



NOAA TECHNICAL MEMORANDUM NMFS-SEFSC-774

doi: 10.25923/b4k8-1890

## ECONOMICS OF THE U.S. SOUTH ATLANTIC SNAPPER-GROUPER FISHERY - 2018

BY

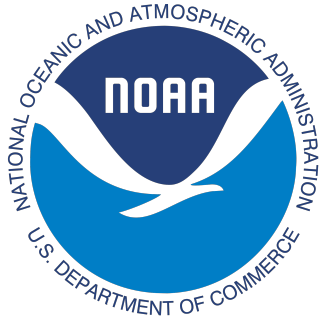
CHRISTOPHER LIESE



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Southeast Fisheries Science Center  
Miami, Florida 33149

November 2023





NOAA TECHNICAL MEMORANDUM NMFS-SEFSC-774

doi: 10.25923/b4k8-1890

# ECONOMICS OF THE U.S. SOUTH ATLANTIC SNAPPER-GROUPER FISHERY - 2018

By

CHRISTOPHER LIESE

National Marine Fisheries Service  
Southeast Fisheries Science Center  
75 Virginia Beach Drive  
Miami, Florida 33149

U.S. DEPARTMENT OF COMMERCE  
Dr. Gina M. Raimondo, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
Dr. Richard W. Spinrad, Under Secretary for Oceans and Atmosphere

NATIONAL MARINE FISHERIES SERVICE  
Janet L. Coit, Assistant Administrator for Fisheries

November 2023

This Technical Memorandum series is used for documentation and timely communication of preliminary results, interim reports, or similar special-purpose information. Although the memoranda are not subject to complete formal review, editorial control, or detailed editing, they are expected to reflect sound professional work.

## NOTICE

The National Marine Fisheries Service (NMFS) does not approve, recommend or endorse any proprietary product or material mentioned in this publication. No reference shall be made to NMFS or to this publication furnished by NMFS, in any advertising or sales promotion which would imply that NMFS approves, recommends, or endorses any proprietary product or proprietary material mentioned herein which has as its purpose any intent to cause directly or indirectly the advertised product to be used or purchased because of this NMFS publication.

This report should be cited as follows:

Liese, C. 2023. Economics of the U.S. South Atlantic Snapper-Grouper Fishery - 2018. NOAA Technical Memorandum NMFS-SEFSC-774. 118 p. <https://doi.org/10.25923/b4k8-1890>

This report will appear on the NOAA Institutional Repository at URL: <https://repository.library.noaa.gov/>

Copies may be obtained by writing:  
Christopher Liese  
NOAA Fisheries  
75 Virginia Beach Drive  
Miami, Florida 33149  
[christopher.liese@noaa.gov](mailto:christopher.liese@noaa.gov)

# Contents

<b>Introduction</b>	<b>1</b>
<b>Methods</b>	<b>2</b>
Data . . . . .	2
Cleaning . . . . .	4
Definiton: Segment of Interest (SOI) . . . . .	4
Estimation . . . . .	4
Standardized Results and Definitions . . . . .	5
Section: Trip-Level Summary . . . . .	5
Section: Trip-Level Economics . . . . .	7
Section: Annual, Vessel-Level Summary . . . . .	9
Section: Annual, Vessel-Level Economics . . . . .	11
Section: Trip-Level Time Series . . . . .	14
Section: Annual, Vessel-Level Time Series . . . . .	14
<b>Results</b>	<b>15</b>
Disclaimer and Overview . . . . .	15
Choice of Economic Results for Single Species Management . . . . .	17
SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears . . . . .	20
SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears . . . . .	28
SOI: 2018 SAT Vermilion Snapper Fishery: All Gears . . . . .	36
SOI: 2018 SAT Gag Grouper Fishery: All Gears . . . . .	44
SOI: 2018 SAT Black Sea Bass Fishery: All Gears . . . . .	52
SOI: 2018 SAT Triggerfish Fishery: All Gears . . . . .	60
SOI: 2018 SAT Scamp Fishery: All Gears . . . . .	68
SOI: 2018 SAT FMP Deepwater Fishery: All Gears . . . . .	76
SOI: 2018 SAT FMP Jacks Fishery: All Gears . . . . .	84
SOI: 2018 SAT FMP SWGCS Fishery: All Gears . . . . .	92
SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line . . . . .	100
SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver . . . . .	108
<b>Appendices</b>	<b>116</b>
Appendix 1 - List of Species in the SAT Snapper-Grouper FMP and Species Group SOIs . . . . .	116
Appendix 2 - Species Groups for the Tables: "Percent of Revenue by Species Group"	117
Appendix 3 - Glossary/Abbreviations . . . . .	118



