

# Economic Impact Analysis of North Carolina's Commercial Fisheries -- Commercial Harvesters Survey

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Shrimp trawler at dock. Steve Mehan, NCDMF.

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## Executive Summary

- This report describes the results of a survey of North Carolina commercial seafood harvesters conducted in 2019.
- The survey was part of a larger study to assess the economic impacts of the North Carolina seafood industry. Although the North Carolina Division of Marine Fisheries (NCDMF) collects information on commercial seafood harvesters through its Trip Ticket Program, detailed information on harvester costs and distribution channels is lacking. A primary purpose of this report is to provide detailed information on harvester costs and distribution channels.
- The study was funded by The North Carolina Marine Fisheries Commission Commercial Resource Fund Committee and the Funding Committee for the North Carolina Commercial Fishing Resource Fund.
- The survey contacted the complete population of 2,496 active commercial seafood harvesters licensed in North Carolina in 2019. A total of 566 surveys were returned for a survey response rate of 22.7 percent.
- The survey respondents were representative of the population of harvesters in terms of age, gender, race/ethnicity, and geographic region, but the distribution of respondents by fishing vessel length was different from the corresponding vessel length distribution for the full population; hence, survey results were weighted/corrected for vessel length using post-stratification methods.
- Survey results include harvester demographics, vessel characteristics, gear types used, target species pursued, dockside sales, trips, trip expenses, fixed/durable expenses, crew compensation, harvester income, and distribution channels. These results are presented for three coastal sub-regions and for the state as a whole.
- To support economic impact analysis (EIA), detailed commercial harvester expenditure patterns and production functions (harvester expenditures in various expense categories per \$1 of harvester dockside sales) were developed for three coastal sub-regions, four target species groups (shrimp, blue crabs, shellfish and finfish), and the state as a whole.
- As hurricane Dorian struck North Carolina during the study period on September 6, 2019, harvester responses to hurricane Dorian, including actions taken by harvesters to protect fishing vessels and numbers of missed fishing trips, are also reported.
- The results presented in this report support the EIA conducted as part of the larger companion study of the economic impacts of the North Carolina commercial seafood industry in 2019 as well as future economic impact studies conducted by NCDMF.

## Introduction

In 2019, the North Carolina Marine Fisheries Commission Commercial Resource Fund Committee and the Funding Committee for the North Carolina Commercial Fishing Resource Fund issued a request for proposals for funding from the North Carolina Commercial Fishing Resource Fund to support a study of a comprehensive assessment of the economic impact and net societal benefits of North Carolina's commercial fishing industry. The study was to consider economic impacts throughout the supply and distribution chain, from the initial sale of seafood by harvesters, including the activities of business that service and supply the harvesters, to the activities of those who process, transport and, sell the seafood products, to the final consumers. The study was to consider operating expenditures as well as durable goods expenditures of the seafood industry. The study should be comprehensive, including impacts on local economies and communities, the state, and the nation. A goal was to collect information to fill knowledge gaps, especially information on the value added to seafood products along the supply chain; such value is not included in typical ex-vessel (dockside) value estimates for the commercial fishery. In addition, operating expenditure information was needed for businesses along the supply chain that could be used in future economic impact work to be completed by the North Carolina Division of Marine Fisheries (NCDMF) to improve the resolution of future impact estimates.

A team of researchers from North Carolina State University, the University of North Carolina-Wilmington, Appalachian State University, and North Carolina Sea Grant were awarded funds to carry out the project. The project was initially to include four separate data-collection surveys: (1) a survey of North Carolina commercial seafood harvesters, (2) a survey of North Carolina seafood dealers (including seafood processors and packers), (3) a survey of North Carolina seafood restaurants, seafood markets and grocery stores, and (4) a survey of North Carolina seafood-consuming households. However, since NCDMF undertook separately a survey of NC seafood dealers in the fall of 2019, the present study made use of the results of the NCDMF survey and did not go forward with an additional dealer survey to avoid duplication (the budget of the present study was reduced proportionately).

To capture the full range and diversity of North Carolina commercial fisheries, it was decided to estimate the economic impacts of commercial fishing both statewide and for three geographic sub-regions (Table 1) and for a full calendar year. In consultation with The North Carolina Marine Fisheries Commission Commercial Resource Fund Committee and the Funding Committee for the North Carolina Commercial Fishing Resource Fund, it was decided to focus on a particular year, in this case the most recent year, 2019, instead of an average of years, because fishing activities from the most recent year would still be fresh in the minds of fishermen, and cost and price information would be the most recent. However, choosing to focus on a single year has the drawback that study results will reflect any unusual events that occur in the chosen year. Events that could be considered unusual in 2019 include (1) Hurricane Dorian, a Category 1 hurricane that struck North Carolina on September 5-6, 2019 (USNWS 2019) and (2) additional restrictions on the commercial founder season made necessary to comply with the requirements of Amendment 2 to the N.C. Southern Flounder Fishery Management Plan (NCDMF Proclamation No.'s: FF-31-2019 and FF-34-2019) .

The surveys began in February 2020. Unfortunately, the COVID-19 pandemic reached North Carolina on March 3, 2020 (NCDHHS 2020). While the pandemic did not affect fishing activity in year 2019, it did affect the surveys. In particular, many seafood processors and packers were closed for a period of time due to pandemic-related stay-at-home orders, and many seafood markets and restaurants were closed or operating at reduced capacity for an even longer period throughout the spring and summer of 2020 when project surveys were underway. Many business owners and managers were unavailable to answer surveys because their businesses were closed due to reduced demand or restricted availability of necessary supplies, or owners and managers were unusually busy attempting to keep their businesses running in the midst of the crisis. As a result, survey response rates were lower than expected for the seafood market and restaurant surveys. The response rates for the commercial harvester and household seafood consumer surveys were good but likely somewhat negatively affected by the alterations in daily schedules (e.g., unemployment, at-home schooling, etc.) created by the pandemic.

The purpose of this report is to describe the results from the N.C. commercial seafood harvesters survey, which is a portion of the overall study of the N.C. commercial seafood industry. Results from the harvester survey are of interest in themselves and also support the economic impact analysis (EIA) conducted for the overall study.

## Survey Methodology

The survey of commercial harvesters attempted to reach the full population of "active" NC commercial fishermen who held any type of North Carolina commercial fishing license as of November 27, 2019, including the Standard Commercial Fishing License (SCFL), Retired Standard Commercial Fishing License (RSCFL), Shellfish License without a SCFL license, or Land or Sell license. "Active" was defined as having had some positive quantity of commercial trip ticket landings between July 2018 and November 2019.

In the NCDMF Commercial Fishing License database, there were 5086 individuals or corporations holding commercial fishing licenses on November 27, 2019; however, only 2496 were "active." Of the active license holders, 96 were out-of-state residents with out-of-state home ports who buy NC licenses to gain access to fish in NC waters. Hence, there were only  $2496 - 96 = 2400$  active *NC-resident* commercial license holders. The survey sample frame consisted of the 2496 active, NC commercial fishing license holders as of November 27, 2019 (both NC-residents and out-of-state residents).

A pre-survey postcard (Appendix 1) notifying the commercial fishermen of the upcoming survey was mailed on December 10, 2019. Due to printing delays, the survey itself, originally scheduled to be mailed in January 2020, was not mailed until February 2020. The commercial fisherman survey was mailed to all 2496 fishermen in the sample frame on February 21, 2020. Each survey could be returned by mail or completed online. The survey package consisted of a cover letter (Appendix 2) explaining the purpose of the survey and giving the internet address for the online survey option, the 8-page survey itself (Appendix 3), and a return-addressed, stamped envelope. A follow-up reminder postcard (Appendix 4) was mailed on March 5, 2020, approximately two-weeks after the initial survey. For those who had not returned the survey and who had an email address on file with NCDMF, a reminder email was sent March 21, 2020. Due



to disruptions to fishermen's normal routines caused by the COVID-19 pandemic, it was decided to send a second, full copy of the survey package on April 23, 2020 to all fishermen in the sample frame who had not yet completed the survey.

The pre-survey postcard, the survey, the follow-up reminder postcard, the reminder email, and the second survey all emphasized the \$50 "thank you" incentive to be paid to each fisherman who returned a completed survey to compensate them for the time and effort required to complete the extensive, detailed survey. Those who provided an email address on the returned survey were sent a \$50 Amazon.com E-gift card. Those who did not provide an email address were sent a \$50 Walmart plastic gift card by regular mail.

A total of 566 surveys were returned, either by mail (426 surveys), or online / via email (140 surveys). There were 564 NC-resident respondents and 2 out-of-state respondents (one SC and one FL). The overall survey response rate was  $(566/2496) \cdot 100 = 22.7$  percent. Some respondents did not provide answers for all questions. As a result, the number of survey responses varies by survey question.

## **Survey Results -- Representativeness of the Survey Sample**

Representativeness of the survey sample refers to whether the survey respondents are a representative sample of the full population of North Carolina commercial harvesters. Representativeness is assessed by comparing key characteristics of the survey respondents with the corresponding characteristics of the full population of harvesters. In this study, representativeness of the survey sample is assessed by considering the following key characteristics:

- Harvester Age (date of birth)
- Harvester Gender
- Harvester Race/Ethnicity
- Geographic Region (region in which harvester is based)
- Harvester Vessel Length (for harvesters with multiple vessels, this is the length of the vessel with highest sales)

It would also be desirable to assess survey representativeness for the additional characteristics of fishing gear type and target species. However, a very large proportion of North Carolina harvesters use multiple gear types and target multiple species across years, and across seasons within a given year, depending on changes in species availability and fishery regulations that occur across years and across seasons within a given year. For most vessels, harvesters report the use of multiple gear types for a given vessel when registering their vessels with NCDMF. Most survey respondents also report using multiple gear types on the same vessel within a single year. NCDMF Trip Ticket Program data indicate that most fishermen harvest multiple species within a given year, and often on a single fishing trip. Survey respondents also report multiple target species within a year and often within a single trip, which is to be expected with some commonly-used gear types such as bottom trawls or gill nets. As a result, due to (1) the variability of gear types and target species both across and within years for both the survey

respondents and the full population of harvesters and (2) the fact that some gear types and target species are correlated with vessel size (for example, small or no vessels used for "by hand" fishing for oysters and clams, small to medium vessels used for crab pots, medium vessels used for snapper/grouper, large to very vessels used for fluke and scallops, etc.), for the purposes of this study it was decided to use vessel length as an imperfect proxy for gear type and target species for the purpose of determining survey representativeness. Nonetheless, the representativeness of the gear types and target species reported by survey respondents can be assessed, if perhaps less directly, by considering the diversity of gear types and the numbers of survey respondents using each gear type reported by survey respondents in Table 10 and the diversity of target species and the numbers of survey respondents targeting each species reported in Table 12.

### Age

The ages of survey respondents ranged from 18 to 86 years, with a mean of 53 years and a median of 54 years (Table 2). The ages of the full population of active NC commercial harvesters ranged from 15 to 91, with a mean and median of 54 years. Hence, the survey captured well the age distribution of active NC commercial harvesters.

### Gender

In terms of gender, 95.2 percent of survey respondents were male and 4.8 percent were female. This compares well with the 94.1 percent of all active NC commercial harvesters who are male and 5.9 percent who are female (Table 3).

### Race/Ethnicity

In terms of race/ethnicity, 91.3 percent of survey respondents were Caucasian/White, 1.4 percent Asian / Pacific Islander, 1.1 percent African American and 0.2 percent Native American (Table 4). No survey respondents identified as Hispanic. This compares well with the population of all active NC commercial harvesters, who identify as 90.1 percent Caucasian/White, 1.8 percent Asian / Pacific Islander, 0.9 percent African American, 0.1 percent Native American and 0.1 percent Hispanic. Hence, the survey slightly over-sampled Caucasian/White, African American and Native American harvesters and under-sampled Hispanic and Asian / Pacific Islander harvesters.

### Geographic Region

For the purposes of this study, the coastal counties of North Carolina (Figure 1) were grouped into three Commercial Fishing Regions (Table 1). In terms of geographic region, 31.6 percent of survey respondents were based in the Northern Region of the coast, 31.1 percent were based in the Central Region, 31.8 percent were based in the Southern Region, 5.1 percent were based outside the coastal regions but inside North Carolina, and 0.4 percent were based out of state (Table 5). This compares well with the full population of active NC commercial harvesters, for which 31.0 percent were based in the Northern Region of the coast, 30.0 percent were based in the Central Region, 28.3 percent were based in the Southern Region, 6.9 percent were based

outside the coastal regions but inside North Carolina, and 3.9 percent were based out-of-state. Hence, the survey slightly under-sampled harvesters based in non-coastal regions of the state and significantly under-sampled harvesters based outside the state, due to the lower response rate of out-of-state harvesters to the survey. In terms of harvesters based out-of-state, the survey picked up only one harvester based in South Carolina and one harvester based in Florida. In contrast, the full population of out-of-state commercial harvesters with active NC commercial licenses includes harvesters from a total of 13 other states, with ten or more harvesters based in each of these states: South Carolina, Virginia, New Jersey, New York, and Massachusetts. However, because the primary purpose of the project was to estimate the economic impacts of commercial fishing inside North Carolina, the under-sampling of harvesters based out-of-state was not considered a significant issue, as these harvesters typically employ crew, purchase supplies, and offload catch outside North Carolina (they typically hold N.C. licenses only to catch fish in N.C. waters that will be landed out of state), and thus the economic impacts of their activities occur mostly out of state.

### Vessel Length

In terms of commercial fishing vessel length, survey respondents can be compared with the population of all active NC commercial harvesters in terms of the percentages of vessels within specified Vessel Length Categories (Table 7). The definitions of Vessel Length Categories used in this study are those used by NCDMF to assess commercial fishing vessel registration fees (NCDMF 2019a). The vessel length figures include vessels based out of state that carry N.C. commercial fishing vessel registrations. For survey respondents, 1.8 percent reported using no vessel while fishing (e.g., these fishermen may harvest clams or oysters hand, spear fish using SCUBA gear, use cast nets from shore, etc.), 27 percent use small vessels (1-18 feet), 56.7 percent use medium vessels (19 to 38 feet), 6.7 percent use large vessels (39-50 feet) and 4.8 percent use very large vessels (51+ feet). Except for the category of "no vessel," these results compare well with the distribution of vessels lengths for all active NC commercial harvesters, of whom 13.1 percent use no vessel, 31.7 percent use small vessels, 47.0 percent use medium vessels, 3.0 percent use large vessels, and 5.2 percent use very large vessels. There were 10 active NC commercial harvesters working without a vessel in the survey responses and 467 in the full population of N.C. commercial harvesters. These "no vessel" harvesters were combined with those in Vessel Length Category "1. Sm Vessels" for analysis purposes. The distributions of vessel lengths also vary across geographic regions within North Carolina (Table 8). Analysis results were corrected/weighted by Vessel Length Category to account for (1) the differences in the distributions of vessel lengths between the survey respondents and the full population of active N.C. commercial harvesters and (2) differences in the distributions of vessel lengths across geographic regions.

## Survey Results -- Categories of Analysis

North Carolina commercial fishing activities vary by geographic region, season of the year, vessel length, gear type and target species. North Carolina counties were grouped into geographic regions so that results could be reported by region (Table 1). Regional county groupings were based on those used in the NCDMF License and Statistics Annual Report "Big Book" (NCDMF 2020).

To account for differences in commercial fishing activities and expenditures across the seasons of the year, the survey asked commercial harvesters to report their numbers of fishing trips, gear type, target species and dockside ex-vessel sales separately for each month of the year.

Commercial fishing vessels were grouped into several Vessel Length Categories to account for differences in fishing activity and expenditures by vessel length. Numbers of survey respondents by vessel length category are presented in Tables 7.

Commercial fishing activities vary by type of fishing gear. The correspondence between NCDMF Trip Ticket Program Gear Type Categories (NCDMF. 2020c) and the gear type categories used in this survey is presented in Table 9. The numbers of survey respondents reporting use of each gear type or combination of gear types are presented in Table 10. These numbers illustrate the range of gear types represented in the study. The total number of respondents reported in Table 10 is greater than the number of survey respondents because respondents could report gear types for up to three different types of trips per respondent. Categories with combination gear types reflect respondents who reported using multiple gear types on a single trip type.

Commercial fishing activities and expenditures vary by target species. The fish and shellfish names used by NCDMF to track seafood landings and value are listed in the first column of Table 11 (NCDMF. 2020b) along with the corresponding names of target species reported by survey respondents in the present study. In addition, the commercial landings (pounds) and ex-vessel (dockside value) of each species in North Carolina in 2019 are presented in Table 11 for comparison purposes. Some survey respondents reported targeting three species that were not on NCDMF's list: Horseshoe Crab, Ribbon Fish and Spiny Lobster. The numbers of survey respondents targeting each species, or combination of species<sup>1</sup>, are presented in Table 12. The total number of respondents targeting species is greater than the number of survey respondents because respondents could report more than one targets species for up to three different types of trips per respondent. The numbers in Table 12 illustrate the wide range of target species represented in the study. For analysis purposes, target species were grouped into four broad categories: Finfish, Shellfish, Blue Crab and Shrimp. Of course, it would be desirable for several purposes to break down these broad categories into finer sub-categories, but unfortunately the survey sample size was not large enough to support the analysis of finer sub-categories of species.

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<sup>1</sup> Species combinations reflect respondents who reported targeting multiple species on a single trip type.

## Survey Results -- General Statistics for N.C. Commercial Harvesters

Tables 13-16 report general statistics regarding North Carolina Commercial Harvesters in 2019 from the information reported by survey respondents. Statewide results are reported for all N.C. resident respondents (n = 564) combined in Table 13. Results for respondents from each of the three commercial fishing regions: Region 01 (north, n = 179), Region 02 (central, n = 176), and Region 03 (south, n = 180) are reported in Tables 14 to 16. For each statistic, the mean, median, minimum and maximum values are reported, as well as the weighted/corrected mean that has been post-stratified by vessel length category (a brief explanation of post-stratification is provided in the following section of the report). The mean is the traditional "average" value. Where the mean and the post-stratified mean differ, the post-stratified mean provides the better estimate. The median is considered a more "representative" value compared to the mean in cases where the underlying data values are highly skewed to the left or right. Fifty percent of the underlying data values are above the median, and fifty percent are below the median.

An explanation of each variable is presented in this section of the report for the table that presents statewide results (Table 13). Explanations are similar for the tables of regional results (Tables 14-16). When referring to mean values in the explanations below, the value for the post-stratified mean is given.

Commercial harvesters have birth years between 1934 and 2002, with a mean and median of 1966. Statewide, commercial harvesters have lived in their home county from 1 to 81 years, with a mean and median of about 35 years. The number of adults supported (at least 50 percent support) by the commercial harvester (including the harvester) family ranges from 0 to 7, with a mean of 1.83 and median of 2.00. (The value can be zero for harvesters living with parents/family.) The number of kids supported (at least 50 percent support) by the commercial harvester ranges from 0 to 5 with a mean of 0.76 and a median of zero.

The number of years in which the harvester has been engaged in commercial fishing ranged from 1 to 70, with a mean and median of 25 years. The number of years in which the harvester has been doing business in their current business community ranged from 1 to 83 years, with a mean and median of about 21 years.

The percentage of the commercial harvester's total income derived from commercial fishing ranged from 1 to 100 percent, with a mean of 48 percent and a median of 50 percent. (In addition, the percentage of commercial harvesters' total income that comes from commercial fishing is presented in Table 17, and the distribution of harvesters' commercial fishing income across income categories is presented in Table 18.) Harvesters could report up to three other sources of income, in addition to commercial fishing. Harvesters reported from 0 to \$750,000 per year in other income, with a mean of \$27,002 and a median of \$5,550.

## Survey Results -- Commercial Harvester Fishing Vessels

Tables 13-16 also present statistics on commercial harvester fishing vessels. Statewide (Table 13), the number of commercial fishing vessel registrations held by an individual commercial harvester ranged from 0 to 10, with a mean of 1.57 and a median of 1. The year in which the harvester's highest-sales producing vessel was built ranged from 1947 to 2019, with a mean and median year of 1995. This means that, on average, the average N.C. commercial vessel is about 25 years old. Commercial harvesters' highest-sales producing vessel had a length of from 0 to 90 feet, with a mean and median length of about 22 feet. (Some commercial harvesters collect seafood from shore by hand or using nets and do not use a vessel; vessel length is 0 for these harvesters.) Vessel horsepower ranged from 10 to 3000 horsepower, with a mean of 170 and a median of 150. Vessel refrigeration capacity in pounds ranged from 0 lbs. to 500,000 lbs., with a mean of 1,811 lbs. and a median of 0 lbs. The number of years that the harvester had owned his/her highest-sales vessel ranged from 1 to 51 years, with a mean and median of about 12 years. The current market value of the harvester's highest-sales producing vessel ranged from \$0 to \$6.75 million, with a mean of \$74,341 and a median of \$23,000. The number of additional crew working with the harvester ranged from zero to 6, with a mean of 0.79 and a median of 1.00.

Hurricane Dorian made landfall in North Carolina in the Outer Banks on September 6, 2019 with 85-kt winds (NHC 2020), affecting commercial fishing activity during the year of the study. With this in mind, several survey questions asked about the effects of Dorian on commercial harvesters. The distribution of actions taken by harvesters to protect their vessels from the hurricane is presented in Table 19. Actions ranged from no action (n = 88, 17.39 percent of respondents) to evacuating the vessel to a different port or location (n = 81, 16.01 percent of respondents). Of 504 survey respondents reporting, 59 (11.7 percent) reported vessel damage from Dorian. Across 504 respondents reporting, vessel damage ranged from 0 to \$150,000, with mean damage of \$680 and median damage of \$0. Of 504 survey respondents reporting, only 3 received reimbursement from insurance, with one receiving \$600 and two receiving \$3000 each. Of 504 survey respondents reporting, only 3 received reimbursement from the government, one each receiving \$300k, \$800 and \$5000. Bad weather due to Dorian resulted in missed fishing trips. The number of fishing trips missed per survey respondent due to Dorian's approach but before Dorian struck ranged from 0 to 30 trips, with a mean of 5.26 trips and a median of 5.08 trips. The number of fishing trips missed per survey respondent due to continued bad weather and repair activities after Dorian struck ranged from 0 to 90 trips, with a mean of 9.29 trips and a mean of 8.66 trips. When asked what wave height would prevent a fishing trip by their highest-sales vessel, answers ranged from 1 to 30 feet, with a mean of 3.93 feet and a median of 4.36 feet. When asked what wind speed would prevent a fishing trip by their highest-sales vessel, answers ranged from 5 to 50 knots, with a mean and median of about 22 knots, for all wind directions.

