in working order. These costs are usually deducted on your federal income tax return and are not depreciated. Repair and maintenance costs may include costs for items in the list of categories below.
- **DO** include costs for all the vessels that were operated or maintained in 2015.

Category	Examples	
Propulsion Engine	Engine, drive train, exhaust/cooling systems	
Deck Equipment/ Other Machinery	Winches, haulers, generators, hydraulics, compressors, reels, pumps	
Hull	Frame, deck, wheelhouse, keel, steering, rigging, fish holds, fuel tanks	
Fishing Gear	Codends, nets/panels, dredges, buoys, highfliers, doors, pots/traps, cables	
Wheelhouse and Electronics	Radar, GPS, VMS, sounder, radio, depth/temperature/net sensors	
Processing / Refrigeration	RSW, packaging equipment, ice maker	
Safety Equipment	EPIRB, rafts, fire extinguishers, flares, survival suits	
Total Repair and Maintenance Costs for your fishing business in 2015:	**$** _____ **.00**	☐ **No repair and maintenance costs in 2015**

Other Costs for Your Fishing Business

35. Indicate the principal paid on business loans in 2015 for your fishing business. Include all vessels that your business operated or maintained during 2015. Use Part II of Schedule C in your 2015 federal tax return or your best estimate.

Enter only payment made in 2015, ***not*** the amount owed: **$** _____ **.00**

☐ No cost for the fishing business in 2015.

36. Indicate the interest paid on business loans in 2015 for your fishing business. Include all vessels that your business operated or maintained during 2015. Use Part II of Schedule C in your 2015 federal tax return or your best estimate.

Enter interest paid in 2015: **$** _____ **.00**

☐ No cost for the fishing business in 2015.

37. Check the response that best describes your health insurance situation in calendar year 2015:

☐ I purchased health insurance for myself (and my family) during 2015.
The cost was **$** _____ **.00**
☐ I (and my family) did not have health insurance in 2015.
☐ I (and my family) was covered by my spouse/partner's health insurance.
☐ Other, please explain: _____

38. Record all other business costs for your fishing business in 2015 for each of the following categories.

- DO NOT include the loan payments you included in Questions 35 and 36.

Category and Examples	2015 Cost for the Fishing Business	Check if NO Cost in 2015
Business vehicle usage costs for fishing business-related purposes	**$** _____ **.00**	☐ No cost
Business travel costs: Lodging, travel and transportation expenses for business-related travel	**$** _____ **.00**	☐ No cost
Association fees paid: Co-operative, fishing organization, sector fess and union dues	**$** _____ **.00**	☐ No cost
Professional fees paid: Settlement, accounting and legal fees	**$** _____ **.00**	☐ No cost
Advertising Costs	**$** _____ **.00**	☐ No cost
Non-crew labor payments: Payments for night watchman or office administrative assistant	**$** _____ **.00**	☐ No cost

39. Record the total amount of revenue your overall fishing business received in 2015 from leasing out quota associated with all permits owned by the fishing business. Your responses are confidential.

Total gross revenue received in 2015 from leasing out quota from all permits **owned by the fishing business**: **$** _____ **.00**

☐ No revenue received in 2015 from leasing out quota from permits owned by my fishing business.
☐ I prefer not to answer

40. Record the amounts of any payments your overall fishing business received from the government in 2015.

Total gross amount of payments received in 2015 **by my fishing business** from the government:
$ _____ **.00**

- ☐ No government payments were received in 2015 by my fishing business.
- ☐ I prefer not to answer

Section C: Survey Completeness & Follow-Up

41. Did you have any other costs in 2015 for the selected vessel that we have not asked about in this survey? If so, list them below. (Do not report your personal costs.)

Other costs for the selected vessel only:

Cost in 2015	Description of other costs incurred in 2015 **for this vessel**
$ _____ **.00**	_____
$ _____ **.00**	_____

42. Did you have any other costs in 2015 for your overall fishing business that we have not asked about in this survey? If so, list them below. (Do not report your personal costs.)