## Introduction

This technical memorandum provides summary information and estimated economic information for the commercial sector of the federally-managed snapper-grouper (SG) fishery in the South Atlantic (SAT) in calendar year 2018, including a comparison to earlier years. The SAT SG fishery includes multiple species of snapper, grouper, tilefish, and jacks as well as black sea bass, triggerfish, grunts, porgies and hogfish, targeted in the U.S. EEZ off the Atlantic coast of the United States from North Carolina to Florida. The fishery is truly a multi-species fishery, with none of the 55 species being dominant. For a complete list of federally-managed snapper-grouper species, please refer to Appendix 1. The fishery is managed by the SAT Fishery Management Council (SAFMC) (in coordination with the States) through the SAT SG Fishery Management Plan (FMP). With the exception of wreckfish<sup>1</sup>, the fishery has been managed by a combination of complex trip-limits, season closures, closed areas, and regular species-specific closures when a species's harvest is anticipated to reach the quota. For detailed information about the SG FMP, please consult the SAFMC's website at: <http://safmc.net/>.

This report's unique focus is on the **economics** of the commercial harvesting sector in the SAT SG fishery. It is intended as a public reference manual for the economics of the fishery as the underlying data are confidential. The report combines trip logbook data (effort and catch at the trip-level) with two supplemental economic sample surveys—one on the logbook itself (and hence at the trip-level); the other is an annual mail survey at the vessel-level. The economic surveys elicit revenue, variable and fixed costs by category, and some auxiliary economic variables, such as a vessel's market value. After extensive cleaning and processing, and linking back to the logbook data, the report summarizes the logbook data by meaningful subsets of the overall data (domains in a statistical context). We call these subsets Segments of Interest (SOI). In most cases, they are at a species or species group level, such as vermilion snapper trips. Based on the sample data, estimates of the SOI population means for the economic variables are provided, including net revenues and margins.

A major disclaimer applies to all the results reported in this technical memorandum. **The processing of data and the presentation of results are guided by the objective of presenting meaningful economic results within the fishery context. These context numbers will differ from similar numbers generated for stock assessments and other management or research purposes. For instance, there are known reasons for why logbook totals ("near census") will deviate from official Annual Catch Limits or quota numbers. Further, the underlying databases are dynamic and continuously changing.** So while the numbers reported here should generally be of similar magnitude as reported elsewhere, we do not expect them to be identical.<sup>2</sup>

The Methods section describes the sources of the data in more detail, the cleaning processes and assumptions, the statistical estimation approach, and the standardized results. The presentation of results is standardized across different SOIs to streamline the results sections. The definitions and caveats for each result variable or graph are only reported in

---

<sup>1</sup>For data reasons, wreckfish is excluded from this report (see Appendix 1 for more information).

<sup>2</sup>NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

the methods section in order to keep repetition to a minimum.

The Results section reports on 2 different SOIs. The results for any one SOI consist of six sections, corresponding to six pages. The first section, Trip-Level Summary, summarizes aggregated logbook data at the trip-level for the particular SOI. The second section, Trip-Level Economics, provides estimated SOI trip economic results based on the trip-level sample survey. The third section, Annual, Vessel-Level Summary, provides information on the vessels within the SOI by aggregating across all (SOI and non-SOI) logbook trip data for each vessel across the year. This section also presents vessel characteristics and permit status gleaned from each vessel's permit application. The fourth section, Annual, Vessel-Level Economics, provides estimated annual economic results for SOI vessels based on the annual sample survey. The fifth section, Trip-Level Time Series, provides selected trip-level summary and economic results for previous years, side-by-side to the current year results and a five year average. The sixth section, Annual, Vessel-Level Time Series, provides the same temporal perspective for selected annual, vessel-level summary and economic results. In both time series sections, the economic results are expressed as a percent of revenue to better facilitate comparison across time. All dollar values are inflation adjusted to nominal 2018 dollars.