## **Survey Results -- Commercial Harvester Vessel Trips**

Survey results on the statewide range, mean and median number of trips per vessel by month are presented in Table 13. Results by region are presented in Tables 14-16.

## **Survey Results -- Commercial Harvester Sales**

Statewide results on the range, mean and median monthly sales per vessel by month are presented in Table 13. Results by region are presented in Tables 14-16.

## **Survey Results -- Commercial Harvester Trip Expenses**

Economists classify harvesters' expenditures on commercial fishing activities into two categories, "trip" expenses and "fixed/durable" expenses. Trip expenses include monetary expenditures on goods and services that are typically used for one fishing trip only. Examples include expenditures for crew (when paid on either a "share" or a "per trip" basis), a hired captain (when one is used, and when paid on either a "share" or a "per trip" basis), fuel, ice, bait and "expendable gear" (such as tackle for rod and reel fishing, or light sticks used by surface long liners). Trip expenses are typically measured on a "per fishing per trip" basis and then multiplied by the number of fishing trips per year to arrive at annual expenditure values per vessel. These trip expenses can vary by geographic region, vessel length, fishing gear type, target species, etc.

Statewide results on trip costs are presented in Table 13 (results by region are presented in Tables 14-16). Fuel cost per vessel trip ranged from \$0 to \$27,781 with a mean of \$289.60 and a median of \$442.55. Bait cost per vessel trip ranged from \$0 to \$2,000 with a mean of \$26.67 and a median of \$37.59. Ice cost per vessel trip ranged from \$0 to \$1,800 with a mean of \$25.02 and a median of \$37.40. Grocery cost per vessel trip ranged from \$0 to \$2,850 with a mean of \$41.10 and a median of \$63.28. Expendable Gear cost per vessel trip ranged from \$0 to \$2,310 with a mean of \$25.12 and a median of \$434.91.

Regarding crew arrangements, 44.6 percent of survey respondents fished alone or with family members using no paid crew, 47.4 percent of respondents used crew paid with the "share" system (crew members receive a share of ex-vessel sales after deductions), and 8 percent of respondents used crew paid by the hour or by the day.

For those respondents paying crew using the "share" system (47.4 percent of survey respondents), the crew received from 0 percent to 75 percent share of vessel ex-vessel sales after deductions, with a mean share of 35 percent and a median share of 33 percent. Regarding the cost categories deducted from ex-vessel costs before calculating the crew share, 73 percent of respondents deducted fuel costs, 45 percent deducted bait costs, 50 percent deducted ice costs, 36 percent deducted grocery costs, and 19 percent deducted the costs of various other items.

For those vessels paying crew by the hour or by the day (8 percent of survey respondents), wages by the hour varied from \$10 to \$15 per hour, with the most common form of payment being \$100 per (8-hour) day (or \$12.50 per hour).

## **Survey Results -- Commercial Harvester Fixed/Durable Expenses**

Fixed/durable expenses include monetary expenditures for goods and services that provide value for more than one fishing trip, such as fishing boats and trailers, fishing gear and equipment, boat slip rental, vessel and equipment repair and maintenance, and any other "on shore" expenses. Fixed/durable expenses can be further sub-divided into two sub-categories, fixed/durable vessel costs and fixed/durable business costs. Fixed/durable vessel costs are monetary expenditures made on a "per vessel per year" basis that are spread across all trips made by a given vessel, such as vessel registration fees, the cost of a new engine, or the cost of new electronics for the vessel. Fixed/durable business costs are those that are "per year" but are spread across all vessels and trips, such as telephone, internet, and accounting costs. Statewide results for vessel fixed/durable costs (VFC) and business fixed/durable costs (BFC) are presented in Table 13. Results by region are presented in Tables 14 to 16.

## **Survey Results -- Commercial Harvester Expenditure Patterns**

Data from the commercial harvester survey were used to tabulate annual commercial harvester expenditures. Potentially, expenditures could be tabulated for a large number of categories of analysis: geographic region, season, vessel length, gear type, target species group, etc. For the purposes of this study, and especially to support the Economic Impact Analysis (EIA) portion of this study, expenditures were tabulated on an annual basis for the following categories of analysis:

- Statewide (all regions, all seasons, all gear, all target species groups)
- By region for the three coastal regions (all seasons, all gear, all target species groups)
- By target species groups for four species groups (all regions, all seasons, all gear)

Average (mean), minimum, and maximum annual sales and expenditures by category of analysis are presented in Tables 20-27. (Trip costs were multiplied by the annual number of trips per vessel to calculate annual trip costs.) All dollar figures are reported in nominal, year 2019 dollars.

Data from the commercial harvester survey were used to develop custom production functions for the Economic Impact Analysis (EIA) portion of this study. The production functions describe the expenditures patterns of the commercial harvesters. Each production function is expressed on a "per dollar of harvester sales" basis; that is, each production function gives, on



average, the proportion of harvester sales that is spent by the harvester on each category of intermediate purchases and value-added components. Intermediate purchases are the goods and services purchased by the harvester in order to support his commercial fishing business (not including the value-added components). Value-added components include money spent by the harvester on the crew and hired captain (if any), taxes paid, and any profits retained by the harvester. The value of any non-paid harvesting labor supplied by the harvester's family is valued at \$12/hour (the typical pay rate for harvester labor reported by survey respondents) and is included as part of the value-added profits retained by the harvester. The analysis identifies any expenditures on goods and services purchased from sellers located outside NC; these expenditures are allocated to "imports," which are economic "leakages" from the state that do not result in multiplier effects within the state.

As commercial fishing expenditure patterns can vary significantly by vessel length, the survey results were corrected for differences between the vessel lengths of the survey respondents and the vessel lengths of the full population of active N.C. commercial fishermen using the method of post-stratification (Cochran 1977). Post-stratification by vessel length was used because vessel length data are available for all vessels in the population, as vessel length is collected by NCDMF at the time of vessel registration (NCDMF 2019b), and key cost components, such as crew expenses and fuel expenses, tend to scale with vessel length. Four vessel length categories were used, based on the four vessel length categories used by NCDMF in assessing commercial fishing vessel registration fees: small vessel: 0-18 ft., medium vessel: 19-38 ft., large vessel: 39-50 ft., and very large vessel: greater than 50ft. (Commercial harvesters who do not use a vessel to harvest seafood, such as those who harvest clams or oysters by hand from shore, were included in the small vessel 0-18 ft. vessel category for analysis purposes.) Post-stratification was done for the state as a whole, by geographic region, and by fish species category. The need for post-stratification was indicated by the differences in vessel length distributions between the full population of harvesters and the harvesters in the survey sample (Table 7) and the differences in vessel length distributions across geographic regions (Table 8). Generally, the survey under-sampled smaller vessels. The purpose of post-stratification is to correct for under- or over-sampling.

The post-stratification methodology used in this study is described below. For each geographic region  $r$ , where the regions  $r$  are Statewide, Region 1, Region 2, and Region 3,  $N_r$  is the total number of active commercial vessels in the vessel population in region  $r$ , and  $N_{rc}$  is the number of population vessels in vessel length category  $c$  in region  $r$ . Similarly,  $n_r$  is the total number of active commercial vessels in the survey sample in region  $r$ , and  $n_{rc}$  is the number of sample vessels in vessel length category  $c$  in region  $r$ . The sum of annual sales of all sample vessels in region  $r$  in length category  $c$  is given by  $s_{rc}$ . The post-stratified mean annual sales per vessel in region  $r$ ,  $S_r^*$ , is given by:

$$S_r^* = \sum_c \left( \frac{N_{rc}}{N_r} \right) \cdot \left( \frac{s_{rc}}{n_{rc}} \right)$$

The sum of annual expenditures of all sample vessels in region  $r$  in length category  $c$  in expenditure category  $e$  is  $E_{rce}$ . The post-stratified mean annual expenditure per vessel in expenditure category  $e$  in region  $r$ ,  $E_{re}^*$  is given by:

$$E_{re}^* = \sum_c \left( \frac{N_{rc}}{N_r} \right) \cdot \left( \frac{E_{rce}}{n_{rc}} \right)$$

The post-stratified mean proportion of harvester expenditures in expenditure category  $e$  in region  $r$ ,  $p_{re}^*$  is given by:

$$p_{re}^* = \frac{E_{re}^*}{S_r^*} \quad \text{where} \quad \sum_e p_{re}^* \equiv 1$$

A similar post-stratification procedure was used to correct the mean expenditure proportions for each target species category, where the definition of  $r$  in the formulas above is changed to indicate various target species categories instead of geographic regions. In this case, the target species categories  $r$  are Finfish, Shellfish, Blue Crab and Shrimp.

## Survey Results -- Commercial Harvester Production Functions

To support the Economic Impact Analysis (EIA) portion of this study (Edwards et al. 2021), the Commercial Harvester Expenditure Patterns presented in Tables 20-27 were converted from a "per \$1 million ex-vessel sales" basis to a "per \$1 ex-vessel sales" basis for use with the IMPLAN economic impact software (IMPLAN 2019) used in the EIA. As an example, Table 31 presents the "Statewide, All Species" harvester production function used in the EIA, together with the commodity sectors of the IMPLAN model that correspond to each expenditure category. The harvester production functions for the individual regions and target species groups are similar. See Edwards et al. (2021) for additional details regarding the EIA.

## Survey Results -- Commercial Harvester Distribution Channels

Commercial harvester distribution channels give the percentages of harvester sales that are sold by the harvester at dockside (ex-vessel) to each of several categories of buyers: seafood processors (who process and pack seafood for later sale to wholesale and retail markets), seafood markets (who, in turn, sell to final retail consumers), seafood dealers (who serve as middle men, connecting harvesters with other buyers), and final retail consumers (if a harvester holds a seafood dealer license, as well as a commercial fishing license, then the harvester may sell seafood directly to final retail customers).

Survey respondents reported the percentages of ex-vessel (dockside) sales made to each category of buyer for the following target species groups:

- Atlantic Menhaden
- Flounder
- Snapper/Grouper
- Highly Migratory Species (Tuna, Swordfish, etc.)
- Sea Bass / Drum
- Atlantic Croaker
- King Mackerel / Spanish Mackerel
- Triggerfish
- Striped Bass
- Catfish
- Other Finfish
- Blue Crabs (hard)
- Blue Crabs (soft)
- Shrimp
- Oysters
- Hard Clams
- Scallops (landed in NC)
- Scallops (landed out-of-state)
- Other Seafood (not finfish)

Table 28 presents statewide results for all target species combined, Table 29 presents statewide results for the four aggregate target species categories used in the economic impact analysis (EIA): Finfish, Blue Crab, Shellfish and Shrimp, and Table 30 presents results by geographic region for all target species combined.

The Finfish aggregate category is composed of the distribution chain data for the flounder and snapper/grouper target species as representative species for the Finfish category. The Blue Crab aggregate category is composed of the distribution chain data for the blue crab (hard) and blue crab (soft) target species. The Shellfish aggregate category is composed of the distribution chain data for the oysters, hard clams, scallops (landed in NC) and scallops (landed out-of-state) target species. The Shrimp category simply reflects the distribution chain data for the shrimp target species.

The percentages presented are the weighted-mean, post-stratified percentages for each aggregate target species category, where the mean percentages are averages across the individual survey respondents, weighted by annual sales of each respondent, and then post-stratified (weighted again) by vessel length category based on the distribution of vessel lengths in the full population of commercial fishing vessels for the relevant geographic region (statewide, region 1, region 2, region 3).

## Summary and Conclusion

This report describes the results of a survey of North Carolina commercial seafood harvesters conducted in 2019. The survey was part of a larger study to assess the economic impacts of the North Carolina seafood industry. Although the North Carolina Division of Marine Fisheries (NCDMF) collects information on commercial seafood harvesters through its Trip Ticket Program, detailed information on harvester costs and distribution channels is lacking. A primary purpose of this report is to provide detailed information on harvester costs and distribution channels.

The survey contacted the complete population of 2,496 active commercial seafood harvesters licensed in North Carolina in 2019. A total of 566 surveys were returned for a survey response rate of 22.7 percent.

The survey respondents were representative of the population of harvesters in terms of age, gender, race/ethnicity, and geographic region, but the distribution of respondents by fishing vessel length was different from the corresponding distribution for the full population; hence, survey results were weighted/corrected for vessel length using post-stratification methods. The survey respondents represented a great variety of fishing gears, fishing methods, and target species.

Survey results include harvester demographics, vessel characteristics, gear types used, target species pursued, dockside sales, trips, trip expenses, fixed/durable expenses, crew compensation, harvester income, and distribution channels. These results are presented for three coastal sub-regions and for the state as a whole. On average statewide, commercial harvesters have lived in their home community 35 years and have been in the commercial fishing business for 25 years. On average statewide, commercial harvesters derive 48 percent of their income from commercial fishing; however, 33 percent of commercial harvesters derive over 90 percent of their income from commercial fishing.

On average statewide, commercial harvesters spend \$290 on fuel, \$27 on bait, \$25 on ice, \$41 on groceries, and \$25 on other expendable gear per fishing trip. In addition to these trip-related costs, commercial harvesters have additional fixed/durable costs related to their vessels that average \$13,484 per year, and additional fixed/durable costs not related to their vessels that average \$3,794 per year. Large expenditure categories include vessel loan payments, new vessel engines, vessel engine repair, new fishing gear (nets, lines and crab pots), boat slip rental, insurance, and business vehicle (truck) payments. Commercial harvesters pay an average of \$399 per year in property taxes per fishing vessel and an additional \$176 per year in other business-related property taxes.

Perhaps surprisingly, 44.6 percent of survey respondents fished alone or with family members without using a paid crew. Commercial harvesters utilize non-paid family labor valued at \$1,058 per year, on average. For those harvesters utilizing a crew and paying the crew using the "share" system (47.4 percent of harvesters), on average the crew receives a 35 percent share of dockside sales (after deductions for trip expenses). For those harvesters paying crew by the hour or by the

day (8 percent of harvesters), wages by the hour varied from \$10 to \$15 per hour, with the most common form of payment being \$100 per (8-hour) day (or \$12.50 per hour).

In terms of distribution channels, on average statewide, 51 percent of dockside sales are sold to seafood processors/packers, 22.7 percent to seafood markets, 10.3 percent to other intermediary seafood dealers, and 16 percent direct to final retail customers.

To support economic impact analysis (EIA), detailed commercial harvester expenditure patterns and production functions (harvester expenditures in various expense categories per \$1 of harvester dockside sales) were developed for three coastal sub-regions, four target species groups (shrimp, blue crabs, shellfish and finfish), and the state as a whole.

As hurricane Dorian struck North Carolina during the study period on September 6, 2019, harvester responses to hurricane Dorian including numbers of missed fishing trips are also reported. On average statewide, survey respondents report missing 5 fishing trips before the hurricane strike and an additional 9 fishing trips after the hurricane strike due to actions necessary to prepare for, and recover from, the hurricane.

The results presented in this report support the economic impact analysis (EIA) of the larger companion study of the North Carolina commercial seafood industry in 2019 (Edwards et al. 2021) as well as future economic impact studies conducted by the N.C. Division of Marine Fisheries. Overall, this report finds that the commercial harvesting sector of the North Carolina commercial seafood industry is a very diverse, coast-wide, year-round business targeting an array of species that changes with the seasons using a wide variety of fishing gear deployed both from shore by hand and from a wide variety of fishing vessels. Commercial fishing activity is broadly distributed from the brackish water rivers of the state, to extensive estuaries and sounds, to both sides of the barrier islands, nearshore in the ocean, and far offshore, reaching waters off Virginia, Maryland, New Jersey, and points beyond. It is a business that provides a livelihood to a wide variety of individuals, young and old, wealthy and of modest means, from those digging clams by hand in the mud flats to those captaining large, multi-million dollar vessels that stay at sea for weeks. The high quality of North Carolina's coastal water resources, and the investments made in maintaining good water quality and in providing the infrastructure necessary to make the waters accessible to all, not only provide North Carolina with rich commercial fishing opportunities, but also attract hundreds of thousands of visitors to our state each year to enjoy fresh, North Carolina seafood. North Carolina's fishery resources are truly a state treasure that, through wise policy and sound management, will continue to pay handsome dividends for generations to come.

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## Tables



Table 1. Definitions of NC Coastal Regions Used in This Report

NC Coastal Region	NC Counties
1. North Coast	Bertie
	Camden
	Chowan
	Currituck
	Dare
	Hertford
	Hyde
	Pasquotank
	Perquimans
	Tyrrell
	Washington
2. Central Coast	Beaufort
	Carteret
	Craven
	Pamlico
3. South Coast	Brunswick
	New Hanover
	Onslow
	Pender
4. Other NC (non-coastal)	(all non-coastal)
5. Out of State	(NA)

Note: Survey respondents are assigned to regions based on reported place of business. Those survey respondents who reported a non-coastal NC county as their place of business were assigned to the nearest coastal region.

Table 2. Active NC Commercial Harvesters 2019 by Birth Year, Comparison of Survey Sample and Full Population

<u>Survey Sample</u>			<u>Full Population</u>		
<u>Active NC Commercial Harvesters 2019</u>			<u>Active NC Commercial Harvesters (NCDMF 2019b)</u>		
<u>Birth Year</u>	<u>Number</u>	<u>Percent</u>	<u>Birth Year</u>	<u>Number</u>	<u>Percent</u>
1930	0	0.00	1930	4	0.16
1935	3	0.53	1935	21	0.84
1940	13	2.30	1940	51	2.04
1945	29	5.12	1945	121	4.85
1950	55	9.72	1950	183	7.33
1955	64	11.31	1955	264	10.58
1960	76	13.43	1960	292	11.70
1965	61	10.78	1965	299	11.98
1970	69	12.19	1970	273	10.94
1975	56	9.89	1975	230	9.21
1980	41	7.24	1980	190	7.61
1985	43	7.60	1985	161	6.45
1990	31	5.48	1990	129	5.17
1995	16	2.83	1995	82	3.29
2000	7	1.24	2000	31	1.24
2005	0	0.00	2005	6	0.24
Unknown	2	0.35	Unknown	159	6.37
<b>Total</b>	<b>566</b>	<b>100</b>	<b>Total</b>	<b>2496</b>	<b>100</b>

Table 3. Active NC Commercial Harvesters 2019 by Gender, Comparison of Survey Sample and Full Population

Survey Sample Active NC Commercial Harvesters 2019

Gender	Number	Percent
Female	27	4.79
Male	537	95.21
Unknown	2	----
Total	566	100

Full Population Active NC Commercial Harvesters (NCDMF 2019b)

Gender	Number	Percent
Female	137	5.87
Male	2196	94.13
Unknown	163	----
Total	2496	100

Table 4. Active NC Commercial Harvesters 2019 by Race / Ethnicity, Comparison of Survey Sample and Full Population

Survey Sample Active NC Commercial Harvesters 2019

<u>Race Description</u>	<u>Number</u>	<u>Percent</u>
African American	6	1.06
Native American	1	0.18
Asian / Pacific Islands	8	1.41
Caucasian	517	91.34
Hispanic	0	0
Other	2	0.35
Unknown	32	5.65
Total	566	100

Full Population Active NC Commercial Harvesters (NCDMF 2019b)

<u>Race Description</u>	<u>Number</u>	<u>Percent</u>
African American	22	0.88
Native American	2	0.08
Asian / Pacific Islands	45	1.8
Caucasian	2249	90.1
Hispanic	3	0.12
Other	3	0.12
Unknown	172	6.89
Total	2496	100

Table 5. Active NC Commercial Harvesters 2019 by Geographic Region, Comparison of Survey Sample and Full Population

Survey Sample Active NC Commercial Harvesters 2019

<u>Region</u>	<u>Number</u>	<u>Percent</u>
1. Northern Coast	179	31.63
2. Central Coast	176	31.1
3. Southern Coast	180	31.8
4. Non-Coastal NC County	29	5.12
5. Out of State	2	0.35
Total	566	100

Full Population Active NC Commercial Harvesters (NCDMF 2019b)

<u>Region</u>	<u>Number</u>	<u>Percent</u>
1. Northern Coast	773	30.97
2. Central Coast	750	30.05
3. Southern Coast	706	28.29
4. Non-Coastal NC County	171	6.85
5. Out of State	96	3.85
Total	2496	100.01

Table 6. Active NC Commercial Harvesters 2019 by State of Residence, Comparison of Survey Sample and Full Population

Survey Sample

Active NC Commercial Harvesters 2019

State	Number	Percent
FL	1	0.18
NC	564	99.65
SC	1	0.18
Total	566	100.01

Full Population

Active NC Commercial Harvesters (NCDMF 2019b)

State	Number	Percent
CT	2	0.08
FL	2	0.08
GA	4	0.16
MA	13	0.52
MD	2	0.08
MS	1	0.04
NC	2400	96.15
NJ	28	1.12
NY	11	0.44
PA	1	0.04
RI	7	0.28
SC	14	0.56
VA	10	0.4
WV	1	0.04
Total	2496	99.99

Table 7. Number of Active N.C.-Registered Commercial Fishing Vessels by Vessel Length Category

Survey Sample Active NC Commercial Harvesters 2019

<b>Vessel Length Category</b>	<b>Vessel Length (feet)</b>	<b>Number</b>	<b>Percent</b>
0. No Vessel	0	10	1.77
1. Sm Vessels	1 to 18	153	27.03
2. Md Vessels	19 to 38	321	56.72
3. Lrg Vessels	39 to 50	38	6.71
4. V.Lrg Vessels	51 +	27	4.77
Missing		17	3.00
Total		566	100.00

Full Population Active NC Commercial Harvesters (NCDMF 2019b)

<b>Vessel Length Category</b>	<b>Vessel Length (feet)</b>	<b>Number</b>	<b>Percent</b>
0. No Vessel	0	467	13.11
1. Sm Vessels	1 to 18	1128	31.66
2. Md Vessels	19 to 38	1675	47.01
3. Lrg Vessels	39 to 50	108	3.03
4. V.Lrg Vessels	51 +	185	5.19
Missing		0	0.00
Total		3563	100

Note 1: Definitions of Vessel Length Categories are those used by NCDMF to assess commercial fishing vessel registration fees (NCDMF 2019a).