Other costs for your overall fishing business:

Cost in 2015	Description of other costs incurred in 2015 **for fishing business**
$ _____ **.00**	_____
$ _____ **.00**	_____

43. Indicate whether the costs you provided in this survey were directly from your records or your best estimates.

- ☐ Cost information provided is from my records.
- ☐ Cost information provided reflects my best estimates.
- ☐ Cost information provided reflects both information from my records and some estimates.

44. We are working to develop profitability profiles of the Northeast commercial fishing fleet. Would you be interested in attending a presentation in your area on our results?

- ☐ Yes
- ☐ No

45. May we contact you if we have follow up questions to clarify the information you have provided us with in this survey?

- ☐ Yes
- ☐ No

46. If you responded "YES" to Questions 44 or 45, provide your contact information and preferred method for contacting you:

Name:	
Telephone:	
E-Mail:	
Preferred Method of Contact	☐ Telephone: ☐ E-Mail:

Thank you for your help!
Please use the back cover for comments or suggestions.

Public reporting burden for this collection of information is estimated to average 60 minutes per survey, including the time for reviewing instructions, 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 suggestions for reducing this burden to Tammy Murphy, NOAA Fisheries-NEFSC, 166 Water Street MB19, Woods Hole, MA, 02543.

Responses to this information request are confidential under section 402(b) of the Magnuson-Stevens Act as amended in 2006. Responses are also confidential under NOAA Administrative Order 216-100, which sets forth procedures to protect confidentiality of 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.

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NOAA FISHERIES

Please Participate in the Northeast Commercial Fishing Business Cost Survey for 2015

We want to make sure fisheries managers understand the costs your fishing business faces.

Who are we and what do we do?

This survey is being conducted by a team of economists in the Social Sciences Branch (SSB) of the Northeast Fisheries Science Center in Woods Hole, Massachusetts.
The Social Sciences Branch:

- Is a part of NOAA Fisheries, but does not have the ability to enact fisheries regulations.
- Collects and analyzes economic, social, and cultural data on the people that depend on fisheries for their livelihood and well-being.

How can filling out the survey benefit you, the fisherman?

Here's what we've heard from the fishermen:

- Past regulatory analysis failed to tell the complete story of the economic and social impacts of fisheries regulations on fishermen, ports and communities.
- Fishermen have taken previous surveys, but have not been kept informed as to what happens to the data collected or what reports and analyses the data is used in.
- Economic impacts are not considered as heavily as biological impacts.

We need data from fishermen, not only in periods of biological uncertainty and regulatory change, but also routinely and over the long term. Such data allows us to produce better, more complete economic and social analyses. The SSB's goal is that these analyses will help fisheries managers to:

- Understand the economic and social implications of fisheries management regulations.
- Recognize how, where and why some measures will have varying impacts on different sectors of the industry, ports, and groups of fishermen and fishing communities.
- Increase the consideration given to economic and social impacts in regulatory decision-making.
- Choose measures that generate the greatest net economic benefits.

Why are we collecting this data?

The survey is driven by the need for economic data on the total costs of operating commercial fishing businesses.

- Fisheries observers currently collect costs associated with vessel trips (for example, ice and fuel costs), but…
- We want to accurately represent the total costs associated with your fishing business, so we also need information on your non-trip related costs (for example your repair and maintenance, insurance, crew payments and other costs).

Hasn't this data been collected from me before?

We most recently collected 2011 and 2012 cost data. We received 450 responses from a survey of about 1700 vessel owners in 2011 and 375 responses from a survey of 1800 different vessel owners in 2012. We are requesting this data again because we need:

- Access to data that is up to date, since costs change over time.
- To include as many fishermen as possible to capture the diversity in costs across fisheries.
- To strive to improve our data quality by getting feedback from you on the collected data.

However, from here on out, **SSB will only be collecting cost data every three years** to minimize how often we ask fishermen to participate in our cost survey.

Who are we asking to take this survey?