## Methods

### Data

Beginning in 1993, NMFS's Southeast Fisheries Science Center (SEFSC) required all fishing vessels to report on their commercial fishing activity for federally managed Gulf of Mexico Reef Fish, South Atlantic Snapper-Grouper, Coastal Migratory Pelagic (mostly mackerels), Shark, and Atlantic Dolphin/Wahoo fisheries. To maintain compliance, fishers are responsible for submitting a trip report form (aka "logbook") for every commercial fishing trip that harvests or targets these species. Per logbook instructions, "a commercial trip is defined as a trip for profit with no paying customers onboard. Any commercial trip that targets a federally managed species listed under the aforementioned permits must be reported, even if there were no landings." This results in near-census data of all commercial trips taken by federally-permitted vessels in the fisheries for Reef Fish, Snapper and Grouper, as well as Mackerel, in the Gulf of Mexico and U.S. South Atlantic. How close the logbook's aggregate landings and estimated revenue align with dealer reported landings and revenue varies by species. In general, logbook landings and revenue deviate less than 10% from dealer reported landings for the SAT SG FMP's species (with the exception of yellowtail snapper)<sup>3</sup>; leading us to refer to the data collection as a "near census". Though, in the most recent year, the deviations have become larger and seem to show a more systematic underreporting by the logbook data collection. This can partly be explained by the known underreporting mentioned in Footnote 2.

Since 2002/03, NMFS's SEFSC has conducted two economic surveys to collect data at both the trip-level and vessel-level in the SAT SG FMP fishery.<sup>4</sup> Each year, a subset of federally permitted vessels is randomly selected to provide additional economic data on

---

<sup>3</sup>In both data collections, classifications and transformations can explain some discrepancies. Our analysis, based on logbook data, underestimates yellowtail snapper catch. Yellowtail snapper is primarily harvested around the Florida Keys, making the assignment of fish to the Gulf of Mexico vs. the S. Atlantic a known issue.

<sup>4</sup>These economic data collections were started by James R. Waters.



the logbook. Selection eligibility is based on whether a vessel has a valid federal permit of interest during late November of the previous year. In 2018, vessels were stratified into three strata based on their days at sea during the two years prior to the selection year (e.g., 2016 and 2017 in this case). The three strata are: 1. Inactive, 2. Active - Low (less than 21 days at sea per year in both years), and 3. Active - High (more than 20 days at sea in at least one year).<sup>5</sup> A vessel was considered inactive if it did not report any trips to the logbook system during the previous two years. Approximately 30% of active vessels were selected, while 10% of inactive vessels were selected. Beyond the initial selection, one further vessel selection was conducted during the first half of the year to capture vessels new to the fishery and permit renewals (vessels with invalid permits during initial selection).

For each trip, selected vessels must complete the trip expense section located at the bottom of the trip report form. Data collected in this section are for variable costs including expenses for bait, ice, groceries, and IFQ allocation; the amount of fuel used and the cost per gallon of fuel; whether or not the vessel owner was present on the trip; and whether or not payment for the catch had been determined. If payment was determined, then gross trip revenue and payment to hired crew and hired captain are collected. Instructions and a copy of the logbook trip report form with the trip expense section can be found at this NOAA SEFSC website: [https://www.sefsc.noaa.gov/fisheries/reporting\\_archive.htm](https://www.sefsc.noaa.gov/fisheries/reporting_archive.htm).