Note 2: Figures in tables above include vessels based out of state that carry N.C. commercial fishing vessel registrations.

Note 3: Some NC commercial fishermen do not use a vessel when harvesting seafood (e.g., clam or oyster harvesting by hand, spear fishing via SCUBA, cast nets from shore, etc.); these fishermen appear in the Vessel Length Category "0. No Vessel" category in the table above. There were 10 active NC commercial harvesters working without a vessel in the survey responses and 467 in the full population of N.C. commercial harvesters in 2019. These "no vessel" harvesters were combined with those in Vessel Length Category "1. Sm Vessels" for analysis purposes. Analysis results were corrected/weighted by Vessel Length Category to account for the differences in the distribution of vessel lengths between the survey results and the full population of N.C. commercial harvesters in 2019.

Table 8: Differences in Vessel Length Distributions by Geographic Region  
(values in table are percentages)

Vessel Length Category	Statewide		Region 1		Region 2		Region 3	
	Full Population of NC Harvesters	Survey Sample of Harvesters	Full Population of NC Harvesters	Survey Sample of Harvesters	Full Population of NC Harvesters	Survey Sample of Harvesters	Full Population of NC Harvesters	Survey Sample of Harvesters
Small Vessels (0-18ft)	45.82	25.63	35.63	12.50	37.60	20.15	64.13	43.59
Medium Vessels (19-38ft)	47.97	60.56	56.08	65.38	55.35	65.67	31.87	50.43
Large Vessels (39-50ft)	2.96	7.89	4.94	16.35	2.20	2.99	2.05	5.98
V.Large Vessels (51+ft)	3.25	5.92	3.35	5.77	4.85	11.19	1.95	0.00
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Note 1: Geographic Regions are defined in Table 1.

Note 2: The Small Vessel category includes "no vessel" harvesters who fish by hand without using a vessel.



Table 9. Gear Types. Correspondence between NCDMF Trip Ticket Program Gear Type Categories and Gear Type Categories Used in Survey (NCDMF. 2020c)

<b>NCDMF Trip Ticket Program Gear Category Number and Gear Description</b>	<b>Gear Category Name Used in Survey</b>
020 Beach Seine	BEACHSEINE
025 Swipe Net	BEACHSEINE
030 Haul Seine	LONGHAULSEINE
035 Common Seine	BEACHSEINE
125 Purse Seine	LONGHAULSEINE <sup>2</sup>
180 Channel Net	CHANNELNET
189 Butterfly Net	TRAWL
194 Skimmer Trawl	SKIMMER
205 Crab Trawl	TRAWL
206 Peeler Trawl	TRAWL
210 Flounder Trawl	TRAWL
214 Scallop Trawl	TRAWL
215 Shrimp Trawl	TRAWL
220 Clam Trawl (kicking)	TRAWL
230 Flynets	TRAWL
275 Pound Net	POUNDNET
289 Shrimp Pound	POUNDNET
310 Fyke/Hoop Net	FYKENET, HOOPNET
325 Conch Pot	FISHPOT
330 Crab Pot	CRABPOT
334 Peeler Pot	CRABPOT
340 Eel Pot	FISHPOT
345 Fish Pot	FISHPOT
375 Turtle Pot	FISHPOT
426 Gill Net Set	GILLNET
427 Gill Net Set	GILLNET
470 Gill Net Drift	GILLNET
475 Gill Net Runaround	RUNAROUNDNET
610 Rod-n-Reel	RODNREEL
657 Greenstick Trolling	TROLL
660 Trolling	TROLL
675 Longline Surface	LONGLINE
676 Longline Bottom	LONGLINE
677 Longline Shark	LONGLINE
680 Trotline	TROTLINE
681 Turtle Hooks	TROTLINE
703 Dip Net	CASTNET
704 Scallop Scoop	HAND
735 Cast Net	CASTNET
760 Gigs	GIG
802 Hydraulic Clam Dredge	DREDGE
803 Clam Dredge	DREDGE
805 Crab Dredge	DREDGE

<sup>2</sup> In the 2019 NCDMF data, there were some purse seiners listed, but these purse seiners were 20-25' vessels also engaging in long-haul seining, channel netting, etc., \*not\* open ocean seiners.

815 Oyster Dredge	DREDGE
823 Scallop Dredge Bay	DREDGE
825 Scallop Dredge Sea	DREDGE
840 Tongs Hand	HAND
846 Tongs Patent	HAND
850 Rakes Bull	HAND
853 Rakes Hand	HAND
943 Spears/Diving	SPEAR
951 By Hand	HAND

<b>Gear not included in NCDMF list:</b>	<b>Gear Category Name Used in Survey</b>
Oyster mariculture, clam rack, clam mariculture, floating bags	OYSTERCAGE
Gloves, picks, trowel, baskets	HAND
Electric reel, bandit reel, hydraulic reel	ELEC_REEL
Strike net	RUNAROUNDNET
Swing net	CASTNET

Table 10. Number of Survey Respondents by Gear Type  
(see Table 9 for gear type definitions)

Gear Type	Number of Survey Respondents	Percent
BEACHSEINE	4	0.41
CASTNET	4	0.41
CHANNELNET	6	0.61
CHANNELNET HAND	1	0.10
CRABPOT	136	13.83
CRABPOT GILLNET	1	0.10
CRABPOT GILLNET DREDGE	1	0.10
DREDGE	18	1.83
ELEC REEL	18	1.83
FISHPOT	6	0.61
FYKENET	1	0.10
FYKENET GILLNET CRABPOT	1	0.10
GIG	60	6.10
GILLNET	278	28.28
GILLNET CRABPOT	3	0.31
GILLNET HAND	1	0.10
HAND	105	10.68
HOOPNET	5	0.51
LONGLINE	8	0.81
OYSTERCAGE	12	1.22
POUNDNET	49	4.98
RODNREEL	126	12.82
RODNREEL SPEAR	1	0.10
RUNAROUNDNET	8	0.81
SKIMMER	3	0.31
SKIMMER TRAWL	1	0.10
SPEAR	17	1.73
TRAWL	86	8.75
TRAWL HAND	3	0.31
TROLL	18	1.83
TROTLINE	2	0.20
<b>TOTAL</b>	<b>983</b>	<b>100.00</b>

The total number of gear types is greater than the number of survey respondents because respondents could report gear types for up to three different types of trips per respondent.

Categories with multiple gear types reflect respondents who reported using multiple gear types on a single trip type.

Table 11. NCDMF Species Names, Survey Species Names, Commercial Landings and Ex-Vessel (Dockside) Value by Species 2019 (NCDMF. 2020b)

NCDMF Species Name	NCDMF Landings 2019 (pounds whole weight)	NCDMF Ex-Vessel Value 2019 (\$)	Name in Survey Results	Survey Species Notes
Amberjacks	104,411	109,992	AMBERJACK	
Anglerfish (Monkfish Including Monkfish)	44,149	35,487	MONKFISH	
Blue Crabs, Hard	22,339,308	22,193,264	BLUECRAB	
Blue Crabs, Peeler	465,077	1,237,027	PEELERCAB	
Blue Crabs, Soft	183,946	1,199,842	PEELERCAB	
Bluefish	1,107,902	559,710	BLUEFISH	
Bonito	14,045	15,556	TUNA	
Butterfish	38,333	14,072	BUTTERFISH	
Carp	49,440	7,530	FINFISH	
Catfishes	1,236,478	266,878	CATFISH	
Clams, Hard (Meats)	118,138	1,116,748	CLAM	INCLUDES: MUSSELS
Clams, Hard (Numbers)	6,153,169	N/A	CLAM	INCLUDES: MUSSELS
Cobia	21,553	58,500	COBIA	
Croaker, Atlantic	1,277,829	1,565,650	CROAKER	
Cutlassfish, Atlantic	277,299	491,810	FINFISH	
Dogfish, Smooth	102,592	56,826	DOGFISHSHARK	
Dogfish, Spiny	1,124,291	137,241	DOGFISHSHARK	
Dolphinfish	208,385	675,935	MAHI	
Drum, Black	80,036	92,302	BLACKDRUM	
Drum, Red	56,393	163,382	REDDRUM	
Eel, American	8,154	37,603	EEL	
Flounder, Southern	799,772	3,077,470	FLOUNDER	
Flounder, Summer	2,025,401	7,292,375	FLUKE	
Flounders, Other	<500	<\$5,000	FLOUNDER	
Garfish	29,364	2,028	FINFISH	
Grouper, Gag	153,175	759,664	GROUPE	
Grouper, Red	17,786	82,972	GROUPE	
Grouper, Scamp	26,535	135,953	GROUPE	
Grouper, Snowy	84,535	395,412	GROUPE	
Grouper, Other	20,817	101,204	GROUPE	
Grunts	44,752	48,788	GRUNTS	
Hakes	2,924	2,137	FINFISH	
Harvestfish (Starbutters)	73,799	129,268	BUTTERFISH	
Hogfish (Hog Snapper)	14,486	66,895	HOGFISH	
Jacks (Crevalle, Rainbowrunner, Bluerunner)	7,974	5,858	FINFISH	
Mackerel, Atlantic (Boston)	810	\$330	FINFISH	
Mackerel, King	698,252	1,570,680	KINGMACKEREL	
Mackerel, Spanish	722,396	998,879	SPANISHMACKEREL	

Menhaden, Atlantic	551,849	135,682	MENHADEN	
Mullet, Sea (Kingfishes)	702,234	995,115	KINGFISH	INCLUDES: KINGFISH, SEA MULLET, VIRGINIA MULLET
Mullet, Striped	1,362,175	929,261	STRIPED WHITEMULLET	INCLUDES: STRIPED/JUMPING MULLET, WHITE MULLET
Octopus	288	\$478	SQUID	
Oysters (Bushels)	157,422	.	OYSTER	
Oysters (Meats)	832,760	4,889,703	OYSTER	
Perch, White	100,991	90,500	WHITEPERCH	
Perch, Yellow	6,339	7,757	WHITEPERCH	
Pigfish	22,488	11,493	FINFISH	
Pinfish	1,372	266	BAITFISH	
Pompano	25,285	75,245	POMPANO	
Porgies	48,991	90,608	FINFISH	
Pufferfish	5,356	1,764	FINFISH	
Scallop, Bay (Meats)	<100	<\$500	SCALLOP	
Scallop, Sea (Meats)	167,209	1,477,877	SCALLOP	
Scup	216,776	112,878	FINFISH	
Sea Basses	385,404	1,157,244	BLACKSEABASS / "BSB"	
Seatrout, Spotted	378,491	893,033	SPECKLEDTROUT	INCLUDES: SPECKLED TROUT, SPECK, SPOTTED SEATROUT
Shad, American	40,975	70,463	SHAD	
Shad, Gizzard	307,879	30,788	SHAD	
Shad, Hickory	111,719	32,502	SHAD	
Sharks	881,381	352,382	SHARK	NOT INCLUDING DOGFISH
Sheepshead	86,394	130,970	SHEEPSHEAD	
Shrimp (Heads On)	9,547,982	21,937,543	SHRIMP	
Skates	80,039	14,512	FINFISH	
Skippers	10,973	3,830	FINFISH	
Snapper, Red	9,804	52,113	SNAPPER	
Snapper, Vermilion (Beeliner)	380,774	1,393,725	SNAPPER	
Snappers, Other	32,391	121,001	SNAPPER	
Spadefish	12,262	6,974	FINFISH	
Spot	392,067	565,155	SPOT	
Squid	29,861	33,806	SQUID	
Stone Crabs	5,131	13,940	STONECRAB	
Striped Bass	136,816	370,324	STRIPEDBASS	
Swordfish	412,687	1,007,676	SWORDFISH	
Tilefish, Blueline	68,379	242,462	TILEFISH	
Tilefish, Other	21,739	92,341	TILEFISH	
Triggerfish	165,126	467,137	TRIGGERFISH	
Tuna, Bigeye	319,903	1,182,769	TUNA	
Tuna, Bluefin	359,887	821,005	BLUEFINTUNA	
Tuna, Yellowfin	537,031	1,263,969	TUNA	
Tunas, Other	26,391	24,474	TUNA	INCLUDES: BLACKFIN TUNA, SKIPJACK TUNA, UNSPECIFIED TUNA
Tunny, Little (False Albacore)	232,879	132,982	TUNA	

Unclassified Fish For Industrial/Bait	90,918	32,344	BAITFISH	
Unclassified Fish for Food	59,978	181,665	FINFISH	
Unclassified Shellfish	46,263	73,925	CLAM	
Wahoo	31,494	108,198	WAHOO	
Weakfish (Grey Trout)	115,638	181,334	WEAKFISH	INCLUDES: WEAKFISH, GREY TROUT, TROUT
Whelks/Conchs (Meats)	39,564	115,767	CLAM	
Grand Total	52,982,872	86,632,246		

Additional species not listed in NCDMF 2019 data:	Survey Species Name
Horseshoe Crab	HORSESHOECRAB
Ribbon Fish	RIBBONFISH
Spiny Lobster	SPINYLOBSTER

Table 12. Number of Survey Respondents by Target Species  
(see Table 11 for target species definitions)

Target Species	Number Reporting	Percent
AMBERJACK	1	0.10
BAITFISH	1	0.10
BLACKDRUM	4	0.41
BLACKSEABASS	7	0.71
BLUECRAB	137	13.98
BLUECRAB FINFISH	2	0.20
BLUECRAB OYSTER	1	0.10
BLUEFINTUNA	12	1.22
BLUEFISH	17	1.73
BUTTERFISH	3	0.31
CATFISH	20	2.04
CLAM	38	3.88
CLAM OYSTER	3	0.31
CLAM OYSTER	1	0.10
COBIA	5	0.51
CONCH	1	0.10
CROAKER	6	0.61
CROAKER BLUEFISH	1	0.10
DOGFISHSHARK	2	0.20
DOLPHIN WAHOO	1	0.10
EEL	2	0.20
FINFISH	27	2.76
FLOUNDER	130	13.27
FLOUNDER FINFISH	2	0.20
FLOUNDER HORSESHOECRAB	1	0.10
FLOUNDER KINGFISH SPANISHMACKEREL BSB	1	0.10
FLOUNDER KINGFISH SPOT	1	0.10
FLOUNDER SPANISHMACKEREL BSB	1	0.10
FLOUNDER STRIPEDWHITEMULLET WEAKFISH	1	0.10
FLUKE	2	0.20
GROUPE	12	1.22
GROUPE SNAPPER	4	0.41
HOGFISH	2	0.20
KINGFISH	19	1.94
KINGMACKEREL	40	4.08
KINGMACKEREL BLUEFINTUNA	1	0.10
MAHI	17	1.73
MENHADEN	2	0.20
MONKFISH	1	0.10
OYSTER	77	7.86
OYSTER CLAM	3	0.30
POMPANO	2	0.20
REDDRUM	6	0.61
RIBBONFISH	2	0.20
RIBBONFISH CROAKER	1	0.10
SCALLOP	13	1.33
SHAD	6	0.61
SHARK	3	0.31

SHEEPSHEAD	15	1.53
SHRIMP	89	9.08
SHRIMP CLAM OYSTER	1	0.10
SHRIMP FINFISH	1	0.10
SHRIMP OYSTER	1	0.10
SNAPPER	7	0.71
SNAPPER GROUPER	4	0.41
SPANISHMACKEREL	27	2.76
SPECKLEDTROUT	15	1.53
SPECKLEDTROUT KINGFISH SPOT BLUEFISH	1	0.10
SPINYLOBSTER	2	0.20
SPOT	40	4.08
SQUID	1	0.10
STONECRAB	1	0.10
STRIPEDBASS	17	1.73
STRIPEDBASS SHAD	1	0.10
STRIPEDWHITEMULLET	30	3.06
STRIPEDWHITEMULLET MENHADEN	1	0.10
SWORDFISH	5	0.51
TILE	1	0.10
TILEFISH	3	0.31
TRIGGERFISH	2	0.20
TRIGGERFISH BLACKSEABASS WAHOO GROUPER	1	0.10
TROUT FLOUNDER	1	0.10
TUNA	18	1.84
TUNA MAHI	1	0.10
VERMILLION	2	0.20
VERMILLION SNAPPER	2	0.20
WAHOO	12	1.22
WEAKFISH	25	2.55
WHITEFISH	1	0.10
WHITEPERCH	4	0.41
WHITEPERCH CATFISH STRIPEDBASS	1	0.10
WHITEPERCH	2	0.20
WHITING	2	0.20
YELLOWFIN TUNA	1	0.10
<b>TOTAL</b>	<b>980</b>	<b>100.00</b>

The total number of target species is greater than the number of survey respondents because respondents could report more than one targets species for up to three different types of trips per respondent.

Categories with multiple target species reflect respondents who reported targeting multiple species on a single trip type.



Table 13. General Statistics for North Carolina Commercial Harvesters--Statewide

Variable	N	Mean	Median	Minimum	Maximum	Mean Post-Stratified
Number of Respondents <sup>1</sup>	564					
YearsInHomeCommunity	541	35.24	35	1	81	34.94
YearBorn	562	1966.87	1966	1934	2002	1966.93
NumberAdults	530	1.84	2	0	7	1.83
NumberKids	504	0.76	0	0	5	0.76
YearsCommercialFishing	539	25.69	25	1	70	25.08
BusinessYearsInCommunity	519	21.46	19	1	83	20.68
PctCommFishIncome ( percent)	513	51.13	50	1	100	47.94
CommFishIncomeCategory	535	3.76	3	1	9	3.47
OthWork1(\$)	536	27380.65	5500	0	750000	27002.19
OthWork2(\$)	535	1650.24	0	0	100000	1428.52
OthWork3(\$)	535	385.91	0	0	60000	289.45
NumberCFVRs	564	1.61	1	0	10	1.57
YearVesselBuilt	534	1995.19	1995	1947	2019	1995.60
VesselLength(feet)	548	25.33	22	0	90	22.38
VesselHorsepower	518	217.61	150	10	3000	170.55
VesselRefrigeCapacity(lbs)	477	2811.30	0	0	500000	1811.58
YearsVesselOwned	469	12.54	10	1	51	12.28
VesselMktValue(\$)	473	100506.68	23000	0	6750000	74341.19
CrewSize	546	0.92	1	0	6	0.79
DorianAction	504	2.51	2	1	5	2.60
DorianDamage(\$)	504	564.78	0	0	150000	679.78
DorianReimblInsurance(\$)	504	13.10	0	0	3000	5.83
DorianReimblGovt(\$)	504	12.10	0	0	5000	2.26
DorianBeforeMissedTrips	373	5.08	3	0	30	5.26
DorianAfterMissedTrips	371	8.66	5	0	90	9.29
WaveHeight(feet)StopTrip	349	4.36	4	1	30	3.93
WindSpeed(knots)StopN	484	22.49	20	5	50	21.78
WindSpeed(knots)StopNE	485	22.02	20	5	50	21.39
WindSpeed(knots)StopE	484	21.57	20	5	50	21.09
WindSpeed(knots)StopSE	485	21.58	20	5	50	21.14
WindSpeed(knots)StopS	484	22.09	20	5	50	21.54
WindSpeed(knots)StopSW	484	22.33	20	5	50	21.70
WindSpeed(knots)StopW	483	22.66	20	5	50	22.05
WindSpeed(knots)StopNW	485	22.81	20	5	50	22.16
JanTrips	428	4.39	0	0	31	4.70
FebrTrips	428	4.67	0	0	29	4.89
MarTrips	428	5.69	1	0	31	5.78
AprTrips	428	6.77	3	0	30	6.54
MayTrips	428	8.50	4	0	31	8.18
JunTrips	428	8.47	5	0	30	8.41
JulTrips	428	8.66	5	0	31	8.62
AugTrips	428	8.42	4.5	0	31	8.36
SepTrips	428	7.29	3.5	0	30	7.36
OctTrips	428	8.93	6	0	31	8.97
NovTrips	428	7.55	4	0	30	7.56
DecTrips	428	5.28	1	0	30	5.30
JanSales (\$)	392	6564.00	0	0	492498	3871.97

FebrSales (\$)	392	4592.38	0	0	230326	2835.70
MarSales (\$)	392	5952.49	102.5	0	339195	3674.71
AprSales (\$)	392	7608.05	490	0	451072	4656.51
MaySales (\$)	392	9792.39	1000	0	494296	6141.93
JunSales (\$)	392	8368.67	825	0	369934	5337.16
JulSales (\$)	392	8262.89	950	0	504487	5194.30
AugSales (\$)	392	7092.93	800	0	329813	4558.18
SepSales (\$)	392	6129.61	600	0	261811	3927.12
OctSales (\$)	392	6828.34	1300	0	316193	4584.75
NovSales (\$)	392	7650.41	1000	0	360000	4789.58
DecSales (\$)	392	6019.79	0	0	329414	3685.89
TripCost--Fuel (\$/trip)	449	442.55	40	0	27781	289.60
TripCost--Bait (\$/trip)	448	37.59	0	0	2000	26.67
TripCost--Ice (\$/trip)	449	37.40	0	0	1800	25.02
TripCost--Groc (\$/trip)	445	63.28	10	0	2850	41.10
TripCost--ExpGear (\$/trip)	440	34.91	10	0	2310	25.12
SharePctCrew	222	34.06	33	0	75	35.09
NC Vessel Registration Fees (\$/yr) (VFC)	386	74.58	41.8	0	675	51.41
Other State Vessel Registration Fees (\$/yr) (VFC)	380	59.35	0	0	3708	34.77
Federal Vessel Registration Fees (\$/yr) (VFC)	380	32.58	0	0	1025	23.32
NC Vessel Loan Payment (\$/yr) (VFC)	380	4449.95	0	0	417800	2585.64
NC New Engine (\$/yr) (VFC)	380	2315.27	0	0	98000	1839.30
NC Engine Repair (\$/yr) (VFC)	380	2414.55	373	0	75000	1507.97
NC New Net Gear (\$/yr) (VFC)	380	1810.14	0	0	49979	1219.13
NC New Pot Gear (\$/yr) (VFC)	380	925.73	0	0	25000	771.85
NC New Line Gear (\$/yr) (VFC)	380	665.19	0	0	30000	379.33
NC Gear Repair (\$/yr) (VFC)	380	770.11	0	0	72354	516.07
NC New Electronics (\$/yr) (VFC)	380	712.69	0	0	26000	478.45
NC Electronics Repair (\$/yr) (VFC)	380	343.84	0	0	17900	195.31
NC Other Maintenance (\$/yr) (VFC)	380	1738.82	0	0	114000	1042.29
NC Boat Slip Rent (\$/yr) (VFC)	380	995.61	0	0	25000	671.05
NC Boat Yard (\$/yr) (VFC)	380	1083.47	0	0	75000	584.68
NC Vessel Cleaning (\$/yr) (VFC)	380	110.81	0	0	5000	75.76
NC Hull Insurance (\$/yr) (VFC)	380	880.93	0	0	25759	526.95
NC P&I Insurance (\$/yr) (VFC)	380	1132.13	0	0	46798.5	639.84
NC Property Tax on Vessel (\$/yr) (VFC)	385	636.70	114	0	36409.5	399.06
Out-of-State Vessel Loan Payment (\$/yr) (VFC)	380	80.10	0	0	26764.71	47.21
Out-of-State New Engine (\$/yr) (VFC)	380	73.68	0	0	28000	27.63
Out-of-State Engine Repair (\$/yr) (VFC)	380	1.53	0	0	402.9777	1.66
Out-of-State New Net Gear (\$/yr) (VFC)	380	124.61	0	0	36000	76.91
Out-of-State New Pot Gear (\$/yr) (VFC)	380	146.78	0	0	25777.78	116.78