- We are asking each fishing business to fill out the survey for one of its federally permitted Northeast U.S. commercial fishing vessels (around 2,700 vessels).
- The sample of fishing businesses receiving this survey includes businesses with vessels across federally managed fisheries, gear types, and vessel sizes.

How can I be updated on that data that is being collected and find out how it is being used?

- In this mailing, you should have received a brochure that summarized the cost data collected for 2012 and indicated how that data has been used; if you did not receive this summary, and would like a copy, please contact us. Keep an eye on the SSB website, which is being re-designed and will include a section on our cost data collection effort: http://www.nefsc.noaa.gov/read/socialsci/.

Is taking the survey voluntary or mandatory? What about confidentiality?

- Responses to this survey are completely voluntary and completely confidential.
- By law, all survey data are confidential. Your responses are NOT being collected for ANY enforcement related purposes.
- In data analyses and reports, the information provided by individual fishing businesses will be combined, resulting in a summary of costs by gear type, vessel size, region, etc.
- No individual fishing business' data will be published or made available to anyone other than those specifically authorized to analyze the data.

Questions or Comments? Please contact our SSB economists on the cost survey team:
Tammy Murphy, by telephone at 508.495.4716 or by email at Tammy.Murphy@noaa.gov
Megan Bailey, by telephone at 508.495.4717 or by email at Megan.Bailey@noaa.gov.

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, Massachusetts

May 3, 2016

{RESPONDENT NAME}
{RESPONDENT ADDRESS}

Dear {NAME},

Within the next few days you will be receiving a survey from the Social Sciences Branch (SSB) of the Northeast Fisheries Science Center in Woods Hole, MA. The SSB is a part of NOAA Fisheries, but does not have the ability to enact fisheries regulations. What we do is advocate for increased attention to economic and social impacts to fishing communities in the fisheries management process, and we work to provide complete and accurate information on such impacts to decision makers.

Your commercial fishing business has been selected to participate in the Northeast Commercial Fishing Business Cost Survey for 2015. Total costs vary depending on fishery, gear type, and vessel size. *To capture those cost differences and communicate them to fisheries managers, we need to hear from every fisherman who receives the survey, including you.* To avoid asking owners of multiple vessels to fill out multiple surveys, we are requesting that fishing businesses fill out the survey for one specific vessel, which will be identified in the survey.

The SSB is now conducting the cost survey every three years to try to minimize our requests to participate in the cost survey effort. We most recently collected data on the total costs incurred by commercial fishing vessel owners in 2012, with about 1,800 vessel owners randomly selected to receive the survey. A brief summary of this survey effort is enclosed with this letter. Data collected from this survey have been used to, among other things, inform the economic impact of shifting at sea monitoring costs from NMFS to groundfish sectors, to estimate the fixed costs for the scallop fishery (analysis included in the 2015 SAFE Report, and in Amendment 19 and Framework 27 to the Scallop FMP), and in the 2015-2017 specifications package for the Small Mesh Multi-species Fishery.

We encourage you to complete the survey once you receive it. The survey will ask you a number of questions about your fishing costs in 2015. Responses to the survey are completely confidential, as required by law. You will be given the option to complete a paper survey and return it postage paid, or complete the survey on-line at a secure web site provided in the survey package. We estimate the survey will take no longer than one hour for most owners to complete. Responses to the survey are voluntary, but by completing it, you will be helping us understand how fishery management policies affect you. *We want to capture all of the costs that fishing businesses face and communicate them to decision-makers in fisheries management*.

Thank you in advance for your help in this effort.