Early in the following year, selected vessels are mailed an annual expense survey. This survey asks questions pertaining to cumulative trip-level expenses such as fuel, supplies, IFQ allocation, and hired captain and hired crew payments. In addition, the survey asks for annual, vessel-level economic costs—fixed costs—which are not documented on the trip expense section of the logbook. These expenses include the costs for maintaining and repairing the vessel and gear, insurance, loan payments, and overhead (such as mooring, utilities, office staff, professional services, etc.). The annual survey also collects an estimate of the vessel's market value as well as days at sea and revenue from commercial and for-hire fishing.<sup>6</sup> A central distinction between the trip-level and annual, vessel-level survey is that the annual survey is holistic at the vessel level, designed to encompass all fishing and non-fishing activities of the vessel. This includes fisheries not covered by the coastal logbook, including state level fisheries. Note also that the annual survey reflects an independent data stream as it is sent by mail at a different time.

Besides logbook and economic survey data, this technical memorandum uses vessel permit and characteristics information from NMFS's Southeast Regional Office (SERO). These data are provided by vessel owners on the application for Federal fishing permits in the Southeast. Finally, dealer landings data obtained from the states, as summarized in the ALS (Accumulated Landings System), are used to estimate the ex-vessel seafood prices. An algorithm, using trip information including the dealer, the dealer's location (state), and the month and year landed, is used to estimate a price per pound for each species at the highest resolution possible. This price per pound is used to estimate species-level trip revenue because the logbook forms do not collect species price or revenue data.

---

<sup>5</sup>The active vessels were separated into low and high strata to ensure a sufficient response from the highly active vessels ("high liners") each year. The particular cutoff point roughly splits the active vessels into similar sized groups.

<sup>6</sup>A substantial fraction of commercially permitted vessels also are permitted for taking for-hire trips, and many vessels engage in both activities in a single year.

## Cleaning

As with utilizing any survey data, cleaning is necessary to ensure the data are complete, accurate, and suitable for analysis. The largest challenge in cleaning both the trip-level and annual, vessel-level economic data is dealing with variable non-response. Depending on the variable, non-response is dealt with in different ways. If a value is missing for certain variables, the entire trip observation is dropped. This occurs when a variable is difficult to estimate accurately, such as fuel used on a trip. We replace missing values with zeros for variables where it is more than likely that the value is actually zero and the respondent left it blank. Finally, estimates of trip revenue and payments to hired crew and hired captain are imputed if payment had not been determined by the time the trip form was submitted. Missing trip revenue is replaced with the estimated trip revenue value. Gross mismatches between actual reported revenue (for observations with these data) and estimated revenue lead to these observations being dropped if no data entry error is found. An estimate for missing payments to hired crew is based on a set of regression models (equations). The variables used in the regression models include: trip revenue, crew days (number of hired crew multiplied by days at sea), and total expenses (total spent on bait, fuel, groceries, ice, IFQ allocation, and miscellaneous expenses).

## Definiton: Segment of Interest (SOI)

Due to large trip and vessel heterogeneity within the logbook data, it is necessary to subset the commercial vessel “population” into more meaningful and tractable sub-populations, or “domains” in a statistical context. These domains could be based on any variables that are available for all trips (or vessels) within the logbook system. Examples of these variables include: Species landed, gear used, area fished, duration of trip, month landed, dealer state, and valid permit status.

This technical memorandum reports trip- and vessel-level economic estimates for a select number of domains we call Segments of Interest (SOI). A SOI is defined as all trips where at least one pound of fish, which matches the specifications of the domain, was landed. For instance, the SOI “SAT Vermilion Snapper Fishery: All gears” would include all trips that caught one or more pounds of vermilion snapper using any gear in the U.S. South Atlantic. The following items are primarily used to create the SOIs: Area fished and species landed. Segmenting by gear-use could only be reported for vertical lines and diving, as the number of observations is too small for traps and longlines.<sup>7</sup> It is important to note that not all landings on a SOI trip will match the SOI definition and not all trips by SOI vessels will be in the SOI. The naming convention of the SOIs is: Year of data, waterbody of area fished, species, and gear. It should also be noted that the different SOIs in this report are not at all mutually exclusive. In fact, as the majority of trips harvest a large number of different species, most trips will be part of many different SOIs.