Out-of-State New Line Gear (\$/yr) (VFC)	380	2.82	0	0	1000	2.16
Out-of-State Gear Repair (\$/yr) (VFC)	380	5.21	0	0	1980	4.15
Out-of-State New Electronics (\$/yr) (VFC)	380	85.80	0	0	22941.18	55.07
Out-of-State Electronics Repair (\$/yr) (VFC)	380	2.46	0	0	468	1.96
Out-of-State Other Maintenance (\$/yr) (VFC)	380	3.25	0	0	755.5831	3.30
Out-of-State Boat Slip Rent (\$/yr) (VFC)	380	0.86	0	0	327.4194	0.69
Out-of-State Boat Yard (\$/yr) (VFC)	380	0.00	0	0	0	0.00
Out-of-State Vessel Cleaning (\$/yr) (VFC)	380	0.00	0	0	0	0.00
Out-of-State Hull Insurance (\$/yr) (VFC)	380	64.21	0	0	5352.94	39.29
Out-of-State P&I Insurance (\$/yr) (VFC)	380	24.92	0	0	4800	18.40
Out-of-State Property Tax on Vessel (\$/yr) (VFC)	380	0.69	0	0	148	0.64
NC Fishing Licenses (\$/yr) (BFC)	564	547.18	400	30	6000	507.21
Out-of-State Fishing Licenses (\$/yr) (BFC)	476	105.63	0	0	29000	70.40
Federal Fishing Licenses (\$/yr) (BFC)	476	106.38	0	0	8000	79.56
NC Accounting (\$/yr) (BFC)	476	460.38	0	0	59505	340.50
NC Telephone (\$/yr) (BFC)	476	541.99	0	0	5000	476.44
NC Internet (\$/yr) (BFC)	476	208.90	0	0	3600	195.41
NC Office Equipment (\$/yr) (BFC)	476	178.06	0	0	50000	143.94
NC Office Rent (\$/yr) (BFC)	476	285.13	0	0	27600	215.40
NC Association Dues (\$/yr) (BFC)	476	110.60	0	0	5000	75.31
NC Truck Payment (\$/yr) (BFC)	476	1246.30	0	0	22200	1058.27
NC Health Insurance (\$/yr) (BFC)	477	111.17	0	0	17712	81.94
NC Retirement Plans (\$/yr) (BFC)	477	24.32	0	0	8000	12.35
NC Property Taxes (\$/yr) (BFC)	477	178.86	0	0	7800	175.93
NC Paid Labor On Shore (office, misc.) (\$/yr) (BFC)	477	462.12	0	0	90000	289.06
NC Other 1 (\$/yr) (BFC)	476	213.27	0	0	24000	162.40
NC Other 2 (\$/yr) (BFC)	476	50.29	0	0	15750	40.90
NC Other 3 (\$/yr) (BFC)	476	22.75	0	0	5910	18.86
Out-of-State Accounting (\$/yr) (BFC)	476	1.05	0	0	500	0.85
Out-of-State Telephone (\$/yr) (BFC)	476	38.50	0	0	10811.72	31.59
Out-of-State Internet (\$/yr) (BFC)	476	8.26	0	0	1200	5.87
Out-of-State Office Equipment (\$/yr) (BFC)	476	2.09	0	0	996	1.70

Out-of-State Office Rent (\$/yr) (BFC)	476	0.00	0	0	0	0.00
Out-of-State Association Dues (\$/yr) (BFC)	476	1.47	0	0	300	1.19
Out-of-State Truck Payment (\$/yr) (BFC)	476	41.43	0	0	13000	56.28
Out-of-State Health Insurance (\$/yr) (BFC)	477	45.12	0	0	14400	57.32
Out-of-State Retirement Plans (\$/yr) (BFC)	477	28.59	0	0	6000	12.59
Out-of-State Property Taxes (\$/yr) (BFC)	476	0.00	0	0	0	0.00
Out-of-State Other 1 (\$/yr) (BFC)	476	0.00	0	0	0	0.00
Out-of-State Other2 (\$/yr) (BFC)	476	0.00	0	0	0	0.00
Out-of-State Other3 (\$/yr) (BFC)	476	0.00	0	0	0	0.00
Value of Non-Paid Family Labor (\$/yr) (Sub-component of ReturnsToOwner)	477	1290.35	0	0	60828	1058.44

Notes:

<sup>1</sup> There were 566 survey respondents with 2 from out-of-state, leaving 564 N.C.-resident respondents.

Table 14. General Statistics for North Carolina Commercial Harvesters--Region 01

Variable	N	Mean	Median	Minimum	Maximum	Mean Post-Stratified
Number of Respondents <sup>1</sup>	179					
YearsInHomeCommunity	172	37.07	35.00	2.00	75.00	37.27
YearBorn	178	1968.83	1970.00	1937.00	2002.00	1969.99
NumberAdults	167	1.83	2.00	0.00	5.00	1.78
NumberKids	160	1.05	1.00	0.00	5.00	1.07
YearsCommercialFishing	171	26.84	26.00	3.00	65.00	25.20
BusinessYearsInCommunity	169	24.30	20.00	1.00	83.00	23.01
PctCommFishIncome ( percent)	164	61.91	72.50	1.00	100.00	58.06
CommFishIncomeCategory	170	4.41	4.00	1.00	9.00	4.17
OthWork1(\$)	170	16912.67	0.00	0.00	170000.00	16226.16
OthWork2(\$)	170	1940.62	0.00	0.00	70000.00	1912.57
OthWork3(\$)	170	242.94	0.00	0.00	40000.00	92.23
NumberCFVRs	179	1.51	1.00	0.00	7.00	1.44
YearVesselBuilt	170	1992.58	1990.50	1948.00	2018.00	1992.67
VesselLength(feet)	174	27.22	24.50	0.00	75.00	23.10
VesselHorsepower	163	263.10	200.00	20.00	1600.00	191.31
VesselRefrigeCapacity(lbs)	147	726.19	0.00	0.00	70000.00	417.42
YearsVesselOwned	143	14.64	12.00	1.00	45.00	13.76
VesselMktValue(\$)	147	85343.60	35000.00	1500.00	700000.00	61618.66
CrewSize	174	0.91	1.00	0.00	3.00	0.77
DorianAction	155	2.25	2.00	1.00	5.00	2.34
DorianDamage(\$)	155	567.74	0.00	0.00	15000.00	348.87
DorianReimbInsurance(\$)	155	38.71	0.00	0.00	3000.00	12.54
DorianReimbGovt(\$)	155	32.26	0.00	0.00	5000.00	0.00
DorianBeforeMissedTrips	123	5.13	4.00	0.00	30.00	4.96
DorianAfterMissedTrips	119	8.34	5.00	0.00	90.00	8.34
WaveHeight(feet)StopTrip	110	4.72	4.00	1.00	30.00	4.14
WindSpeed(knots)StopN	152	24.08	25.00	5.00	50.00	23.42
WindSpeed(knots)StopNE	152	23.72	25.00	5.00	50.00	23.14
WindSpeed(knots)StopE	152	23.16	25.00	5.00	50.00	22.67
WindSpeed(knots)StopSE	152	23.03	20.00	5.00	50.00	22.43
WindSpeed(knots)StopS	152	23.68	25.00	5.00	50.00	22.73
WindSpeed(knots)StopSW	152	23.82	25.00	5.00	50.00	22.66
WindSpeed(knots)StopW	152	23.95	25.00	5.00	50.00	22.83
WindSpeed(knots)StopNW	153	23.92	25.00	5.00	50.00	23.12
JanTrips	131	5.03	0.00	0.00	31.00	4.91
FebrTrips	131	6.27	0.00	0.00	29.00	6.18
MarTrips	131	8.11	4.00	0.00	31.00	8.44
AprTrips	131	10.18	10.00	0.00	30.00	10.62
MayTrips	131	13.05	15.00	0.00	31.00	12.47
JunTrips	131	11.83	12.00	0.00	30.00	11.27
JulTrips	131	11.94	12.00	0.00	31.00	11.63
AugTrips	131	12.01	14.00	0.00	31.00	12.06
SepTrips	131	10.07	8.00	0.00	30.00	10.58
OctTrips	131	11.52	10.00	0.00	31.00	12.87
NovTrips	131	8.88	8.00	0.00	30.00	9.24
DecTrips	131	5.77	2.00	0.00	30.00	5.38
JanSales (\$)	114	4366.74	0.00	0.00	62115.00	2025.62

FebrSales (\$)	114	4444.18	0.00	0.00	49692.00	2431.31
MarSales (\$)	114	4046.45	1000.00	0.00	35000.00	2631.18
AprSales (\$)	114	4964.70	1749.50	0.00	49692.00	3351.09
MaySales (\$)	114	7402.15	2985.50	0.00	66256.00	5049.68
JunSales (\$)	114	6954.24	2057.50	0.00	66256.00	4549.03
JulSales (\$)	114	7628.65	3000.50	0.00	70000.00	4987.38
AugSales (\$)	114	6897.09	3000.00	0.00	74538.00	4679.27
SepSales (\$)	114	5507.98	2000.00	0.00	74538.00	3857.07
OctSales (\$)	114	7432.12	3000.00	0.00	62115.00	5805.14
NovSales (\$)	114	6774.86	1650.00	0.00	138000.00	4091.55
DecSales (\$)	114	4585.79	0.00	0.00	55000.00	2374.13
TripCost--Fuel (\$/trip)	137	148.21	50.00	0.00	2000.00	89.92
TripCost--Bait (\$/trip)	137	79.94	0.00	0.00	2000.00	50.69
TripCost--Ice (\$/trip)	136	34.43	0.00	0.00	1800.00	20.08
TripCost--Groc (\$/trip)	135	27.00	10.00	0.00	500.00	15.42
TripCost--ExpGear (\$/trip)	132	34.62	10.00	0.00	1400.00	20.42
SharePctCrew	69	30.16	30.00	0.00	50.00	31.48
NC Vessel Registration Fees (\$/yr) (VFC)	112	76.38	45.60	0.00	562.50	50.39
Other State Vessel Registration Fees (\$/yr) (VFC)	109	9.79	0.00	0.00	600.00	4.28
Federal Vessel Registration Fees (\$/yr) (VFC)	109	30.03	0.00	0.00	1025.00	18.46
NC Vessel Loan Payment (\$/yr) (VFC)	109	920.48	0.00	0.00	44277.00	800.60
NC New Engine (\$/yr) (VFC)	109	2047.72	0.00	0.00	40000.00	1398.84
NC Engine Repair (\$/yr) (VFC)	109	3267.81	571.43	0.00	75000.00	1689.83
NC New Net Gear (\$/yr) (VFC)	109	1679.31	200.00	0.00	25000.00	1470.93
NC New Pot Gear (\$/yr) (VFC)	109	1861.35	0.00	0.00	25000.00	1566.29
NC New Line Gear (\$/yr) (VFC)	109	1247.32	0.00	0.00	30000.00	579.56
NC Gear Repair (\$/yr) (VFC)	109	605.37	0.00	0.00	5000.00	571.48
NC New Electronics (\$/yr) (VFC)	109	737.28	0.00	0.00	23000.00	398.25
NC Electronics Repair (\$/yr) (VFC)	109	186.61	0.00	0.00	5000.00	81.32
NC Other Maintenance (\$/yr) (VFC)	109	1031.76	0.00	0.00	10000.00	617.64
NC Boat Slip Rent (\$/yr) (VFC)	109	939.56	0.00	0.00	25000.00	617.11
NC Boat Yard (\$/yr) (VFC)	109	1015.65	0.00	0.00	75000.00	369.97
NC Vessel Cleaning (\$/yr) (VFC)	109	105.84	0.00	0.00	5000.00	66.78
NC Hull Insurance (\$/yr) (VFC)	109	612.82	0.00	0.00	12000.00	294.48
NC P&I Insurance (\$/yr) (VFC)	109	393.93	0.00	0.00	16100.00	219.86
NC Property Tax on Vessel (\$/yr) (VFC)	112	459.20	179.50	0.00	4470.00	356.77
Out-of-State Vessel Loan Payment (\$/yr) (VFC)	109	245.55	0.00	0.00	26764.71	149.22
Out-of-State New Engine (\$/yr) (VFC)	109	256.88	0.00	0.00	28000.00	76.68
Out-of-State Engine Repair (\$/yr) (VFC)	109	0.00	0.00	0.00	0.00	0.00
Out-of-State New Net Gear (\$/yr) (VFC)	109	0.00	0.00	0.00	0.00	0.00
Out-of-State New Pot Gear (\$/yr) (VFC)	109	419.98	0.00	0.00	25777.78	360.97

Out-of-State New Line Gear (\$/yr) (VFC)	109	0.65	0.00	0.00	70.33	0.19
Out-of-State Gear Repair (\$/yr) (VFC)	109	18.17	0.00	0.00	1980.00	15.61
Out-of-State New Electronics (\$/yr) (VFC)	109	215.04	0.00	0.00	22941.18	130.50
Out-of-State Electronics Repair (\$/yr) (VFC)	109	4.29	0.00	0.00	468.00	3.69
Out-of-State Other Maintenance (\$/yr) (VFC)	109	0.00	0.00	0.00	0.00	0.00
Out-of-State Boat Slip Rent (\$/yr) (VFC)	109	0.00	0.00	0.00	0.00	0.00
Out-of-State Boat Yard (\$/yr) (VFC)	109	0.00	0.00	0.00	0.00	0.00
Out-of-State Vessel Cleaning (\$/yr) (VFC)	109	0.00	0.00	0.00	0.00	0.00
Out-of-State Hull Insurance (\$/yr) (VFC)	109	126.88	0.00	0.00	5352.94	57.21
Out-of-State P&I Insurance (\$/yr) (VFC)	109	11.86	0.00	0.00	1292.31	3.54
Out-of-State Property Tax on Vessel (\$/yr) (VFC)	109	0.00	0.00	0.00	0.00	0.00
NC Fishing Licenses (\$/yr) (BFC)	179	589.54	436.00	50.00	4500.00	555.01
Out-of-State Fishing Licenses (\$/yr) (BFC)	140	23.93	0.00	0.00	1200.00	13.21
Federal Fishing Licenses (\$/yr) (BFC)	140	107.07	0.00	0.00	6500.00	77.99
NC Accounting (\$/yr) (BFC)	140	442.31	100.00	0.00	11000.00	324.90
NC Telephone (\$/yr) (BFC)	140	741.02	575.00	0.00	4956.00	699.29
NC Internet (\$/yr) (BFC)	140	268.13	0.00	0.00	2160.00	269.78
NC Office Equipment (\$/yr) (BFC)	140	97.31	0.00	0.00	4854.00	73.76
NC Office Rent (\$/yr) (BFC)	140	426.36	0.00	0.00	15000.00	434.10
NC Association Dues (\$/yr) (BFC)	140	213.00	0.00	0.00	5000.00	129.64
NC Truck Payment (\$/yr) (BFC)	140	1816.35	0.00	0.00	14000.00	1456.58
NC Health Insurance (\$/yr) (BFC)	141	316.13	0.00	0.00	17712.00	285.85
NC Retirement Plans (\$/yr) (BFC)	141	73.76	0.00	0.00	8000.00	31.44
NC Property Taxes (\$/yr) (BFC)	141	338.22	0.00	0.00	3700.00	347.74
NC Paid Labor On Shore (office, misc.) (\$/yr) (BFC)	141	1093.40	0.00	0.00	90000.00	564.68
NC Other 1 (\$/yr) (BFC)	140	110.75	0.00	0.00	5196.00	69.29
NC Other 2 (\$/yr) (BFC)	140	17.14	0.00	0.00	2400.00	14.45
NC Other 3 (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Out-of-State Accounting (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Out-of-State Telephone (\$/yr) (BFC)	140	26.79	0.00	0.00	1500.00	18.50
Out-of-State Internet (\$/yr) (BFC)	140	26.36	0.00	0.00	1200.00	18.72
Out-of-State Office Equipment (\$/yr) (BFC)	140	7.11	0.00	0.00	996.00	6.00

Out-of-State Office Rent (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Out-of-State Association Dues (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Out-of-State Truck Payment (\$/yr) (BFC)	140	115.14	0.00	0.00	13000.00	276.90
Out-of-State Health Insurance (\$/yr) (BFC)	141	136.17	0.00	0.00	14400.00	296.20
Out-of-State Retirement Plans (\$/yr) (BFC)	141	81.56	0.00	0.00	6000.00	24.65
Out-of-State Property Taxes (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Out-of-State Other 1 (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Out-of-State Other2 (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Out-of-State Other3 (\$/yr) (BFC)	140	0.00	0.00	0.00	0.00	0.00
Value of Non-Paid Family Labor (\$/yr) (Sub-component of ReturnsToOwner)	141	1299.96	0.00	0.00	30000.00	1052.83

Notes:

<sup>1</sup> There were 179 survey respondents from Region 01.



Table 15. General Statistics for North Carolina Commercial Harvesters--Region 02

Variable	N	Mean	Median	Minimum	Maximum	Mean Post-Stratified
Number of Respondents <sup>1</sup>	176					
YearsInHomeCommunity	174	36.80	39.00	1.00	81.00	36.31
YearBorn	175	1963.68	1963.00	1934.00	1997.00	1963.08
NumberAdults	170	1.87	2.00	0.00	6.00	1.87
NumberKids	159	0.55	0.00	0.00	5.00	0.56
YearsCommercialFishing	172	28.78	30.00	1.00	63.00	28.42
BusinessYearsInCommunity	161	23.12	21.00	1.00	60.00	22.66
PctCommFishIncome ( percent)	162	49.11	31.50	1.00	100.00	44.71
CommFishIncomeCategory	171	3.94	3.00	1.00	9.00	3.57
OthWork1(\$)	172	31178.70	6000.00	0.00	750000.00	30558.21
OthWork2(\$)	171	1174.84	0.00	0.00	60000.00	1096.77
OthWork3(\$)	171	556.49	0.00	0.00	60000.00	496.92
NumberCFVRs	176	1.77	1.00	0.00	9.00	1.71
YearVesselBuilt	165	1994.99	1996.00	1963.00	2019.00	1994.67
VesselLength(feet)	169	28.38	23.00	0.00	90.00	24.62
VesselHorsepower	161	242.53	150.00	15.00	3000.00	199.40
VesselRefrigeCapacity(lbs)	157	7527.58	0.00	0.00	500000.00	4134.27
YearsVesselOwned	152	13.49	10.00	1.00	51.00	13.51
VesselMktValue(\$)	153	191083.66	25000.00	300.00	6750000.00	135113.25
CrewSize	169	1.14	1.00	0.00	6.00	0.93
DorianAction	164	2.60	2.00	1.00	5.00	2.64
DorianDamage(\$)	164	155.18	0.00	0.00	4000.00	143.61
DorianReimbInsurance(\$)	164	3.66	0.00	0.00	600.00	6.27
DorianReimbGovt(\$)	164	6.71	0.00	0.00	800.00	7.27
DorianBeforeMissedTrips	126	4.70	3.00	0.00	30.00	5.28
DorianAfterMissedTrips	123	9.50	6.00	0.00	90.00	10.82
WaveHeight(feet)StopTrip	118	4.57	4.00	1.00	20.00	4.31
WindSpeed(knots)StopN	160	23.50	25.00	5.00	45.00	22.44
WindSpeed(knots)StopNE	160	23.09	20.00	5.00	45.00	22.02
WindSpeed(knots)StopE	160	22.56	20.00	5.00	45.00	21.64
WindSpeed(knots)StopSE	161	22.70	20.00	5.00	45.00	21.94
WindSpeed(knots)StopS	160	23.06	20.00	5.00	45.00	22.25
WindSpeed(knots)StopSW	160	23.16	20.00	5.00	45.00	22.33
WindSpeed(knots)StopW	160	23.16	20.00	5.00	45.00	22.19
WindSpeed(knots)StopNW	160	23.41	20.00	5.00	45.00	22.37
JanTrips	140	3.14	0.00	0.00	26.00	2.99
FebrTrips	140	2.89	0.00	0.00	26.00	2.75
MarTrips	140	3.66	0.00	0.00	30.00	3.46
AprTrips	140	5.28	1.50	0.00	30.00	4.95
MayTrips	140	6.30	3.00	0.00	30.00	6.28
JunTrips	140	7.11	4.00	0.00	30.00	7.18
JulTrips	140	7.34	4.00	0.00	31.00	7.32
AugTrips	140	7.04	4.00	0.00	30.00	7.10
SepTrips	140	5.60	2.00	0.00	28.00	5.75
OctTrips	140	7.64	4.00	0.00	30.00	7.26
NovTrips	140	5.72	2.00	0.00	30.00	5.13
DecTrips	140	3.74	0.00	0.00	25.00	3.42
JanSales (\$)	138	13203.75	0.00	0.00	492498.00	6305.57