Sincerely,

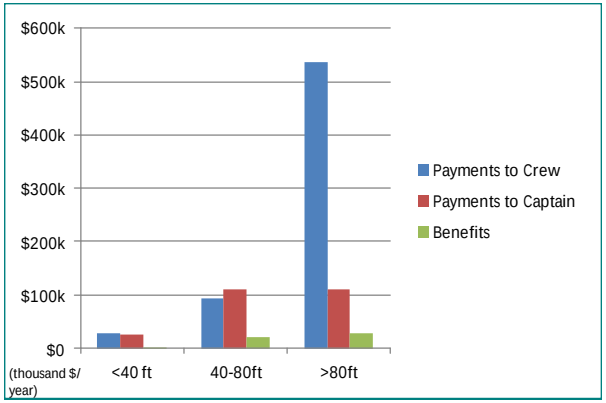
Tammy Murphy, Economist, Social Sciences Branch, Northeast Fisheries Science Center

Questions, comments or concerns? Please contact a member of our cost survey team:
Tammy Murphy, SSB economist, Telephone: 508.495.4716, Email: Tammy.Murphy@noaa.gov
Megan Bailey, SSB economist, Telephone: 508.495.4717, Email: Megan.Bailey@noaa.gov

Crew Cost Data

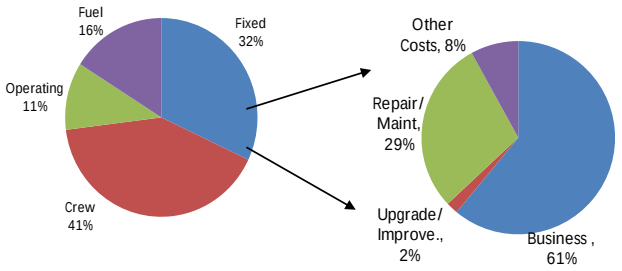
Crew costs include crew pay, hired captain pay and benefits.

Large vessels are primarily operated by hired-captain and small vessels are primarily owner-operated. The average crew cost is much higher for larger vessels ($673,969) than medium ($224,789) and small ($54,851) vessels.



Cost Allocation Among Major Groups

The total cost of fishing includes repair/maintenance costs, upgrade/improvements costs, business costs, crew costs, and operating costs. A major part of operating costs is the cost of fuel. The following diagram shows percentage shares of major cost components of total fishing cost.



Contact Information

If you have any questions or comments, please don't hesitate to contact our Survey Team.

Survey Team

Tammy Murphy, Economist
Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, MA
508-495–4716
tammy.murphy@noaa.gov

Megan Bailey, Economist
Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, MA
508-495-4717
megan.bailey@noaa.gov

We want to ensure that fisheries managers *understand* the costs your fishing business faces.

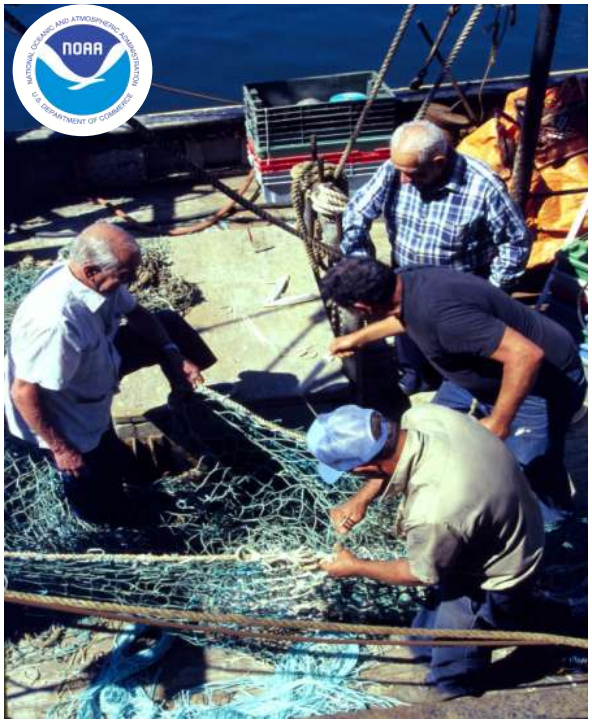


Photo Credit: Ecosystems Surveys Branch, NEFSC/NOAA

We realize the information provided is limited. If you would like a further breakdown of the survey results, please contact our Survey Team.