## Estimation

For the economic variables, we estimated SOI-specific population means (averages) using the economic sample data available for that particular SOI. Post-stratification of a SOI

---

<sup>7</sup>Additional segmenting can be carried out on the SOI in order to include trips which meet specific thresholds on SOI's share of trip revenue as well as a minimum for SOI trip revenue per day. We do not report these here.

domain and its economic sample data allows the statistical estimation to take into account the realized distribution of the usable economic responses across the sampling strata. The weights used in the estimation are based on the total number of vessels in the SOI for each stratum divided by the number of vessels whose expense data are used in the estimation (as the original selection is at the vessel level before any trips are realized). In the process, we correct for trip-level and vessel-level non-response in the simplest manner. Technically, each economic observation receives a weight specific to: a) the original sampling strata and b) the particular SOI domain under consideration. The trip-level and annual, vessel-level weights are calculated separately and differ due to the particular response “profile” for each survey.

## Standardized Results and Definitions

The presentation of results is standardized across different SOIs in order to streamline the results sections. The standardized results for each SOI begin with a text description of the SOI, focusing on its most pertinent aspects. The text also contains important or critical caveats that apply to particular SOIs. The definitions and caveats for each result variable or graph are only reported in this section in order to keep repetition to a minimum.

The results for any one SOI consist of six sections. The first section, Trip-Level Summary, summarizes the SOI at the trip-level—presenting the aggregate, cleaned logbook data for the particular SOI. The second section, Trip-Level Economics, provides SOI trip economic estimates based on the trip-level sample survey. The third section, Annual, Vessel-Level Summary, provides information on the vessels within the SOI by aggregating across all logbook trip data (SOI and non-SOI trips). This section also presents vessel characteristics and permit status gleaned from each vessel’s permit application. The fourth section, Annual, Vessel-Level Economics, provides estimated annual economic results for SOI vessels based on the annual sample survey. The fifth section, Trip-Level Time Series, provides selected trip-level summary and economic results for previous years, side-by-side to the current year results and a five year average. The sixth section, Annual, Vessel-Level Time Series, provides the same temporal perspective for selected annual, vessel-level summary and economic results. In both time series sections, the economic results are expressed as a percent of revenue to better facilitate comparison across time. All dollar values are inflation adjusted to nominal 2018 dollars. A description of all tables and graphs that are found in these sections is provided below. Percentages may not always sum to 100% in the tables and graphs due to rounding.

### Section: Trip-Level Summary

- **Effort:** Number of SOI trips, number of vessels in SOI, and total number of days at sea and crew-days by all SOI trips in the logbook data. The days at sea variable is known to contain some imprecision.
- **Landings (gutted lbs):** Total gutted weight of landings in pounds by SOI trips; broken down into SOI landings and non-SOI landings. "%SOI" shows the percentage share of total landings that qualify as SOI landings. The non-SOI landings occur on SOI trips. In a species-defined SOI, non-SOI landings would be non-SOI species catch. In a gear-defined SOI, non-SOI landings would be landings caught with non-SOI gear on a multi-gear SOI trip. The %SOI indicates the level of SOI criteria specialization (in terms of landings) of SOI trips. A high value indicates that the SOI trips are mostly

explained by the SOI criteria. A low value indicates that the SOI landings (i.e., the landings associated with the SOI criteria) are a minor part of the trip and might just be "bycatch".