FebrSales (\$)	138	7684.15	0.00	0.00	230326.00	3937.43
MarSales (\$)	138	11553.88	0.00	0.00	339195.00	5650.42
AprSales (\$)	138	15661.29	150.00	0.00	451072.00	7792.22
MaySales (\$)	138	18794.77	500.00	0.00	494296.00	9541.96
JunSales (\$)	138	15605.07	1000.00	0.00	369934.00	8264.68
JulSales (\$)	138	14978.05	1000.00	0.00	504487.00	8098.34
AugSales (\$)	138	12003.77	1000.00	0.00	329813.00	6455.62
SepSales (\$)	138	11083.25	500.00	0.00	261811.00	5818.99
OctSales (\$)	138	10264.65	1000.00	0.00	316193.00	6225.99
NovSales (\$)	138	12773.08	357.00	0.00	360000.00	6791.24
DecSales (\$)	138	10484.68	0.00	0.00	329414.00	5300.17
TripCost--Fuel (\$/trip)	146	1109.58	45.00	0.00	27781.00	554.33
TripCost--Bait (\$/trip)	146	24.60	0.00	0.00	250.00	21.99
TripCost--Ice (\$/trip)	147	66.56	0.00	0.00	1500.00	35.60
TripCost--Groc (\$/trip)	144	152.72	10.00	0.00	2850.00	76.11
TripCost--ExpGear (\$/trip)	143	53.42	10.00	0.00	2310.00	32.02
SharePctCrew	84	38.07	35.00	0.00	75.00	39.04
NC Vessel Registration Fees (\$/yr) (VFC)	136	107.02	43.70	0.00	675.00	65.40
Other State Vessel Registration Fees (\$/yr) (VFC)	134	151.43	0.00	0.00	3708.00	71.43
Federal Vessel Registration Fees (\$/yr) (VFC)	134	28.73	0.00	0.00	600.00	16.66
NC Vessel Loan Payment (\$/yr) (VFC)	134	11596.41	0.00	0.00	417800.00	5137.13
NC New Engine (\$/yr) (VFC)	134	3076.93	0.00	0.00	98000.00	2211.80
NC Engine Repair (\$/yr) (VFC)	134	3450.79	400.00	0.00	62800.00	1838.11
NC New Net Gear (\$/yr) (VFC)	134	3204.37	0.00	0.00	49979.00	1685.02
NC New Pot Gear (\$/yr) (VFC)	134	927.91	0.00	0.00	21000.00	854.54
NC New Line Gear (\$/yr) (VFC)	134	613.38	0.00	0.00	12000.00	328.68
NC Gear Repair (\$/yr) (VFC)	134	1467.93	0.00	0.00	72354.00	741.31
NC New Electronics (\$/yr) (VFC)	134	1034.65	0.00	0.00	26000.00	622.77
NC Electronics Repair (\$/yr) (VFC)	134	797.66	0.00	0.00	17900.00	361.59
NC Other Maintenance (\$/yr) (VFC)	134	3516.80	0.00	0.00	114000.00	1726.53
NC Boat Slip Rent (\$/yr) (VFC)	134	1623.91	0.00	0.00	20000.00	929.68
NC Boat Yard (\$/yr) (VFC)	134	2095.73	0.00	0.00	43254.00	989.73
NC Vessel Cleaning (\$/yr) (VFC)	134	194.09	0.00	0.00	5000.00	116.02
NC Hull Insurance (\$/yr) (VFC)	134	1715.05	0.00	0.00	25759.00	821.50
NC P&I Insurance (\$/yr) (VFC)	134	2834.03	0.00	0.00	46798.50	1256.51
NC Property Tax on Vessel (\$/yr) (VFC)	136	1229.61	93.00	0.00	36409.50	594.86
Out-of-State Vessel Loan Payment (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State New Engine (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State Engine Repair (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State New Net Gear (\$/yr) (VFC)	134	278.73	0.00	0.00	36000.00	124.59
Out-of-State New Pot Gear (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00

Out-of-State New Line Gear (\$/yr) (VFC)	134	7.46	0.00	0.00	1000.00	6.08
Out-of-State Gear Repair (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State New Electronics (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State Electronics Repair (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State Other Maintenance (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State Boat Slip Rent (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State Boat Yard (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State Vessel Cleaning (\$/yr) (VFC)	134	0.00	0.00	0.00	0.00	0.00
Out-of-State Hull Insurance (\$/yr) (VFC)	134	14.93	0.00	0.00	1500.00	12.17
Out-of-State P&I Insurance (\$/yr) (VFC)	134	1.34	0.00	0.00	179.00	1.09
Out-of-State Property Tax on Vessel (\$/yr) (VFC)	134	1.10	0.00	0.00	148.00	0.90
NC Fishing Licenses (\$/yr) (BFC)	176	553.69	420.00	50.00	2400.00	523.74
Out-of-State Fishing Licenses (\$/yr) (BFC)	158	282.95	0.00	0.00	29000.00	148.78
Federal Fishing Licenses (\$/yr) (BFC)	158	78.06	0.00	0.00	8000.00	63.13
NC Accounting (\$/yr) (BFC)	158	688.02	0.00	0.00	59505.00	408.88
NC Telephone (\$/yr) (BFC)	158	501.24	0.00	0.00	4596.00	415.20
NC Internet (\$/yr) (BFC)	158	143.18	0.00	0.00	3000.00	132.93
NC Office Equipment (\$/yr) (BFC)	158	387.66	0.00	0.00	50000.00	326.45
NC Office Rent (\$/yr) (BFC)	158	76.90	0.00	0.00	12000.00	63.87
NC Association Dues (\$/yr) (BFC)	158	103.34	0.00	0.00	5000.00	80.61
NC Truck Payment (\$/yr) (BFC)	158	774.22	0.00	0.00	22200.00	704.75
NC Health Insurance (\$/yr) (BFC)	158	44.62	0.00	0.00	7000.00	37.84
NC Retirement Plans (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
NC Property Taxes (\$/yr) (BFC)	158	67.03	0.00	0.00	1800.00	59.39
NC Paid Labor On Shore (office, misc.) (\$/yr) (BFC)	158	377.85	0.00	0.00	40000.00	313.56
NC Other 1 (\$/yr) (BFC)	158	154.84	0.00	0.00	14000.00	98.88
NC Other 2 (\$/yr) (BFC)	158	24.68	0.00	0.00	1870.74	20.76
NC Other 3 (\$/yr) (BFC)	158	12.66	0.00	0.00	2000.00	10.64
Out-of-State Accounting (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Telephone (\$/yr) (BFC)	158	6.96	0.00	0.00	600.00	5.85
Out-of-State Internet (\$/yr) (BFC)	158	1.52	0.00	0.00	240.00	1.28
Out-of-State Office Equipment (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00

Out-of-State Office Rent (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Association Dues (\$/yr) (BFC)	158	1.90	0.00	0.00	300.00	1.60
Out-of-State Truck Payment (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Health Insurance (\$/yr) (BFC)	158	0	0	0	0	0.00
Out-of-State Retirement Plans (\$/yr) (BFC)	158	0	0	0	0	0.00
Out-of-State Property Taxes (\$/yr) (BFC)	158	0	0	0	0	0.00
Out-of-State Other 1 (\$/yr) (BFC)	158	0	0	0	0	0.00
Out-of-State Other2 (\$/yr) (BFC)	158	0	0	0	0	0.00
Out-of-State Other3 (\$/yr) (BFC)	158	0	0	0	0	0.00
Value of Non-Paid Family Labor (\$/yr) (Sub-component of ReturnsToOwner)	158	1031.85	0	0	60828	863.97

Notes:

<sup>1</sup> There were 176 survey respondents from Region 02.

Table 16. General Statistics for North Carolina Commercial Harvesters--Region 03

Variable	N	Mean	Median	Minimum	Maximum	Mean Post-Stratified
Number of Respondents <sup>1</sup>	180					
YearsInHomeCommunity	171	32.53	30.00	1.00	81.00	32.56
YearBorn	180	1967.54	1965.50	1939.00	2002.00	1967.57
NumberAdults	168	1.83	2.00	0.00	7.00	1.82
NumberKids	162	0.65	0.00	0.00	3.00	0.65
YearsCommercialFishing	171	22.94	20.00	1.00	70.00	23.25
BusinessYearsInCommunity	167	18.59	14.00	1.00	70.00	18.58
PctCommFishIncome ( percent)	164	45.76	47.00	1.00	100.00	44.80
CommFishIncomeCategory	170	3.12	3.00	1.00	8.00	3.02
OthWork1(\$)	170	29516.78	11000.00	0.00	500000.00	26988.21
OthWork2(\$)	170	1571.02	0.00	0.00	100000.00	1084.16
OthWork3(\$)	170	411.76	0.00	0.00	50000.00	278.87
NumberCFVRs	180	1.61	1.00	0.00	10.00	1.58
YearVesselBuilt	171	1997.03	1999.00	1947.00	2019.00	1997.47
VesselLength(feet)	177	21.25	19.00	0.00	53.00	19.94
VesselHorsepower	169	160.89	90.00	10.00	1200.00	127.06
VesselRefrigeCapacity(lbs)	151	342.32	0.00	0.00	15000.00	1801.29
YearsVesselOwned	152	10.27	8.00	1.00	50.00	10.55
VesselMktValue(\$)	151	34512.25	14000.00	350.00	500000.00	64499.00
CrewSize	176	0.72	1.00	0.00	3.00	0.66
DorianAction	162	2.47	2.00	1.00	5.00	2.60
DorianDamage(\$)	162	1056.79	0.00	0.00	150000.00	1420.09
DorianReimbInsurance(\$)	162	0.00	0.00	0.00	0.00	0.00
DorianReimbGovt(\$)	162	0.00	0.00	0.00	0.00	0.00
DorianBeforeMissedTrips	106	4.88	3.00	0.00	30.00	4.58
DorianAfterMissedTrips	114	8.20	4.50	0.00	60.00	8.70
WaveHeight(feet)StopTrip	104	3.97	4.00	1.00	8.00	3.63
WindSpeed(knots)StopN	149	20.44	20.00	5.00	40.00	20.79
WindSpeed(knots)StopNE	150	19.90	20.00	5.00	40.00	20.52
WindSpeed(knots)StopE	149	19.77	20.00	5.00	40.00	20.41
WindSpeed(knots)StopSE	149	19.73	20.00	5.00	40.00	20.40
WindSpeed(knots)StopS	149	20.07	20.00	5.00	40.00	20.61
WindSpeed(knots)StopSW	149	20.64	20.00	5.00	45.00	20.98
WindSpeed(knots)StopW	148	21.32	20.00	5.00	45.00	21.63
WindSpeed(knots)StopNW	149	21.51	20.00	5.00	45.00	21.59
JanTrips	139	5.24	2.00	0.00	27.00	6.13
FebrTrips	139	4.89	2.00	0.00	27.00	5.73
MarTrips	139	5.63	2.00	0.00	30.00	6.06
AprTrips	139	5.38	2.00	0.00	30.00	5.27
MayTrips	139	6.56	3.00	0.00	30.00	6.55
JunTrips	139	6.66	3.00	0.00	30.00	7.12
JulTrips	139	6.91	3.00	0.00	30.00	7.26
AugTrips	139	6.32	4.00	0.00	30.00	6.47
SepTrips	139	6.48	4.00	0.00	30.00	6.34
OctTrips	139	8.04	6.00	0.00	31.00	7.99
NovTrips	139	8.27	6.00	0.00	30.00	8.34
DecTrips	139	6.63	3.00	0.00	30.00	6.78
JanSales (\$)	124	2010.88	300.00	0.00	64000.00	3709.73

FebrSales (\$)	124	1798.77	150.00	0.00	56000.00	2456.12
MarSales (\$)	124	2019.84	325.00	0.00	68000.00	3244.92
AprSales (\$)	124	1902.23	275.00	0.00	56000.00	3639.03
MaySales (\$)	124	3062.09	500.00	0.00	72000.00	4876.80
JunSales (\$)	124	2501.97	300.00	0.00	80000.00	3997.73
JulSales (\$)	124	2248.23	350.00	0.00	84000.00	3472.37
AugSales (\$)	124	2364.78	275.00	0.00	92000.00	3146.76
SepSales (\$)	124	1795.85	281.12	0.00	32000.00	2780.68
OctSales (\$)	124	3071.26	712.50	0.00	68000.00	2940.73
NovSales (\$)	124	3466.28	875.00	0.00	64000.00	3972.32
DecSales (\$)	124	3025.10	750.00	0.00	56000.00	3586.46
TripCost--Fuel (\$/trip)	150	102.87	25.00	0.00	925.00	263.83
TripCost--Bait (\$/trip)	149	14.00	0.00	0.00	250.00	9.51
TripCost--Ice (\$/trip)	150	14.31	2.00	0.00	200.00	21.15
TripCost--Groc (\$/trip)	150	15.57	5.50	0.00	200.00	36.67
TripCost--ExpGear (\$/trip)	149	19.53	9.30	0.00	500.00	22.11
SharePctCrew	60	33.95	33.00	0.00	67.00	34.78
NC Vessel Registration Fees (\$/yr) (VFC)	123	39.40	36.10	0.00	180.00	40.96
Other State Vessel Registration Fees (\$/yr) (VFC)	122	9.79	0.00	0.00	600.00	31.27
Federal Vessel Registration Fees (\$/yr) (VFC)	122	24.64	0.00	0.00	609.00	21.29
NC Vessel Loan Payment (\$/yr) (VFC)	122	281.39	0.00	0.00	10404.00	2153.96
NC New Engine (\$/yr) (VFC)	122	1885.99	0.00	0.00	35000.00	1636.14
NC Engine Repair (\$/yr) (VFC)	122	743.15	212.50	0.00	10000.00	1077.90
NC New Net Gear (\$/yr) (VFC)	122	515.46	0.00	0.00	6700.00	771.38
NC New Pot Gear (\$/yr) (VFC)	122	182.98	0.00	0.00	6000.00	183.21
NC New Line Gear (\$/yr) (VFC)	122	229.47	0.00	0.00	7500.00	219.15
NC Gear Repair (\$/yr) (VFC)	122	211.51	0.00	0.00	10000.00	358.28
NC New Electronics (\$/yr) (VFC)	122	396.14	0.00	0.00	6500.00	398.60
NC Electronics Repair (\$/yr) (VFC)	122	27.73	0.00	0.00	525.00	155.41
NC Other Maintenance (\$/yr) (VFC)	122	591.51	0.00	0.00	21000.00	862.51
NC Boat Slip Rent (\$/yr) (VFC)	122	409.81	0.00	0.00	7800.00	480.48
NC Boat Yard (\$/yr) (VFC)	122	165.46	0.00	0.00	4520.00	414.86
NC Vessel Cleaning (\$/yr) (VFC)	122	35.02	0.00	0.00	700.00	49.38
NC Hull Insurance (\$/yr) (VFC)	122	262.09	0.00	0.00	5500.00	441.36
NC P&I Insurance (\$/yr) (VFC)	122	59.11	0.00	0.00	2400.00	511.58
NC Property Tax on Vessel (\$/yr) (VFC)	122	187.76	82.20	0.00	2425.00	320.93
Out-of-State Vessel Loan Payment (\$/yr) (VFC)	122	30.11	0.00	0.00	3600.00	19.19
Out-of-State New Engine (\$/yr) (VFC)	122	0.00	0.00	0.00	0.00	0.00
Out-of-State Engine Repair (\$/yr) (VFC)	122	4.75	0.00	0.00	402.98	4.21
Out-of-State New Net Gear (\$/yr) (VFC)	122	81.97	0.00	0.00	10000.00	99.03
Out-of-State New Pot Gear (\$/yr) (VFC)	122	81.97	0.00	0.00	10000.00	52.25

Out-of-State New Line Gear (\$/yr) (VFC)	122	0.00	0.00	0.00	0.00	0.00
Out-of-State Gear Repair (\$/yr) (VFC)	122	0.00	0.00	0.00	0.00	0.00
Out-of-State New Electronics (\$/yr) (VFC)	122	75.12	0.00	0.00	8000.00	51.18
Out-of-State Electronics Repair (\$/yr) (VFC)	122	0.00	0.00	0.00	0.00	0.00
Out-of-State Other Maintenance (\$/yr) (VFC)	122	10.13	0.00	0.00	755.58	8.32
Out-of-State Boat Slip Rent (\$/yr) (VFC)	122	2.68	0.00	0.00	327.42	1.71
Out-of-State Boat Yard (\$/yr) (VFC)	122	0.00	0.00	0.00	0.00	0.00
Out-of-State Vessel Cleaning (\$/yr) (VFC)	122	0.00	0.00	0.00	0.00	0.00
Out-of-State Hull Insurance (\$/yr) (VFC)	122	70.24	0.00	0.00	4810.99	44.78
Out-of-State P&I Insurance (\$/yr) (VFC)	122	65.57	0.00	0.00	4800.00	41.80
Out-of-State Property Tax on Vessel (\$/yr) (VFC)	122	0.66	0.00	0.00	80.60	0.42
NC Fishing Licenses (\$/yr) (BFC)	180	514.48	400.00	30.00	6000.00	461.08
Out-of-State Fishing Licenses (\$/yr) (BFC)	158	14.08	0.00	0.00	800.00	63.75
Federal Fishing Licenses (\$/yr) (BFC)	158	132.67	0.00	0.00	7000.00	86.72
NC Accounting (\$/yr) (BFC)	158	294.09	0.00	0.00	15000.00	326.90
NC Telephone (\$/yr) (BFC)	158	445.65	0.00	0.00	5000.00	416.63
NC Internet (\$/yr) (BFC)	158	223.14	0.00	0.00	3600.00	201.80
NC Office Equipment (\$/yr) (BFC)	158	59.39	0.00	0.00	2500.00	42.86
NC Office Rent (\$/yr) (BFC)	158	373.92	0.00	0.00	27600.00	190.14
NC Association Dues (\$/yr) (BFC)	158	39.04	0.00	0.00	1400.00	36.19
NC Truck Payment (\$/yr) (BFC)	158	1191.91	0.00	0.00	15000.00	984.16
NC Health Insurance (\$/yr) (BFC)	158	8.89	0.00	0.00	600.00	7.16
NC Retirement Plans (\$/yr) (BFC)	158	7.59	0.00	0.00	1200.00	5.10
NC Property Taxes (\$/yr) (BFC)	158	160.05	0.00	0.00	7800.00	178.38
NC Paid Labor On Shore (office, misc.) (\$/yr) (BFC)	158	41.53	0.00	0.00	3861.00	35.68
NC Other 1 (\$/yr) (BFC)	158	372.13	0.00	0.00	24000.00	278.84
NC Other 2 (\$/yr) (BFC)	158	111.64	0.00	0.00	15750.00	75.11
NC Other 3 (\$/yr) (BFC)	158	55.89	0.00	0.00	5910.00	38.52
Out-of-State Accounting (\$/yr) (BFC)	158	3.16	0.00	0.00	500.00	2.12
Out-of-State Telephone (\$/yr) (BFC)	158	85.30	0.00	0.00	10811.72	60.65
Out-of-State Internet (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Office Equipment (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00

Out-of-State Office Rent (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Association Dues (\$/yr) (BFC)	158	2.53	0.00	0.00	200.00	1.70
Out-of-State Truck Payment (\$/yr) (BFC)	158	22.78	0.00	0.00	3600.00	15.30
Out-of-State Health Insurance (\$/yr) (BFC)	158	10.57	0.00	0.00	1670.00	7.10
Out-of-State Retirement Plans (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Property Taxes (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Other 1 (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Other2 (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Out-of-State Other3 (\$/yr) (BFC)	158	0.00	0.00	0.00	0.00	0.00
Value of Non-Paid Family Labor (\$/yr) (Sub-component of ReturnsToOwner)	158	1477.85	0.00	0.00	52560.00	975.12

Notes:

<sup>1</sup> There were 180 survey respondents from Region 03.



Table 17. Percentage of Harvester Total Income from Commercial Fishing -- Statewide  
(n = 515)

Percentage of Respondent's Total Income 2019 Came From Commercial Fishing	Number of Respondents	Percent
0 percent--9 percent	112	21.75
10 percent--19 percent	53	10.29
20 percent--29 percent	41	7.96
30 percent--39 percent	22	4.27
40 percent--49 percent	11	2.14
50 percent--59 percent	50	9.71
60 percent--69 percent	17	3.30
70 percent--79 percent	20	3.88
80 percent--89 percent	18	3.50
90 percent--100 percent	171	33.20
Total	515	100.00

Table 18. Distribution of Commercial Fishing Income 2019 (before taxes) -- Statewide  
(n = 537)

Commercial Fishing Income Category		Number of Survey Respondents	Percent
1	\$0 or lost money	74	13.78
2	\$1 to \$4999	109	20.30
3	\$5000 to \$14999	111	20.67
4	\$15000 to \$29999	75	13.97
5	\$30000 to \$49999	50	9.31
6	\$50000 to \$74999	43	8.01
7	\$75000 to \$99999	28	5.21
8	\$100000 to \$199999	28	5.21
9	\$200000 or more	19	3.54
Total		537	100.00

Table 19. Responses to Hurricane Dorian (n = 506)

Response to Hurricane Dorian		Number of Survey Respondents	Percent
1	No action--The vessel remained in the water in its home port	88	17.39
2	I took the vessel out of the water, but it stayed in its home port	219	43.28
3	The vessel is typically not in the water, it remained on land in its home port area	118	23.32
4	I evacuated the vessel by sailing it to a different port	16	3.16
5	I evacuated the vessel by trailering/driving it to a different location	65	12.85
Total		506	100.00

Note: Hurricane Dorian made landfall in the Outer Banks of North Carolina on September 6, 2019.