Science, Service, Stewardship

Social Sciences Branch
Northeast Fisheries Science Center
Woods Hole, Massachusetts

Northeast Commercial Fishing Business Cost Survey 2012

SELECTED RESULTS

Purpose of Study

The Social Sciences Branch (SSB) of the Northeast Fisheries Science Center advocates for increased attention to economic and social impacts to fishing communities in the fisheries management process. We work hard to provide complete and accurate information on these impacts to decision makers. *We want your experiences and knowledge to be heard.*

Survey Structure

I. Vessel Information

II. Repair/Maintenance/ Upgrade/Improvement Costs

III. Fishing Business Costs

IV. Operating Costs

V. Crew Payment System

VI. Other Costs

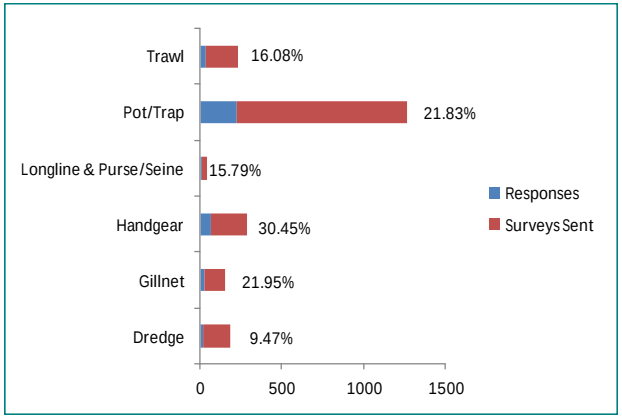
We have been surveying business owners about their total fishing costs every few years since 2007. This cost information helps the SSB improve our analyses and in turn helps policy makers better understand the economic and social impacts of their management decisions. Our cost data has been used to inform:

- Economic impacts of shifting at sea monitoring costs from NMFS to groundfish sectors
- Three-year performance review for the limited access general category IFQ scallop fishery
- Estimation of fixed costs for the limited access general category scallop fishery (included in Amendment 19 and Framework 27 to the Scallop FMP)
- Modeling of profitability, capacity utilization and efficiencies associated with scale

If you have participated in this study in years past, *thank you*. We are listening and we are working hard to do a better job for fishermen.

Survey Administration and Participation Data

Surveys were sent to 1,789 fishermen in the Northeast. We received a total of 312 returned by mail and 55 returned through our web survey. Response frequencies by primary gear group are summarized below.



Average Respondent Vessel Characteristics

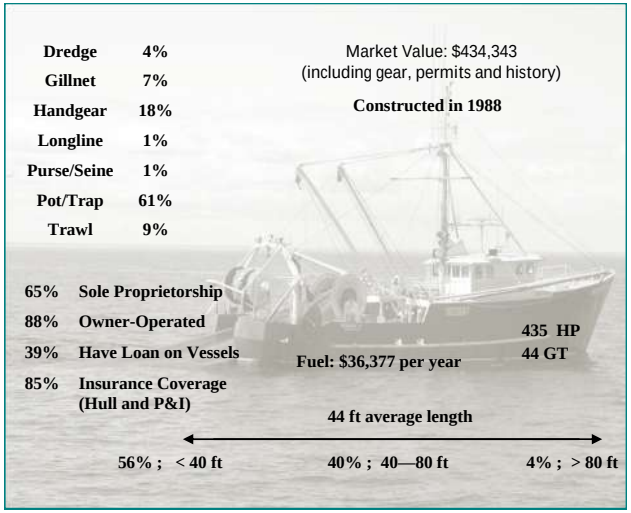


Photo Credit: Ecosystems Surveys Branch, NEFSC/NOAA

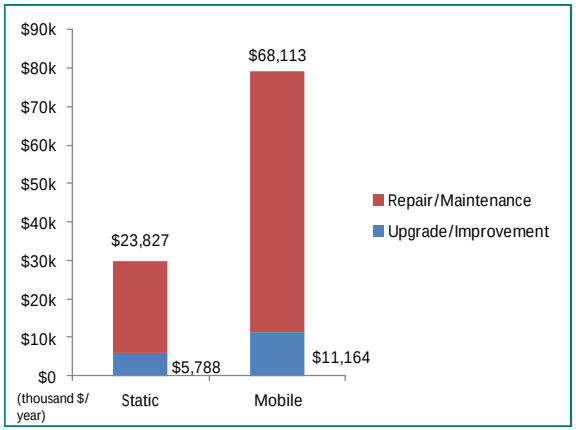
Please note: the summary characteristics above are for our sample only and do not necessarily reflect the characteristics of the population.

Average Repair/Maintenance and Upgrade/Improvement Costs

Survey respondents were asked to report these costs by eight different categories: engine, deck equipment, hull, gear, wheel house/gear electronics, processing/refrigeration, safety equipment and other. Average costs per year by vessel length are reported below.

	vessel < 40 ft		vessel 40 - 80 ft		vessel > 80 ft	
	Upgrade/ Improv.	Repair/ Maint.	Upgrade / Improv.	Repair/ Maint.	Upgrade/ Improv.	Repair/ Maint.
Gear	$1,213	$5,713	$1,689	$12,104	$1,907	$30,024
Hull	$451	$1,295	$1,189	$4,236	n.a.	$25,813
Other	$234	$1,833	$458	$4,385	n.a.	$20,526
Engine	$1,423	$2,594	$2,731	$7,313	$7,024	$15,716
Deck	$334	$1,340	$1,144	$5,132	$3,390	$7,273
Processing/ Refrig.	n.a.	$332	$335	$5,708	$687	$4,946
Wheelhouse	$347	$1,012	$666	$2,145	$549	$4,406
Safety Equip.	$163	$976	$248	$1,467	$907	$2,054
TOTAL	$4,165	$15,095	$8,460	$42,490	$14,464	$110,758

Vessels with mobile gear (average length: 68 ft) incur significantly greater repair/ maintenance costs than vessels with static gear (average length: 38 ft). Average repair/ maintenance and upgrade/improvement costs by vessel gear type are shown below.

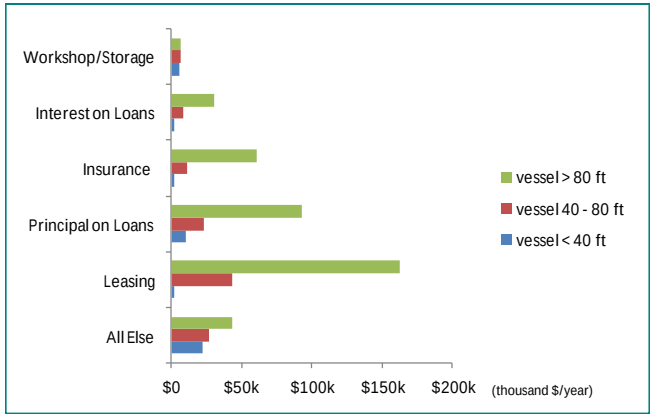


Data Analysis Notes

- Categories with less than 3 responses are not reported.
- The mobile gear category includes those whose primary gear type is dredge or trawl (the static gear category includes gillnet, longline, handgear, pot/trap, purse/seine).
- Only non-zero values are considered for calculating averages and cost distributions.
- All costs are in 2012 dollars.

Average Fishing Business Costs

Fishing business costs are expenses for things like workshop/storage, association fees, office expenses, professional fees, loan payments and leasing costs. The averages for five of the largest cost categories are summarized by vessel size below.



Average Operating Costs

Fuel is the largest operating cost, accounting for 31% ($14,223) and 57% ($102,213) of operating costs for static and mobile vessel groups respectively. Below are averages for the remaining operating cost categories per year.