Table 20. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales -- Statewide Means<sup>1</sup>, All Regions, All Gears, All Target Species Groups Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$148,785
Bait	\$53,985
Ice	\$18,721
Groceries	\$25,167
Expendible Gear	\$29,398
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$276,055
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$341,574
SUBTOTAL: TotalVesselTripCosts	\$617,629
NC Fishing Licenses (BFC)	\$6,792
Out-of-State Fishing Licenses (BFC)	\$1,038
Federal Fishing Licenses (BFC)	\$979
NC Accounting (BFC)	\$3,355
NC Telephone (BFC)	\$5,455
NC Internet (BFC)	\$2,399
NC Office Equipment (BFC)	\$809
NC Office Rent (BFC)	\$1,636
NC Association Dues (BFC)	\$959
NC Truck Payment (BFC)	\$11,468
NC Health Insurance (BFC)	\$872
NC Retirement Plans (BFC)	\$120
NC Property Taxes (BFC)	\$1,944
NC Other 1 (BFC)	\$1,676
NC Other 2 (BFC)	\$469
NC Other 3 (BFC)	\$322
Out-of-State Accounting (BFC)	\$20
Out-of-State Telephone (BFC)	\$591
Out-of-State Internet (BFC)	\$28
Out-of-State Office Equipment (BFC)	\$10
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$12
Out-of-State Truck Payment (BFC)	\$714
Out-of-State Health Insurance (BFC)	\$68
Out-of-State Retirement Plans (BFC)	\$109
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$914
Other State Vessel Registration Fees (VFC)	\$641
Federal Vessel Registration Fees (VFC)	\$417
NC Vessel Loan Payment (VFC)	\$47,240
NC New Engine (VFC)	\$31,782
NC Engine Repair (VFC)	\$27,423
NC New Net Gear (VFC)	\$22,379
NC New Pot Gear (VFC)	\$14,115
NC New Line Gear (VFC)	\$6,845
NC Gear Repair (VFC)	\$9,465
NC New Electronics (VFC)	\$8,821
NC Electronics Repair (VFC)	\$3,599
NC Other Maintenance (VFC)	\$19,035

NC Boat Slip Rent (VFC)	\$12,375
NC Boat Yard (VFC)	\$10,674
NC Vessel Cleaning (VFC)	\$1,330
NC Hull Insurance (VFC)	\$9,684
NC P&I Insurance (VFC)	\$11,697
NC Property Tax on Vessel (VFC)	\$7,372
Out-of-State Vessel Loan Payment (VFC)	\$868
Out-of-State New Engine (VFC)	\$518
Out-of-State Engine Repair (VFC)	\$31
Out-of-State New Net Gear (VFC)	\$1,399
Out-of-State New Pot Gear (VFC)	\$1,397
Out-of-State New Line Gear (VFC)	\$1
Out-of-State Gear Repair (VFC)	\$77
Out-of-State New Electronics (VFC)	\$1,018
Out-of-State Electronics Repair (VFC)	\$37
Out-of-State Other Maintenance (VFC)	\$62
Out-of-State Boat Slip Rent (VFC)	\$13
Out-of-State Boat Yard (VFC)	\$0
Out-of-State Vessel Cleaning (VFC)	\$0
Out-of-State Hull Insurance (VFC)	\$673
Out-of-State P&I Insurance (VFC)	\$343
Out-of-State Property Tax on Vessel (VFC)	\$12
SUBTOTAL: Vessel Fixed Costs	\$252,257
SUBTOTAL: Business Fixed Costs	\$41,846
Paid Labor On Shore (office, misc.)	\$3,982
SUBTOTAL: Total Fixed Costs	\$298,086
SUBTOTAL: Total Costs	\$915,714
Returns to Owner (incl. value non-paid family labor)	\$84,286
Value Of Non-Paid Family Labor (Subcomponent of Returns To Owner)	\$11,527

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

Cost and Return Relationships:

Vessel Trip Costs Non Labor = Fuel + Bait + Ice + Groceries + Expendible Gear  
Total Vessel Trip Costs = Vessel Trip Costs Labor + Vessel Trip Costs Non Labor  
Vessel Fixed Costs = sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)  
Business Fixed Costs = sum of the Business Fixed Cost (BFC) components (including the Out-of-State)  
Total Fixed Costs = Vessel Fixed Costs + Business Fixed Costs + Paid Labor On Shore  
Total Costs = Total Vessel Trip Costs + Total Fixed Costs  
Returns To Owner = Sales - Total Costs

Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 21. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales -- Region 1 Means<sup>1</sup>, All Gears, All Target Species Groups Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$165,120
Bait	\$137,832
Ice	\$33,424
Groceries	\$31,841
Expendible Gear	\$53,785
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$422,001
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$237,171
SUBTOTAL: TotalVesselTripCosts	\$659,171
NC Fishing Licenses (BFC)	\$9,150
Out-of-State Fishing Licenses (BFC)	\$141
Federal Fishing Licenses (BFC)	\$1,924
NC Accounting (BFC)	\$4,900
NC Telephone (BFC)	\$9,878
NC Internet (BFC)	\$4,100
NC Office Equipment (BFC)	\$1,159
NC Office Rent (BFC)	\$2,954
NC Association Dues (BFC)	\$2,108
NC Truck Payment (BFC)	\$18,921
NC Health Insurance (BFC)	\$3,446
NC Retirement Plans (BFC)	\$357
NC Property Taxes (BFC)	\$4,985
NC Other 1 (BFC)	\$1,491
NC Other 2 (BFC)	\$401
NC Other 3 (BFC)	\$0
Out-of-State Accounting (BFC)	\$0
Out-of-State Telephone (BFC)	\$110
Out-of-State Internet (BFC)	\$113
Out-of-State Office Equipment (BFC)	\$45
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$0
Out-of-State Truck Payment (BFC)	\$3,623
Out-of-State Health Insurance (BFC)	\$175
Out-of-State Retirement Plans (BFC)	\$439
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$1,035
Other State Vessel Registration Fees (VFC)	\$90
Federal Vessel Registration Fees (VFC)	\$729
NC Vessel Loan Payment (VFC)	\$17,006
NC New Engine (VFC)	\$29,561
NC Engine Repair (VFC)	\$35,530
NC New Net Gear (VFC)	\$32,556
NC New Pot Gear (VFC)	\$32,442
NC New Line Gear (VFC)	\$11,647
NC Gear Repair (VFC)	\$12,716
NC New Electronics (VFC)	\$8,375
NC Electronics Repair (VFC)	\$1,719
NC Other Maintenance (VFC)	\$13,231
NC Boat Slip Rent (VFC)	\$14,064
NC Boat Yard (VFC)	\$7,869

NC Vessel Cleaning (VFC)	\$1,314
NC Hull Insurance (VFC)	\$6,657
NC P&I Insurance (VFC)	\$4,544
NC Property Tax on Vessel (VFC)	\$7,420
Out-of-StateVessel Loan Payment (VFC)	\$3,025
Out-of-StateNew Engine (VFC)	\$1,646
Out-of-StateEngine Repair (VFC)	\$0
Out-of-StateNew Net Gear (VFC)	\$0
Out-of-StateNew Pot Gear (VFC)	\$4,303
Out-of-StateNew Line Gear (VFC)	\$4
Out-of-StateGear Repair (VFC)	\$331
Out-of-StateNew Electronics (VFC)	\$2,648
Out-of-StateElectronics Repair (VFC)	\$156
Out-of-StateOther Maintenance (VFC)	\$0
Out-of-StateBoat Slip Rent (VFC)	\$0
Out-of-StateBoat Yard (VFC)	\$0
Out-of-StateVessel Cleaning (VFC)	\$0
Out-of-StateHull Insurance (VFC)	\$1,191
Out-of-StateP&I Insurance (VFC)	\$76
Out-of-StateProperty Tax on Vessel (VFC)	\$0
SUBTOTAL: VesselFixedCosts	\$251,885
SUBTOTAL: BusinessFixedCosts	\$70,418
Paid Labor On Shore (office, misc.)	\$6,696
SUBTOTAL: TotalFixedCosts	\$328,999
SUBTOTAL: TotalCosts	\$988,170
Returns to Owner (incl. value non-paid family labor)	\$11,830
ValueOfNon-PaidFamilyLabor (Subcomponent of ReturnsToOwner)	\$14,786

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

Cost and Return Relationships:

VesselTripCostsNonLabor = Fuel + Bait + Ice + Groceries + Expendible Gear  
TotalVesselTripCosts = VesselTripCostsLabor + VesselTripCostsNonLabor  
Vessel Fixed Costs = sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)  
Business Fixed Costs = sum of the Business Fixed Cost (BFC) components (including the Out-of-State)  
TotalFixedCosts = VesselFixedCosts + BusinessFixedCosts + Paid Labor On Shore  
TotalCosts = TotalVesselTripCosts + TotalFixedCosts  
ReturnsToOwner = Sales - TotalCosts

Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 22. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales -- Region 2 Means<sup>1</sup>, All Gears, All Target Species Groups Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$139,318
Bait	\$29,414
Ice	\$12,106
Groceries	\$20,156
Expendible Gear	\$16,584
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$217,579
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$388,919
SUBTOTAL: TotalVesselTripCosts	\$606,498
NC Fishing Licenses (BFC)	\$4,567
Out-of-State Fishing Licenses (BFC)	\$1,433
Federal Fishing Licenses (BFC)	\$196
NC Accounting (BFC)	\$1,802
NC Telephone (BFC)	\$2,532
NC Internet (BFC)	\$873
NC Office Equipment (BFC)	\$675
NC Office Rent (BFC)	\$819
NC Association Dues (BFC)	\$751
NC Truck Payment (BFC)	\$5,206
NC Health Insurance (BFC)	\$278
NC Retirement Plans (BFC)	\$0
NC Property Taxes (BFC)	\$413
NC Other 1 (BFC)	\$1,151
NC Other 2 (BFC)	\$221
NC Other 3 (BFC)	\$77
Out-of-State Accounting (BFC)	\$0
Out-of-State Telephone (BFC)	\$1
Out-of-State Internet (BFC)	\$0
Out-of-State Office Equipment (BFC)	\$0
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$1
Out-of-State Truck Payment (BFC)	\$0
Out-of-State Health Insurance (BFC)	\$0
Out-of-State Retirement Plans (BFC)	\$0
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$807
Other State Vessel Registration Fees (VFC)	\$863
Federal Vessel Registration Fees (VFC)	\$222
NC Vessel Loan Payment (VFC)	\$62,700
NC New Engine (VFC)	\$24,983
NC Engine Repair (VFC)	\$22,496
NC New Net Gear (VFC)	\$20,846
NC New Pot Gear (VFC)	\$10,468
NC New Line Gear (VFC)	\$4,169
NC Gear Repair (VFC)	\$8,945
NC New Electronics (VFC)	\$7,808
NC Electronics Repair (VFC)	\$4,457
NC Other Maintenance (VFC)	\$21,160
NC Boat Slip Rent (VFC)	\$11,559
NC Boat Yard (VFC)	\$11,995



NC Vessel Cleaning (VFC)	\$1,366
NC Hull Insurance (VFC)	\$10,405
NC P&I Insurance (VFC)	\$15,351
NC Property Tax on Vessel (VFC)	\$7,447
Out-of-StateVessel Loan Payment (VFC)	\$0
Out-of-StateNew Engine (VFC)	\$0
Out-of-StateEngine Repair (VFC)	\$0
Out-of-StateNew Net Gear (VFC)	\$1,492
Out-of-StateNew Pot Gear (VFC)	\$0
Out-of-StateNew Line Gear (VFC)	\$0
Out-of-StateGear Repair (VFC)	\$0
Out-of-StateNew Electronics (VFC)	\$0
Out-of-StateElectronics Repair (VFC)	\$0
Out-of-StateOther Maintenance (VFC)	\$0
Out-of-StateBoat Slip Rent (VFC)	\$0
Out-of-StateBoat Yard (VFC)	\$0
Out-of-StateVessel Cleaning (VFC)	\$0
Out-of-StateHull Insurance (VFC)	\$39
Out-of-StateP&I Insurance (VFC)	\$14
Out-of-StateProperty Tax on Vessel (VFC)	\$17
SUBTOTAL: VesselFixedCosts	\$249,608
SUBTOTAL: BusinessFixedCosts	\$20,998
Paid Labor On Shore (office, misc.)	\$3,791
SUBTOTAL: TotalFixedCosts	\$274,396
SUBTOTAL: TotalCosts	\$880,894
Returns to Owner (incl. value non-paid family labor)	\$119,106
ValueOfNon-PaidFamilyLabor (Subcomponent of ReturnsToOwner)	\$10,245

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

Cost and Return Relationships:

VesselTripCostsNonLabor = Fuel + Bait + Ice + Groceries + Expendible Gear  
TotalVesselTripCosts = VesselTripCostsLabor + VesselTripCostsNonLabor  
Vessel Fixed Costs = sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)  
Business Fixed Costs = sum of the Business Fixed Cost (BFC) components (including the Out-of-State)  
TotalFixedCosts = VesselFixedCosts + BusinessFixedCosts + Paid Labor On Shore  
TotalCosts = TotalVesselTripCosts + TotalFixedCosts  
ReturnsToOwner = Sales - TotalCosts

Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 23. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales -- Region 3 Means<sup>1</sup>, All Gears, All Target Species Groups Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$146,721
Bait	\$17,234
Ice	\$16,144
Groceries	\$26,284
Expendible Gear	\$25,630
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$232,013
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$355,057
SUBTOTAL: TotalVesselTripCosts	\$587,070
NC Fishing Licenses (BFC)	\$8,466
Out-of-State Fishing Licenses (BFC)	\$1,157
Federal Fishing Licenses (BFC)	\$1,474
NC Accounting (BFC)	\$4,580
NC Telephone (BFC)	\$7,150
NC Internet (BFC)	\$3,739
NC Office Equipment (BFC)	\$631
NC Office Rent (BFC)	\$1,626
NC Association Dues (BFC)	\$347
NC Truck Payment (BFC)	\$14,839
NC Health Insurance (BFC)	\$110
NC Retirement Plans (BFC)	\$76
NC Property Taxes (BFC)	\$2,432
NC Other 1 (BFC)	\$2,593
NC Other 2 (BFC)	\$855
NC Other 3 (BFC)	\$920
Out-of-State Accounting (BFC)	\$63
Out-of-State Telephone (BFC)	\$1,835
Out-of-State Internet (BFC)	\$0
Out-of-State Office Equipment (BFC)	\$0
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$38
Out-of-State Truck Payment (BFC)	\$457
Out-of-State Health Insurance (BFC)	\$71
Out-of-State Retirement Plans (BFC)	\$0
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$971
Other State Vessel Registration Fees (VFC)	\$738
Federal Vessel Registration Fees (VFC)	\$474
NC Vessel Loan Payment (VFC)	\$50,710
NC New Engine (VFC)	\$39,877
NC Engine Repair (VFC)	\$25,542
NC New Net Gear (VFC)	\$18,386
NC New Pot Gear (VFC)	\$4,370
NC New Line Gear (VFC)	\$5,876
NC Gear Repair (VFC)	\$8,492
NC New Electronics (VFC)	\$9,677
NC Electronics Repair (VFC)	\$3,676
NC Other Maintenance (VFC)	\$20,411
NC Boat Slip Rent (VFC)	\$11,530
NC Boat Yard (VFC)	\$9,804

NC Vessel Cleaning (VFC)	\$1,185
NC Hull Insurance (VFC)	\$10,478
NC P&I Insurance (VFC)	\$12,014
NC Property Tax on Vessel (VFC)	\$7,618
Out-of-StateVessel Loan Payment (VFC)	\$466
Out-of-StateNew Engine (VFC)	\$0
Out-of-StateEngine Repair (VFC)	\$103
Out-of-StateNew Net Gear (VFC)	\$2,367
Out-of-StateNew Pot Gear (VFC)	\$1,268
Out-of-StateNew Line Gear (VFC)	\$0
Out-of-StateGear Repair (VFC)	\$0
Out-of-StateNew Electronics (VFC)	\$1,246
Out-of-StateElectronics Repair (VFC)	\$0
Out-of-StateOther Maintenance (VFC)	\$204
Out-of-StateBoat Slip Rent (VFC)	\$42
Out-of-StateBoat Yard (VFC)	\$0
Out-of-StateVessel Cleaning (VFC)	\$0
Out-of-StateHull Insurance (VFC)	\$1,087
Out-of-StateP&I Insurance (VFC)	\$1,015
Out-of-StateProperty Tax on Vessel (VFC)	\$10
SUBTOTAL: VesselFixedCosts	\$249,637
SUBTOTAL: BusinessFixedCosts	\$53,459
Paid Labor On Shore (office, misc.)	\$794
SUBTOTAL: TotalFixedCosts	\$303,890
SUBTOTAL: TotalCosts	\$890,960
Returns to Owner (incl. value non-paid family labor)	\$109,040
ValueOfNon-PaidFamilyLabor (Subcomponent of ReturnsToOwner)	\$10,221

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

Cost and Return Relationships:

VesselTripCostsNonLabor = Fuel + Bait + Ice + Groceries + Expendible Gear  
TotalVesselTripCosts = VesselTripCostsLabor + VesselTripCostsNonLabor  
Vessel Fixed Costs = sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)  
Business Fixed Costs = sum of the Business Fixed Cost (BFC) components (including the Out-of-State)  
TotalFixedCosts = VesselFixedCosts + BusinessFixedCosts + Paid Labor On Shore  
TotalCosts = TotalVesselTripCosts + TotalFixedCosts  
ReturnsToOwner = Sales - TotalCosts

Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 24. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales --  
 Finfish Target Species Means<sup>1</sup>, All Regions, All Gears Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$169,280
Bait	\$45,128
Ice	\$29,441
Groceries	\$31,709
Expendible Gear	\$46,801
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$322,359
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$283,382
SUBTOTAL: TotalVesselTripCosts	\$605,741
NC Fishing Licenses (BFC)	\$9,285
Out-of-State Fishing Licenses (BFC)	\$429
Federal Fishing Licenses (BFC)	\$2,340
NC Accounting (BFC)	\$5,589
NC Telephone (BFC)	\$7,946
NC Internet (BFC)	\$3,363
NC Office Equipment (BFC)	\$1,584
NC Office Rent (BFC)	\$2,609
NC Association Dues (BFC)	\$1,948
NC Truck Payment (BFC)	\$16,987
NC Health Insurance (BFC)	\$2,140
NC Retirement Plans (BFC)	\$319
NC Property Taxes (BFC)	\$2,832
NC Other 1 (BFC)	\$1,609
NC Other 2 (BFC)	\$786
NC Other 3 (BFC)	\$171
Out-of-State Accounting (BFC)	\$0
Out-of-State Telephone (BFC)	\$1,032
Out-of-State Internet (BFC)	\$19
Out-of-State Office Equipment (BFC)	\$0
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$10
Out-of-State Truck Payment (BFC)	\$1,205
Out-of-State Health Insurance (BFC)	\$176
Out-of-State Retirement Plans (BFC)	\$279
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$1,120
Other State Vessel Registration Fees (VFC)	\$300
Federal Vessel Registration Fees (VFC)	\$755
NC Vessel Loan Payment (VFC)	\$42,176
NC New Engine (VFC)	\$45,876
NC Engine Repair (VFC)	\$37,952
NC New Net Gear (VFC)	\$29,982
NC New Pot Gear (VFC)	\$6,503
NC New Line Gear (VFC)	\$13,093
NC Gear Repair (VFC)	\$6,061
NC New Electronics (VFC)	\$13,339
NC Electronics Repair (VFC)	\$3,069
NC Other Maintenance (VFC)	\$25,493
NC Boat Slip Rent (VFC)	\$16,138
NC Boat Yard (VFC)	\$11,253

NC Vessel Cleaning (VFC)	\$1,724
NC Hull Insurance (VFC)	\$12,166
NC P&I Insurance (VFC)	\$9,179
NC Property Tax on Vessel (VFC)	\$7,087
Out-of-StateVessel Loan Payment (VFC)	\$2,163
Out-of-StateNew Engine (VFC)	\$0
Out-of-StateEngine Repair (VFC)	\$38
Out-of-StateNew Net Gear (VFC)	\$1,013
Out-of-StateNew Pot Gear (VFC)	\$0
Out-of-StateNew Line Gear (VFC)	\$4
Out-of-StateGear Repair (VFC)	\$185
Out-of-StateNew Electronics (VFC)	\$2,717
Out-of-StateElectronics Repair (VFC)	\$44
Out-of-StateOther Maintenance (VFC)	\$71
Out-of-StateBoat Slip Rent (VFC)	\$31
Out-of-StateBoat Yard (VFC)	\$0
Out-of-StateVessel Cleaning (VFC)	\$0
Out-of-StateHull Insurance (VFC)	\$1,422
Out-of-StateP&I Insurance (VFC)	\$818
Out-of-StateProperty Tax on Vessel (VFC)	\$14
SUBTOTAL: VesselFixedCosts	\$291,783
SUBTOTAL: BusinessFixedCosts	\$62,658
Paid Labor On Shore (office, misc.)	\$8,116
SUBTOTAL: TotalFixedCosts	\$362,557
SUBTOTAL: TotalCosts	\$968,298
Returns to Owner (incl. value non-paid family labor)	\$31,702
ValueOfNon-PaidFamilyLabor (Subcomponent of ReturnsToOwner)	\$13,398

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

Cost and Return Relationships:

VesselTripCostsNonLabor = Fuel + Bait + Ice + Groceries + Expendible Gear  
TotalVesselTripCosts = VesselTripCostsLabor + VesselTripCostsNonLabor  
Vessel Fixed Costs = sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)  
Business Fixed Costs = sum of the Business Fixed Cost (BFC) components (including the Out-of-State)  
TotalFixedCosts = VesselFixedCosts + BusinessFixedCosts + Paid Labor On Shore  
TotalCosts = TotalVesselTripCosts + TotalFixedCosts  
ReturnsToOwner = Sales - TotalCosts

Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 25. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales -- Shellfish Target Species Means<sup>1</sup>, All Regions, All Gears Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$91,667
Bait	\$0
Ice	\$7,828
Groceries	\$15,371
Expendible Gear	\$23,298
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$138,165
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$400,617
SUBTOTAL: TotalVesselTripCosts	\$538,781
NC Fishing Licenses (BFC)	\$5,381
Out-of-State Fishing Licenses (BFC)	\$42
Federal Fishing Licenses (BFC)	\$54
NC Accounting (BFC)	\$2,776
NC Telephone (BFC)	\$4,258
NC Internet (BFC)	\$2,353
NC Office Equipment (BFC)	\$359
NC Office Rent (BFC)	\$1,361
NC Association Dues (BFC)	\$323
NC Truck Payment (BFC)	\$11,834
NC Health Insurance (BFC)	\$0
NC Retirement Plans (BFC)	\$0
NC Property Taxes (BFC)	\$1,125
NC Other 1 (BFC)	\$1,015
NC Other 2 (BFC)	\$879
NC Other 3 (BFC)	\$3,707
Out-of-State Accounting (BFC)	\$308
Out-of-State Telephone (BFC)	\$1,395
Out-of-State Internet (BFC)	\$164
Out-of-State Office Equipment (BFC)	\$165
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$123
Out-of-State Truck Payment (BFC)	\$2,220
Out-of-State Health Insurance (BFC)	\$0
Out-of-State Retirement Plans (BFC)	\$0
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$772
Other State Vessel Registration Fees (VFC)	\$603
Federal Vessel Registration Fees (VFC)	\$139
NC Vessel Loan Payment (VFC)	\$51,611
NC New Engine (VFC)	\$15,955
NC Engine Repair (VFC)	\$19,064
NC New Net Gear (VFC)	\$12,952
NC New Pot Gear (VFC)	\$2,127
NC New Line Gear (VFC)	\$2,943
NC Gear Repair (VFC)	\$2,924
NC New Electronics (VFC)	\$6,156
NC Electronics Repair (VFC)	\$3,901
NC Other Maintenance (VFC)	\$7,670
NC Boat Slip Rent (VFC)	\$11,572
NC Boat Yard (VFC)	\$10,840

NC Vessel Cleaning (VFC)	\$1,030
NC Hull Insurance (VFC)	\$7,080
NC P&I Insurance (VFC)	\$14,201
NC Property Tax on Vessel (VFC)	\$6,241
Out-of-StateVessel Loan Payment (VFC)	\$2,220
Out-of-StateNew Engine (VFC)	\$1,031
Out-of-StateEngine Repair (VFC)	\$50
Out-of-StateNew Net Gear (VFC)	\$0
Out-of-StateNew Pot Gear (VFC)	\$22,065
Out-of-StateNew Line Gear (VFC)	\$0
Out-of-StateGear Repair (VFC)	\$0
Out-of-StateNew Electronics (VFC)	\$107
Out-of-StateElectronics Repair (VFC)	\$0
Out-of-StateOther Maintenance (VFC)	\$203
Out-of-StateBoat Slip Rent (VFC)	\$0
Out-of-StateBoat Yard (VFC)	\$0
Out-of-StateVessel Cleaning (VFC)	\$0
Out-of-StateHull Insurance (VFC)	\$797
Out-of-StateP&I Insurance (VFC)	\$123
Out-of-StateProperty Tax on Vessel (VFC)	\$0
SUBTOTAL: VesselFixedCosts	\$204,377
SUBTOTAL: BusinessFixedCosts	\$39,844
Paid Labor On Shore (office, misc.)	\$7,658
SUBTOTAL: TotalFixedCosts	\$251,878
SUBTOTAL: TotalCosts	\$790,660
Returns to Owner (incl. value non-paid family labor)	\$209,340
ValueOfNon-PaidFamilyLabor (Subcomponent of ReturnsToOwner)	\$29,888

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

#### Cost and Return Relationships:

$$\text{VesselTripCostsNonLabor} = \text{Fuel} + \text{Bait} + \text{Ice} + \text{Groceries} + \text{Expendible Gear}$$

$$\text{TotalVesselTripCosts} = \text{VesselTripCostsLabor} + \text{VesselTripCostsNonLabor}$$

$$\text{Vessel Fixed Costs} = \text{sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)}$$

$$\text{Business Fixed Costs} = \text{sum of the Business Fixed Cost (BFC) components (including the Out-of-State)}$$

$$\text{TotalFixedCosts} = \text{VesselFixedCosts} + \text{BusinessFixedCosts} + \text{Paid Labor On Shore}$$

$$\text{TotalCosts} = \text{TotalVesselTripCosts} + \text{TotalFixedCosts}$$

$$\text{ReturnsToOwner} = \text{Sales} - \text{TotalCosts}$$

#### Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 26. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales -- Blue Crab Target Species Means<sup>1</sup>, All Regions, All Gears Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$126,405
Bait	\$303,803
Ice	\$9,496
Groceries	\$28,062
Expendible Gear	\$32,880
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$500,646
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$208,522
SUBTOTAL: TotalVesselTripCosts	\$709,167
NC Fishing Licenses (BFC)	\$10,895
Out-of-State Fishing Licenses (BFC)	\$94
Federal Fishing Licenses (BFC)	\$1
NC Accounting (BFC)	\$2,306
NC Telephone (BFC)	\$6,320
NC Internet (BFC)	\$2,082
NC Office Equipment (BFC)	\$357
NC Office Rent (BFC)	\$1,593
NC Association Dues (BFC)	\$540
NC Truck Payment (BFC)	\$13,336
NC Health Insurance (BFC)	\$35
NC Retirement Plans (BFC)	\$0
NC Property Taxes (BFC)	\$2,246
NC Other 1 (BFC)	\$2,439
NC Other 2 (BFC)	\$587
NC Other 3 (BFC)	\$0
Out-of-State Accounting (BFC)	\$0
Out-of-State Telephone (BFC)	\$165
Out-of-State Internet (BFC)	\$94
Out-of-State Office Equipment (BFC)	\$0
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$0
Out-of-State Truck Payment (BFC)	\$0
Out-of-State Health Insurance (BFC)	\$0
Out-of-State Retirement Plans (BFC)	\$0
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$814
Other State Vessel Registration Fees (VFC)	\$50
Federal Vessel Registration Fees (VFC)	\$322
NC Vessel Loan Payment (VFC)	\$5,446
NC New Engine (VFC)	\$51,180
NC Engine Repair (VFC)	\$18,096
NC New Net Gear (VFC)	\$10,083
NC New Pot Gear (VFC)	\$86,061
NC New Line Gear (VFC)	\$3,878
NC Gear Repair (VFC)	\$15,048
NC New Electronics (VFC)	\$4,080
NC Electronics Repair (VFC)	\$329
NC Other Maintenance (VFC)	\$8,816
NC Boat Slip Rent (VFC)	\$12,845
NC Boat Yard (VFC)	\$1,250



NC Vessel Cleaning (VFC)	\$399
NC Hull Insurance (VFC)	\$1,709
NC P&I Insurance (VFC)	\$257
NC Property Tax on Vessel (VFC)	\$3,726
Out-of-StateVessel Loan Payment (VFC)	\$0
Out-of-StateNew Engine (VFC)	\$0
Out-of-StateEngine Repair (VFC)	\$0
Out-of-StateNew Net Gear (VFC)	\$0
Out-of-StateNew Pot Gear (VFC)	\$0
Out-of-StateNew Line Gear (VFC)	\$0
Out-of-StateGear Repair (VFC)	\$0
Out-of-StateNew Electronics (VFC)	\$0
Out-of-StateElectronics Repair (VFC)	\$147
Out-of-StateOther Maintenance (VFC)	\$0
Out-of-StateBoat Slip Rent (VFC)	\$0
Out-of-StateBoat Yard (VFC)	\$0
Out-of-StateVessel Cleaning (VFC)	\$0
Out-of-StateHull Insurance (VFC)	\$0
Out-of-StateP&I Insurance (VFC)	\$0
Out-of-StateProperty Tax on Vessel (VFC)	\$46
SUBTOTAL: VesselFixedCosts	\$224,582
SUBTOTAL: BusinessFixedCosts	\$43,093
Paid Labor On Shore (office, misc.)	\$2,188
SUBTOTAL: TotalFixedCosts	\$269,862
SUBTOTAL: TotalCosts	\$979,029
Returns to Owner (incl. value non-paid family labor)	\$20,971
ValueOfNon-PaidFamilyLabor (Subcomponent of ReturnsToOwner)	\$13,901

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

#### Cost and Return Relationships:

$$\text{VesselTripCostsNonLabor} = \text{Fuel} + \text{Bait} + \text{Ice} + \text{Groceries} + \text{Expendible Gear}$$

$$\text{TotalVesselTripCosts} = \text{VesselTripCostsLabor} + \text{VesselTripCostsNonLabor}$$

$$\text{Vessel Fixed Costs} = \text{sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)}$$

$$\text{Business Fixed Costs} = \text{sum of the Business Fixed Cost (BFC) components (including the Out-of-State)}$$

$$\text{TotalFixedCosts} = \text{VesselFixedCosts} + \text{BusinessFixedCosts} + \text{Paid Labor On Shore}$$

$$\text{TotalCosts} = \text{TotalVesselTripCosts} + \text{TotalFixedCosts}$$

$$\text{ReturnsToOwner} = \text{Sales} - \text{TotalCosts}$$

#### Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 27. NC Commercial Harvester Direct Expenditures per \$1 Million Dockside Sales -- Shrimp Target Species Means<sup>1</sup>, All Regions, All Gears Combined

Expenditure Category	Direct Expenditures and Value-Added per \$1 Million in Ex-Vessel Sales
Fuel	\$237,752
Bait	\$369
Ice	\$21,175
Groceries	\$28,923
Expendible Gear	\$9,882
SUBTOTAL: VesselTripCostsNonLabor (Annual Total)	\$298,100
Vessel Trip Costs Labor (Crew/Hired Captain) (Annual Total)	\$372,649
SUBTOTAL: TotalVesselTripCosts	\$670,749
NC Fishing Licenses (BFC)	\$3,034
Out-of-State Fishing Licenses (BFC)	\$4,945
Federal Fishing Licenses (BFC)	\$84
NC Accounting (BFC)	\$1,814
NC Telephone (BFC)	\$2,945
NC Internet (BFC)	\$953
NC Office Equipment (BFC)	\$292
NC Office Rent (BFC)	\$247
NC Association Dues (BFC)	\$508
NC Truck Payment (BFC)	\$4,731
NC Health Insurance (BFC)	\$116
NC Retirement Plans (BFC)	\$0
NC Property Taxes (BFC)	\$864
NC Other 1 (BFC)	\$2,302
NC Other 2 (BFC)	\$46
NC Other 3 (BFC)	\$0
Out-of-State Accounting (BFC)	\$0
Out-of-State Telephone (BFC)	\$0
Out-of-State Internet (BFC)	\$0
Out-of-State Office Equipment (BFC)	\$0
Out-of-State Office Rent (BFC)	\$0
Out-of-State Association Dues (BFC)	\$0
Out-of-State Truck Payment (BFC)	\$238
Out-of-State Health Insurance (BFC)	\$0
Out-of-State Retirement Plans (BFC)	\$0
Out-of-State Property Taxes (BFC)	\$0
Out-of-State Other 1 (BFC)	\$0
Out-of-State Other2 (BFC)	\$0
Out-of-State Other3 (BFC)	\$0
NC Vessel Registration Fees (VFC)	\$1,063
Other State Vessel Registration Fees (VFC)	\$1,593
Federal Vessel Registration Fees (VFC)	\$208
NC Vessel Loan Payment (VFC)	\$58,931
NC New Engine (VFC)	\$4,004
NC Engine Repair (VFC)	\$28,106
NC New Net Gear (VFC)	\$24,573
NC New Pot Gear (VFC)	\$667
NC New Line Gear (VFC)	\$3,479
NC Gear Repair (VFC)	\$22,884
NC New Electronics (VFC)	\$5,300
NC Electronics Repair (VFC)	\$5,672
NC Other Maintenance (VFC)	\$35,763
NC Boat Slip Rent (VFC)	\$7,643
NC Boat Yard (VFC)	\$12,995

NC Vessel Cleaning (VFC)	\$1,450
NC Hull Insurance (VFC)	\$12,413
NC P&I Insurance (VFC)	\$14,579
NC Property Tax on Vessel (VFC)	\$9,708
Out-of-StateVessel Loan Payment (VFC)	\$0
Out-of-StateNew Engine (VFC)	\$2,027
Out-of-StateEngine Repair (VFC)	\$0
Out-of-StateNew Net Gear (VFC)	\$5,614
Out-of-StateNew Pot Gear (VFC)	\$0
Out-of-StateNew Line Gear (VFC)	\$0
Out-of-StateGear Repair (VFC)	\$0
Out-of-StateNew Electronics (VFC)	\$4
Out-of-StateElectronics Repair (VFC)	\$0
Out-of-StateOther Maintenance (VFC)	\$0
Out-of-StateBoat Slip Rent (VFC)	\$0
Out-of-StateBoat Yard (VFC)	\$0
Out-of-StateVessel Cleaning (VFC)	\$0
Out-of-StateHull Insurance (VFC)	\$347
Out-of-StateP&I Insurance (VFC)	\$0
Out-of-StateProperty Tax on Vessel (VFC)	\$1
SUBTOTAL: VesselFixedCosts	\$259,025
SUBTOTAL: BusinessFixedCosts	\$23,121
Paid Labor On Shore (office, misc.)	\$644
SUBTOTAL: TotalFixedCosts	\$282,790
SUBTOTAL: TotalCosts	\$953,539
Returns to Owner (incl. value non-paid family labor)	\$46,461
ValueOfNon-PaidFamilyLabor (Subcomponent of ReturnsToOwner)	\$3,885

<sup>1</sup> Means have been adjusted/weighted (post-stratified) by vessel length.

Cost and Return Relationships:

VesselTripCostsNonLabor = Fuel + Bait + Ice + Groceries + Expendable Gear  
TotalVesselTripCosts = VesselTripCostsLabor + VesselTripCostsNonLabor  
Vessel Fixed Costs = sum of the Vessel Fixed Cost (VFC) components (including the Out-of-State)  
Business Fixed Costs = sum of the Business Fixed Cost (BFC) components (including the Out-of-State)  
TotalFixedCosts = VesselFixedCosts + BusinessFixedCosts + Paid Labor On Shore  
TotalCosts = TotalVesselTripCosts + TotalFixedCosts  
ReturnsToOwner = Sales - TotalCosts

Additional Notes:

Returns to Owner are before any income or corporate profits taxes but are net of vessel and business property taxes.

Value of Non-Paid Family Labor is included in Returns to Owner. Non-Paid Family Labor is valued at \$12/hour, the typical rate of pay for paid family labor reported by survey respondents.

Vessel depreciation costs are represented by (offset by) vessel repair and maintenance costs.

Table 28. Commercial Harvester Distribution Channels--Statewide, All Species Combined  
(n = 508)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	51.02
Seafood Markets	22.70
Other NC Dealers (Intermediaries)	10.23
Final Retail Customers <sup>2</sup>	16.04
Total	100.00

<sup>1</sup>Commercial harvester distribution channels give the percentages of harvester sales that are sold by the harvester at dockside (ex-vessel) to buyers in each distribution channel.

<sup>2</sup>Commercial harvesters who possess a seafood dealer license may sell directly to final retail customers.

Table 29. Commercial Harvester Distribution Channels--Statewide, By Species Group

FINFISH (n = 156)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	56.49
Seafood Markets	24.73
Other NC Dealers (Intermediaries)	2.75
Final Retail Customers <sup>2</sup>	16.02
Total	100.00

BLUE CRAB (n = 135)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	53.03
Seafood Markets	19.41
Other NC Dealers (Intermediaries)	11.82
Final Retail Customers <sup>2</sup>	15.74
Total	100.00

SHRIMP (n = 69)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	42.89
Seafood Markets	8.23
Other NC Dealers (Intermediaries)	8.03
Final Retail Customers <sup>2</sup>	40.84
Total	100.00

SHELLFISH (n = 148)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	47.22
Seafood Markets	30.32
Other NC Dealers (Intermediaries)	17.70
Final Retail Customers <sup>2</sup>	4.77
Total	100.00

<sup>1</sup>Commercial harvester distribution channels give the percentages of harvester sales that are sold by the harvester at dockside (ex-vessel) to buyers in each distribution channel.

<sup>2</sup>Commercial harvesters who possess a seafood dealer license may sell directly to final retail customers.

Table 30. Commercial Harvester Distribution Channels--By Region, All Species Combined

REGION 01 (Northern Coast) (n = 145)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	65.37
Seafood Markets	14.81
Other NC Dealers (Intermediaries)	9.48
Final Retail Customers <sup>2</sup>	10.34
Total	100.00

REGION 02 (Central Coast) (n = 197)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	56.50
Seafood Markets	12.06
Other NC Dealers (Intermediaries)	9.02
Final Retail Customers <sup>2</sup>	22.42
Total	100.00

REGION 03 (Southern Coast) (n = 166)

Distribution Channel <sup>1</sup>	Percentage of Ex-Vessel Sales
Processors	29.57
Seafood Markets	48.08
Other NC Dealers (Intermediaries)	15.16
Final Retail Customers <sup>2</sup>	7.20
Total	100.00

<sup>1</sup>Commercial harvester distribution channels give the percentages of harvester sales that are sold by the harvester at dockside (ex-vessel) to buyers in each distribution channel.

<sup>2</sup>Commercial harvesters who possess a seafood dealer license may sell directly to final retail customers.

REGION 01. (North Coast): Bertie, Camden, Chowan, Currituck, Dare, Hertford, Hyde, Pasquotank, Perquimans, Tyrrell, Washington Counties.

REGION 02. (Central Coast): Beaufort, Carteret, Craven, Pamlico Counties.

REGION 03. (South Coast): Brunswick, New Hanover, Onslow, Pender Counties.

Table 31. Example Production Function -- Statewide, All Target Species Groups Combined

Expense Category	IMPLAN Commodity Sector	IMPLAN Sector Description	Statewide All species
Fuel	3408	Retail services - Gasoline stores	0.148783013
Bait	3017	Fish	0.053986671
Ice	3105	Manufactured ice	0.018720589
Groceries	3406	Retail services - Food and beverage stores	0.025167281
Expendable Gear	3395	Wholesale services - Machinery, equipment, and supplies	0.029393466
VesselTripCostsNonLabor (Annual)	(Subtotal)		0.276051049
VesselTripCostsLabor (Annual)	ValueAdded--LaborIncome	(this is compensation for crew members any hired captain)	0.341599109
TotalVesselTripCosts	(Subtotal)		0.617650163
NC Fishing Licenses	3531	Other products and services of State Govt enterprises	0.006789675
Out-of-State Fishing Licenses	Expenditure outside NC	(a leakage that goes to imports)	0.001038404
Federal Fishing Licenses	Expenditure outside NC	(a leakage that goes to imports)	0.000979425
NC Accounting	3456	Accounting, tax preparation, bookkeeping, and payroll services	0.00335466
NC Telephone	3434	Wireless telecommunications (except satellite)	0.005452928
NC Internet	3433	Wired telecommunications	0.002398101
NC Office Equipment	3403	Retail services - Furniture and home furnishings stores	0.000809481
NC Office Rent	3448	Tenant-occupied real estate services	0.001635983
NC Association Dues	3523	Business and professional services	0.000958562
NC Truck Payment	3439	Nondepository credit intermediation and related activities	0.011464397
NC Health Insurance	3445	Insurance agencies, brokerages, and related services	0.000871783
NC Retirement Plans	3439	Nondepository credit intermediation and related activities	0.00011968
NC Property Taxes	3534	Other products and services of Local Govt enterprises	0.00194275
NC Other	3405	Retail services - Building material and garden equipment stores	0.001675533
NC Other	3405	Retail services - Building material and garden equipment stores	0.000468638
NC Other	3405	Retail services - Building material and garden equipment stores	0.0003218
Out-of-State Accounting	Expenditure outside NC	(a leakage that goes to imports)	1.95273E-05
Out-of-State Telephone	Expenditure outside NC	(a leakage that goes to imports)	0.00059094
Out-of-State Internet	Expenditure outside NC	(a leakage that goes to imports)	2.83098E-05
Out-of-State Office Equipment	Expenditure outside NC	(a leakage that goes to imports)	1.0445E-05
Out-of-State Office Rent	Expenditure outside NC	(a leakage that goes to imports)	0
Out-of-State Association Dues	Expenditure outside NC	(a leakage that goes to imports)	1.20312E-05
Out-of-State Truck Payment	Expenditure outside NC	(a leakage that goes to imports)	0.000713397
Out-of-State Health Insurance	Expenditure outside NC	(a leakage that goes to imports)	6.79654E-05
Out-of-State Retirement Plans	Expenditure outside NC	(a leakage that goes to imports)	0.00010947
Out-of-State Property Taxes	Expenditure outside NC	(a leakage that goes to imports)	0
Out-of-State Other	Expenditure outside NC	(a leakage that goes to imports)	0
Out-of-State Other	Expenditure outside NC	(a leakage that goes to imports)	0
Out-of-State Other	Expenditure outside NC	(a leakage that goes to imports)	0
NC Vessel Registration Fees	3531	Other products and services of State Govt enterprises	0.000914284

<b>Other State Vessel Registration Fees</b>	Expenditure outside NC	(a leakage that goes to imports)	0.000640669
<b>Federal Vessel Registration Fees</b>	Expenditure outside NC	(a leakage that goes to imports)	0.00041695
<b>NC Vessel Loan Payment</b>	3439	Nondepository credit intermediation and related activities	0.047242389
<b>NC New Engine</b>	3402	Retail services - Motor vehicle and parts dealers	0.031778862
<b>NC Engine Repair</b>	3512	Automotive repair and maintenance, except car washes	0.027422338
<b>NC New Net Gear</b>	3121	Other textile products	0.022378562
<b>NC New Pot Gear</b>	3259	Other fabricated metals	0.014113478
<b>NC New Line Gear</b>	3410	Retail services - Sporting goods, hobby, musical instrument and book stores	0.006845078
<b>NC Gear Repair</b>	3515	Commercial and industrial machinery and equipment repair and maintenance	0.009465375
<b>NC New Electronics</b>	3404	Retail services - Electronics and appliance stores	0.008820814
<b>NC Electronics Repair</b>	3514	Electronic and precision equipment repair and maintenance	0.003599492
<b>NC Other Maintenance</b>	3515	Commercial and industrial machinery and equipment repair and maintenance	0.019036225
<b>NC Boat Slip Rent</b>	3504	Other amusement and recreation (incl. marinas)	0.012374504
<b>NC Boat Yard</b>	3515	Commercial and industrial machinery and equipment repair and maintenance	0.01067541
<b>NC Vessel Cleaning</b>	3515	Commercial and industrial machinery and equipment repair and maintenance	0.001330195
<b>NC Hull Insurance</b>	3445	Insurance agencies, brokerages, and related services	0.009684109
<b>NC P&amp;I Insurance</b>	3445	Insurance agencies, brokerages, and related services	0.011697834
<b>NC Property Tax on Vessel</b>	3534	Other products and services of Local Govt enterprises	0.007372254
<b>Out-of-StateVessel Loan Payment</b>	Expenditure outside NC	(a leakage that goes to imports)	0.000868468
<b>Out-of-StateNew Engine</b>	Expenditure outside NC	(a leakage that goes to imports)	0.000518504
<b>Out-of-StateEngine Repair</b>	Expenditure outside NC	(a leakage that goes to imports)	3.13359E-05
<b>Out-of-StateNew Net Gear</b>	Expenditure outside NC	(a leakage that goes to imports)	0.001398908
<b>Out-of-StateNew Pot Gear</b>	Expenditure outside NC	(a leakage that goes to imports)	0.001397289
<b>Out-of-StateNew Line Gear</b>	Expenditure outside NC	(a leakage that goes to imports)	1.30246E-06
<b>Out-of-StateGear Repair</b>	Expenditure outside NC	(a leakage that goes to imports)	7.73282E-05
<b>Out-of-StateNew Electronics</b>	Expenditure outside NC	(a leakage that goes to imports)	0.001017849
<b>Out-of-StateElectronics Repair</b>	Expenditure outside NC	(a leakage that goes to imports)	3.65552E-05
<b>Out-of-StateOther Maintenance</b>	Expenditure outside NC	(a leakage that goes to imports)	6.19944E-05
<b>Out-of-StateBoat Slip Rent</b>	Expenditure outside NC	(a leakage that goes to imports)	1.27873E-05
<b>Out-of-StateBoat Yard</b>	Expenditure outside NC	(a leakage that goes to imports)	0
<b>Out-of-StateVessel Cleaning</b>	Expenditure outside NC	(a leakage that goes to imports)	0
<b>Out-of-StateHull Insurance</b>	Expenditure outside NC	(a leakage that goes to imports)	0.000672744
<b>Out-of-StateP&amp;I Insurance</b>	Expenditure outside NC	(a leakage that goes to imports)	0.000343359
<b>Out-of-StateProperty Tax on Vessel</b>	Expenditure outside NC	(a leakage that goes to imports)	1.19239E-05
<b>VesselFixedCosts</b>	(Subtotal)		0.252259106
<b>ShoreOtherFixedCosts</b>	(Subtotal)		0.041833885
<b>Paid Labor On Shore</b>	ValueAdded--LaborIncome		0.003982175
<b>FixedCosts</b>	(Subtotal)		0.298075235
<b>TotalCosts</b>	(Subtotal)		0.915725314
<b>Returns to Owner (incl. family labor)</b>	ValueAdded--LaborIncome		0.084274694
<b>ShoreFamilyLabor</b>	(Subcomponent of ReturnsToOwner)		0.011524333



## Figures

Figure 1. The Coastal Counties and Three Commercial Fishing Regions of North Carolina



For the purposes of this study, the coastal counties of North Carolina are grouped into three commercial fishing regions:

REGION 01. (North Coast): Bertie, Camden, Chowan, Currituck, Dare, Hertford, Hyde, Pasquotank, Perquimans, Tyrrell, Washington Counties.