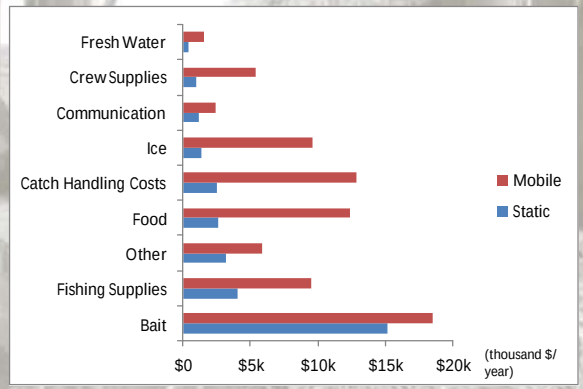


Photo Credit: Ecosystems Surveys Branch, NEFSC/NOAA

The Social Sciences Branch (SSB) of the Northeast Fisheries Science Center (NEFSC) became aware on Monday, August 15, 2016 of a mailing error for the Northeast Commercial Fishing Business Cost Survey for 2015. On August 10, 2016, fishing businesses were mailed an invite to participate in the online version of the survey, along with information about the purpose of the survey and a brochure summarizing results from the 2012 cost survey and how the 2012 cost data have been used. This mailing was followed by a mailing of a paper copy of the survey on August 12, 2016. Both mailings were affected by the error.

For our sample, one vessel and one primary owner name for a fishing business was selected. This was done because we did not want to ask an owner to fill out multiple surveys if the business owns multiple vessels. In addition, we did not want to address a survey to a business name, but rather to an individual owner. The correct physical mailing address (street address, city and state) and correct vessel name were merged incorrectly with an individual owner's name due to a coding error.

We wish to thank all the business owners who have contacted us regarding this error. We have been trying to respond to calls and emails as quickly as possible, but as you can imagine, we are receiving many calls and emails at this time.

Please be assured of the following:

1. No information in the NOAA Fisheries Northeast federal permit database has changed. The files SSB works with to conduct this survey are separate from the NOAA Fisheries Northeast federal permit database. No staff members in SSB are authorized to make changes to the NOAA Fisheries Northeast federal permit database.

2. No confidential data about the owner's fishing vessel or fishing business have been released to anyone. The cost survey website does not feed any information about a particular owner's vessel or business from the website to anyone who accesses the website other than the vessel name and hull number. In addition, no other business owner can access or fill out the survey for a vessel he or she does not own, since the usernames and passwords for a particular fishing business have not been sent to any other business.

3. Corrected mailings for the online and paper versions of the cost survey will be mailed out shortly. If a fishing business owner has not yet responded to the cost survey, we encourage them to wait until they receive the corrected mailings. For those business owners that have already responded despite the error, we thank you for your participation. Your responses will be linked to the correct vessel name and fishing business.

Again, we deeply apologize for any confusion or concerns we have caused due to this mailing error. This should not have happened. We hope that fishing business will participate in this important cost survey effort despite our error. If you have any questions or concerns, please contact Tammy Murphy at 508.495.4716 (Email: Tammy.Murphy@noaa.gov) or Megan Bailey at 508.495.4717 (Email: Megan.Bailey@noaa.gov).

Thanks once again to the many owners that have contacted us. We appreciate your patience and understanding as we work to correct our error and respond to questions and concerns.

NOAA FISHERIES

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C/O ICF International
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Martinsville, VA 24112

Keyline indicates window location

Northeast Commercial Fishing Business Cost Survey for 2015
Reminder Postcard

Dear {NAME},

Our records indicate that you have not yet responded to the Northeast Commercial Fishing Business Cost Survey for 2015 we mailed you about earlier this month.

We know your time is valuable. Your participation in this survey is important because the total cost of owning and operating a commercial fishing business varies across ports, fisheries, gear types and vessel sizes. To capture these critical aspects of your businesses and communicate them to fisheries managers, we need to hear from every fisherman who receives the survey.

If you have already returned the survey, we sincerely thank you for time and effort! If not, please take the time to fill out the survey and return it in the envelope we provided. Your responses are confidential; this is required by law. If you have any questions or concerns related to this survey, please feel free to contact the toll-free survey hotline at 1-844-604-4387 or email FishingCostSurvey@icfsurveysupport.com.

Thank you once again
The Social Science Branch, Northeast Fisheries Science Center, Woods Hole, MA

REFERENCES CITED

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