REGION 02. (Central Coast): Beaufort, Carteret, Craven, Pamlico Counties.

REGION 03. (South Coast): Brunswick, New Hanover, Onslow, Pender Counties.

## Appendix 1. Pre-Survey Postcard

University of North Carolina Wilmington  
Department of Environmental Sciences  
601 South College Rd.  
Wilmington, NC 28403-5949

**ANNOUNCING !!  
COMING IN JANUARY !!**

**Research Survey:  
Economic Impacts of  
N.C. Commercial Fishing**



Name -----  
Address 1 -----  
Address 2 -----  
Address 3 -----

Complete the survey.  
Get a \$50 Amazon gift card!  
Have your voice heard!



**COMING IN JANUARY:  
RESEARCH SURVEY –  
Economic Impacts of N.C.  
Commercial Fishing**

Commercial fishers, we need your help!

*North Carolina fishermen themselves*, through the N.C. Commercial Fishing Resource Fund, are funding a survey to calculate the full economic impacts of N.C. commercial fishing, seafood processing, distribution, retailing and seafood restaurants in the state. NC Sea Grant, NC State University, UNC Wilmington and Appalachian State University are working with the NC Division of Marine Fisheries to conduct the survey and analyze the data. Let policy makers know the value of N.C. commercial fisheries!

Each active commercial fisherman who receives a survey, and completes and returns the survey, will receive a **\$50 Amazon gift card** as a "thank you" for your time.  
**WATCH FOR THE SURVEY IN YOUR MAILBOX IN JANUARY !!**

## Appendix 2. Survey Cover Letter



### N.C. Commercial Fishing Economic Impacts Survey



Greetings North Carolina Commercial Harvester!

The purpose of this survey is to collect information needed to estimate the full economic impacts of the North Carolina commercial fishing industry. The survey is funded by commercial fishermen themselves, through the North Carolina Commercial Fishing Resource Fund. The Fund gets its money from N.C. commercial fishing license sales. This study was selected for funding by a committee of N.C. commercial fishermen, N.C. Marine Fisheries Commission staff, and N.C. Division of Marine Fisheries staff. NC Sea Grant, NC State University, UNC Wilmington and Appalachian State University are working with the NC Division of Marine Fisheries to conduct the survey and analyze the data.

Information gathered from this survey will be combined with N.C. Division of Marine Fisheries fishing license, vessel license, and trip ticket information to estimate the economic impacts of N.C. commercial fishing, including impacts on businesses supplying and supporting commercial fishermen, as well as businesses processing, packing, storing, shipping, wholesaling, and retailing N.C. seafood. Additional surveys of fish dealers, fish retailers and restaurants, and consumer households are currently underway as part of this study to collect additional information on the supply chain and distribution chain for N.C. seafood. This information will help the public better understand the full economic impacts of the N.C. commercial seafood industry.

If you don't know an answer, please report your best, unbiased estimate. Please don't over-report or under-report. If everyone under-reports, then the economic value of the commercial fishing industry will be underestimated. On the other hand, if everyone over-reports, then the fishery totals from the survey won't match the fishery totals from the trip ticket data, and the results will not be credible/believable.

Please complete the enclosed paper survey and return it in the postage-paid envelope. Or, you may scan your completed paper survey and email it to [dumasc@uncw.edu](mailto:dumasc@uncw.edu). Or, you may complete the survey online here: <https://tinyurl.com/NCfishing> (note: if you complete the survey online, you will need your Survey # from the top-right corner of the paper survey form).

Your participation in this survey is entirely voluntary--you may refuse to participate, refuse to answer any question, or stop your participation at any time without penalty, but please participate so that the survey results reflect all regions of the state, all types of commercial fishermen, all types of fishing gear, and all target species.

Every N.C.-licensed commercial fisherman who had trip ticket sales in 2019 and who completes and returns the survey will receive a \$50 Amazon e-gift card as a "thank you" for your time.

All answers are confidential. Your information will be combined with information from other fishermen and will not be individually identifiable when study results are released. You must be 18 years old or older to participate in the survey. If you have questions about this survey, please contact Dr. Chris Dumas, survey project leader (contact info below). Dr. Dumas has conducted fisheries economics studies in North Carolina for 20 years and is a member of the science and statistics advisory panel (SSC) of the South Atlantic Fisheries Management Council. This study (# 19-0223) was approved by the UNCW Institutional Review Board. If you have any questions about your rights as a research participant, contact the UNCW IRB at [IRB@uncw.edu](mailto:IRB@uncw.edu) or 910-962-7774.

Sincerely,  
*Chris Dumas*  
Chris Dumas  
Professor of Economics  
Department of Environmental Sciences  
University of North Carolina Wilmington  
910-962-4026 [dumasc@uncw.edu](mailto:dumasc@uncw.edu)



# Appendix 3. Survey

N.C. Commercial Fishing Economic Impacts Survey

Survey #: XXXXXX

## N.C. Commercial Fishing Economic Impacts Survey

### PART 1 – YOU AND YOUR BUSINESS

**Optional:** Your email address (to receive the \$50 Amazon e-gift card): \_\_\_\_\_  
 (Of course, you must *complete the survey* to get the card!)

In which community/town/city do you live? \_\_\_\_\_  
 In which county is the community/town/city located? \_\_\_\_\_  
 How many years have you lived in this community? \_\_\_\_\_ years



In what year were you born? \_\_\_\_\_  
 What is your gender?  Male  Female  
 Which level of education have you completed?  
 Some high school  Some college/technical school  
 High school diploma  College diploma (or more)



How many adults (including yourself) do you support financially (you provide at least 50% support)? \_\_\_\_\_  
 How many kids do you support financially (you provide at least 50% support)? \_\_\_\_\_

How many years have you been in the commercial fishing business? \_\_\_\_\_ years

What is the ownership type of your commercial fishing business (check one ):  
 Sole Owner  Partnership  Corporation (including C-Corp, S-Corp, LLC)

What is the name of the community/town/city where your business is located? \_\_\_\_\_  
 In which county is the business located? \_\_\_\_\_  
 How many years has your business operated in this community? \_\_\_\_\_ years

About what percentage of your total income in 2019 came from commercial fishing? \_\_\_\_\_ %

What was your approximate COMMERCIAL FISHING income in 2019 (before taxes):

Check <input checked="" type="checkbox"/> One	Your COMMERCIAL FISHING Income 2019 (before taxes)
<input type="checkbox"/>	\$0 or lost money
<input type="checkbox"/>	\$1 - \$4,999
<input type="checkbox"/>	\$5,000 - \$14,999
<input type="checkbox"/>	\$15,000 - \$29,999
<input type="checkbox"/>	\$30,000 - \$49,999
<input type="checkbox"/>	\$50,000 - \$74,999
<input type="checkbox"/>	\$75,000 - \$99,999
<input type="checkbox"/>	\$100,000 - \$199,999
<input type="checkbox"/>	\$200,000 or more



What *other* types of work, *other than commercial fishing*, did you do in 2019? (if none, leave blank)

Other Types of Work (other than commercial fishing) (briefly name/describe below)	Approximate 2019 Income (\$'s) (before taxes) from Other Types of Work
	\$
	\$
	\$

**PART 2 – YOUR COMMERCIAL FISHING VESSEL 2019**



How many N.C. Commercial Fishing Vessel Registrations (CFVRs) did you own in 2019? \_\_\_\_\_

Below, please *focus* on your **commercial fishing vessel with the highest sales in 2019**  
 (We are collecting detailed information on your highest-sales vessel. If you have additional vessels, there is an additional sheet at the end of the survey to provide information on your other vessels):

Year Built	Vessel Length (ft)	Vessel Horsepower	Vessel Hull Material	Refrigeration Method/System and Capacity (if none, put "none")

Home Port Location	Years Owned	Estimated market value of Vessel if sold today (include all gear)	Crew Size (Include captain)	Captain Type (Owner, Hired, Assignee?)

**PART 3 – STORM EFFECTS 2019**



Hurricane Dorian (a Category 1 hurricane) made landfall on the Outer Banks on September 6, 2019.

What did you do with your **highest-sales commercial vessel** in response to Hurricane Dorian (check  one):

- The vessel remained in the water, in its home port
- I took the vessel out of the water, but it stayed in its home port area
- The vessel is typically not in the water, it remained on land in its home port area
- I evacuated the vessel by sailing it to a different port ==> Which port? \_\_\_\_\_
- I evacuated the vessel by trailering/driving it to a different location ==> Where? \_\_\_\_\_

Did **this particular** vessel suffer any damage due to hurricane Dorian?  Yes  No  
 If damaged, about how much **damage in dollars** (to this vessel only)? \$ \_\_\_\_\_  
 If damaged, about how much of the damage was **reimbursed by insurance**? \$ \_\_\_\_\_  
 If damaged, about how much of the damage was **reimbursed by a government program**? \$ \_\_\_\_\_

**Before** hurricane Dorian arrived, about how many commercial fishing trips did you miss with this vessel due to preparing / transporting / evacuating this vessel for Dorian? \_\_\_\_\_ trips (if none, leave blank)  
**After** hurricane Dorian passed, about how many commercial fishing trips did you miss with this vessel while returning from evacuation or recovering from the storm? \_\_\_\_\_ trips (if none, leave blank)

Looking forward to the future, which **storm/weather conditions** would typically **STOP** you from making a fishing trip with **this particular vessel**? (mark/answer below all that apply to this vessel)

- Gale warning  Yes  No  Doesn't matter / not applicable
- Wave height (give number of feet): \_\_\_\_\_ feet  Doesn't matter / not applicable
- Which wind speeds / wind directions would STOP you from making a trip? (check  all that apply)

	5 kts	10 kts	15 kts	20 kts	25 kts	30 kts	35 kts	40 kts	45 kts	50+ kts
North										
Northeast										
East										
Southeast										
South										
Southwest										
West										
Northwest										



When answering the last set of questions above about storm/weather conditions, which gear type and target species were you assuming for the vessel? Gear Type: \_\_\_\_\_ Target Species (primary): \_\_\_\_\_

**PART 4 – YOUR TARGET SPECIES, FISHING LOCATIONS, TRIPS AND SALES**

- For **year 2019**, for your **\*highest-sales commercial vessel\***, please provide information by month.
- This will help us calculate economic value for each region, gear type, target species, and fishing season.
- Give total trips and sales for **you and any assignees**, together, for your highest-sales commercial vessel. (If assignee trips and sales are unknown, make your best estimates.)
- If you did not fish in a given month, leave the row blank for that month.

**Fishing Location Codes:**

1. Estuary/Sound/Inside Barrier Islands – Albemarle/Currituck/Croatan Sounds
2. Estuary/Sound/Inside Barrier Islands – Pamlico Sound/Pamlico River/Neuse River
3. Estuary/Sound/Inside Barrier Islands – Core Sound / Bogue Sound
4. Estuary/Sound/Inside Barrier Islands – Bogue Inlet to Cape Fear River
5. Estuary/Sound/Inside Barrier Islands – South of Cape Fear River
6. State ocean waters (up to 3 miles offshore) north of Cape Hatteras
7. State ocean waters (up to 3 miles offshore) south of Cape Hatteras
8. Federal ocean waters (more than 3 miles offshore) north of Cape Hatteras
9. Federal ocean waters (more than 3 miles offshore) south of Cape Hatteras



Month	Main Target Species	Main Fishing Location Code Number (see above)	Main Fishing Gear	Number of Vessel Trips for Month (you and assignees)	Approximate Sales (\$'s) for Month (you and assignees)
January 2019					
February 2019					
March 2019					
April 2019					
May 2019					
June 2019					
July 2019					
August 2019					
September 2019					
October 2019					
November 2019					
December 2019					

**PART 5 – WHO BOUGHT YOUR CATCH ?**

For year 2019, for your *highest-sales commercial vessel*, give your primary port of landing and the approximate percentage of sales (dollars, not pounds) made to each type of buyer in the table below.

NOTE: The percentages in each \*ROW\* should add to 100%.

NOTE: If you had no catch of a particular species in 2019, leave that row blank.



For this table, report percentages for your highest-sales vessel only.

Species	Primary Port of Landing in 2019	2019 Percentage of Sales Made to Each Type of Buyer				Row Total
		Processor/Packers (Licensed Dealers)	Seafood Markets (Licensed Dealers)	Other Licensed Dealers	Retail Customers (because you yourself are a Licensed Dealer)	
Atlantic Menhaden		%	%	%	%	100%
Flounder		%	%	%	%	100%
Snapper/Grouper		%	%	%	%	100%
Highly Migratory Species (Tuna, Swordfish, etc.)		%	%	%	%	100%
Sea Bass / Drum		%	%	%	%	100%
Atlantic Croaker		%	%	%	%	100%
King or Spanish Mackerel		%	%	%	%	100%
Triggerfish		%	%	%	%	100%
Striped Bass		%	%	%	%	100%
Catfish		%	%	%	%	100%
Other Finfish		%	%	%	%	100%
Blue Crabs, Hard		%	%	%	%	100%
Blue Crabs, Soft		%	%	%	%	100%
Shrimp		%	%	%	%	100%
Oysters		%	%	%	%	100%
Hard Clams		%	%	%	%	100%
Scallops (landed in NC)		%	%	%	%	100%
Scallops (landed elsewhere)		%	%	%	%	100%
Other Seafood (Not Finfish)		%	%	%	%	100%





**PART 6 -- YOUR COMMERCIAL FISHING COSTS 2019**



**Vessel Trip Costs:**

For year 2019, for your *highest-sales commercial vessel*, please provide the *average PER TRIP* costs for up to three of your most important target species and gear types:

Most Important Target Species (up to three)	Gear Type	Fuel & Oil \$'s per Trip	Bait \$'s per Trip	Ice \$'s per Trip	Groceries \$'s per Trip	Expendable Gear (gloves, boots, etc.) \$'s per Trip
1)						
2)						
3)						

**Captain/Crew Costs:**

For your *highest-sales commercial vessel*, do you use a share system to pay the crew and captain?

Yes  No



**If Yes (you use a share system):** →

Which expenses are deducted from gross sales/revenues before calculating shares?

Expense Category	Put one check ✓ for each row		
	Deducted	Not Deducted	Doesn't Apply
Fuel & Oil			
Bait			
Ice			
Groceries			
Other (Describe: )			

What percentage of the net share (that is, after deductions) goes to owner, captain and crew? (note: percentages should add to 100%):

Vessel/Owner Share	%
Hired Captain Share (if any)	%
Crew Share	%
<b>TOTAL</b>	<b>100 %</b>

**If No (you don't use a share system),** then briefly describe how you pay the captain and crew:

**Vessel Durable/Fixed Costs**



- Vessel Durable/Fixed Costs are vessel costs that are spread across multiple fishing trips.
- For **year 2019**, please provide your vessel durable/fixed costs in the following categories:

For this question, "Out-of-State Purchase" means you *directly* paid a seller who was located out of state.

**Example 1:** If you buy an engine from a N.C. dealer, but the engine was manufactured out-of-state, then that is considered a purchase from an N.C. seller, not an out-of-state seller, because you directly paid the N.C. dealer.

**Example 2:** If you order from a catalogue *based outside NC*, or an online seller *based outside NC*, and the items are shipped to you from out-of-state, then that is considered an out-of-state seller.

For this table, include costs for your **highest-sales commercial vessel only.**

Vessel Durable/Fixed Costs	Total \$'s Spent 2019	Is it an Out-of-State Purchase? (if yes, put a check ✓)
Vessel Registration Fees -- NC		
Vessel Registration Fees -- Other states		✓
Vessel Registration Fees -- Federal		✓
Vessel Loan Payments (total for 2019) (if vessel is paid off, put "paid off")		
Depreciation on Vessel (total for 2019)		
New Engine Purchases		
Engine Repair		
New Net Fishing Gear Purchases		
New Pot Fishing Gear Purchases		
New Line Fishing Gear Purchases		
Repair of Net/Pot/Line Gear		
New Electronics Purchases (GPS, Fish finder, radio etc.)		
Electronics Repair		
Other Vessel Maintenance (Upholstery, rigging etc.)		
Marina / Boat Slip Lease or Rent (total for 2019)		
Boat Yard Haul Out		
Vessel Cleaning		
Vessel Hull Insurance (total for 2019)		
Vessel P&I insurance (total for 2019)		
Property Taxes on Vessel		

**Business-Wide Durable/Fixed Costs**



- Business-wide durable/fixed costs are costs of commercial fishing not tied directly to a vessel or trip.
- For year 2019, please provide your business-wide durable/fixed costs in the following categories.
- These costs apply to your entire commercial fishing business, so consider all of your vessels together.

For this table, **report costs for \*ALL\* of your commercial vessels together:**

Business-Wide Durable/Fixed Costs	Total \$'s Spent 2019	Out-of-State Purchase? (if yes, check ✓)
Licenses & Permits -- NC		
Licenses & Permits -- Other states		✓
Licenses & Permits -- Federal		✓
Accounting/ Bookkeeping fees (per year)		
Mobile Phone for business (per year)		
Internet Service for business (per year)		
New office equipment for business		
Business Office Rent/Payment (per year)		
Fishing/ professional association dues (per year)		
Truck/Vehicle payment for business use (per year)		
Paid Office/Onshore Labor (per year) (not including members of your family, see below)		-----
Health Insurance paid for crew or office workers (per year)		
Retirement Plan/Benefits for crew or office workers (per yr)		
Family Member Labor (per year) (If unpaid, put number of hours worked and "hrs")		-----
Property Taxes on Other Business Property <i>Used for Commercial Fishing</i> (not including tax on vessels)		
Other (Describe: _____)		
Other (Describe: _____)		
Other (Describe: _____)		

**If you own only one vessel, you are finished--thank you!**



**If you own more than one vessel, please continue to the next page.**



**Part 7. – Information about Your Other Commercial Vessels**  
**Complete this page only if you own more than one commercial vessel !!!**



You already gave us information on your *highest-sales commercial vessel*. This table applies to any *other* commercial vessels that you own.

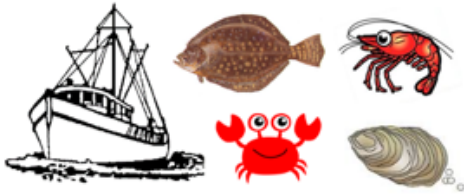
Vessel	Vessel Length (ft)	Primary Gear Type	Primary Target Species	Total Trips for Year 2019 (you and assignees)	Total Sales for Year 2019 (you and assignees)	Average Vessel Costs per Trip 2019 (fuel, bait, ice, groceries, etc.)	Average Crew Costs per Trip 2019 (incl. any hired capt.)	Annual Vessel Durable / Fixed Costs Year 2019
Vessel 1	(Vessel 1 is your highest-sales commercial vessel. You already gave us information about this vessel.)							
Vessel 2					\$	\$	\$	\$
Vessel 3					\$	\$	\$	\$
Vessel 4					\$	\$	\$	\$
Vessel 5					\$	\$	\$	\$
Vessel 6					\$	\$	\$	\$
Vessel 7					\$	\$	\$	\$
Vessel 8					\$	\$	\$	\$

## Appendix 4. Follow-Up Postcard

University of North Carolina Wilmington  
Department of Environmental Sciences  
601 South College Rd.  
Wilmington, NC 28403-5949

**REMINDER !!**  
**It's not too late!**

**Research Survey:**  
Economic Impacts of  
N.C. Commercial Fishing



Complete the survey.  
Get a \$50 Amazon gift card!  
Have your voice heard!

Name -----  
Address 1 -----  
Address 2 -----  
Address 3 -----



**00001**

**RESEARCH SURVEY**  
The Economic Impacts of  
NC Commercial Fishing

- *North Carolina commercial fishermen*, through the N.C. Commercial Fishing Resource Fund, are funding a survey to calculate the full economic value of the N.C. commercial fishing and seafood industry.
- Each licensed commercial fisherman with landings in 2019 who completes and returns the survey will receive a **\$50 Amazon gift card** as a "thank you."
- The survey was mailed Febr. 21st. If you did not receive your survey, contact Dr. Chris Dumas, 910-200-0670, dumasc@uncw.edu to receive a replacement copy of the survey, or you can take the survey online here: <https://tinyurl.com/NCfishing> by entering the Survey ID number in the upper, right corner of this postcard.
- If you have already taken the survey, thank you!! (You cannot take it again.)