- **Percent by Gear:** Trips — Percent of trips in the SOI using a particular gear. Multi-gear trips are assigned a "top gear" based on the gear which generated the most revenue. Vertical line gear includes hand lines, rod and reels, electrical reels and bandit gear. SOI lbs — Percent of SOI landings landed using a particular gear.
- **Price (mean):** Average ex-vessel price per pound of all landings (gutted weight pounds), as well as the average price per pound of SOI landings and of non-SOI landings across SOI trips.
- **Revenue:** Total estimated revenue by all SOI trips; broken down into SOI revenue and non-SOI revenue. %SOI shows the percentage share of total revenue that qualifies as SOI revenue. Revenue is estimated by multiplying catch pounds from the logbook data by the ex-vessel price estimate derived from ALS (dealer) landings data. The %SOI indicates the level of SOI criteria specialization (in terms of revenue) of SOI trips. A high value indicates that the SOI trips are mostly explained by the SOI criteria. A low value indicates that the SOI revenue (i.e., the revenue associated with the SOI criteria) are a minor part of the trip and might just be "bycatch".
- **Revenue Percent by Species Group:** Distribution of estimated revenue on all SOI trips across selected species groups, in percent. Note, these species groups are independent and unrelated to the species-based SOI definitions. See Appendix 2 for the specific species included in each reported group. The first 5 groups contain the SG FMP species and some other bottom fished species.
- **Revenue for Top 5 Species:** Total estimated species-level revenue for the top 5 species with greatest overall revenue on all SOI trips. Note that these numbers are by species alone, not conditioned by other factors that determine a species SOI. As a result, for a specific species—especially at the annual, vessel-level—this revenue number can exceed the SOI revenue number. For example, the SOI species might be harvested in Gulf of Mexico waters, thereby not counting toward SOI landings, which are conditioned on harvest in SA waters.
- **SOI Landings by Area Fished:** A bubble map showing where SOI landings are caught in the South Atlantic. Fishing areas are defined based on a 1x1 degree latitude-longitude grid.
- **Share of SOI Landings by Month:** A chart showing the seasonality of total SOI landings.
- **Cumulative SOI Landings:** A graph showing cumulative SOI landings across SOI trips ordered from lowest SOI catch to highest SOI catch. A straight line would indicate very homogeneous trips; a convex shape indicates heterogeneity (in SOI catch). The dashed horizontal line represents 20% of the total SOI landings. Where the line intersects the curve indicates the maximum number of trips which can generate (only) 20% of the SOI landings. One minus the intersects' number of trips (in percent) indicates the (smallest) percent of trips that harvest 80% of SOI landings.
- **SOI Share of Revenue Per Trip:** A graph illustrating the level of specialization (on

SOI catch) by SOI trips. The graph maps the SOI share of estimated revenue for each trip in the SOI, with trips ordered from smallest to largest SOI share. Where the dashed horizontal line intersects the curve indicates the percent of trips where the percent of SOI share was 50% or less. The graph illustrates the share of SOI trips where SOI revenue is minor/bycatch (from left, line hugging the x-axis), where the trip is specialized on SOI revenue (moving toward right, line asymptotes toward 100% y-value), and those in between.

- **Trip Descriptive Statistics:** SOI trip summary statistics (mean, minimum, median, maximum) derived from the logbook data: Days at sea, number of crew, (gutted weight) pounds landed, estimated revenue, SOI estimated revenue, and the percent of total estimated revenue attributed to the SOI. This table allows for an evaluation of the scale of variation and extremes among SOI trips.

### Section: Trip-Level Economics

- **Response Rate for SOI Trips:** While the economic survey samples at the vessel level (by design), the rates reported here are at the trip-level. Based on the SOI definition, the total number of trips and the number of trips selected for economic reporting are provided. Further, "Responded" refers to the number of trips that provided at least some economic survey data, while "Used" refers to the number of clean and complete trip observations used in the analysis.
- **Economic Results:** This table reports estimates of the population means for SOI trips based on the sample data; n equals the number of observations in the sample. The population means for the economic variables are generated using a post-stratified, weighted estimation to account for the stratification of the sample and non-response. Also reported are the standard error, the 90% confidence interval for the mean [lower bound (L.B.) and upper bound (U.B.)], and the weighted median. The variables included are:

**Owner-Operated:** Percentage of SOI trips where the vessel owner was part of the crew, usually the captain. If an owner is not on board, a captain has to be hired (presumably raising the crew expenses).

**Days at Sea:** The length of trip in days, as reported on the logbook. This variable is known to contain a substantial amount of imprecision (plus or minus one day as fishermen treat partial calendar days and 24 hour periods differently).

**Crew Size:** Total number of crew members on trip, including the captain.

**Fuel Used:** The amount of fuel used on a trip in gallons.

**Landings (gutted lbs):** Total trip landings in gutted weight pounds.

*Note, revenue, costs and net-measures are in nominal U.S. dollars, as reported on the survey (survey year dollars).*

**Total Revenue:** Reported trip revenue when available; augmented with estimated trip revenue when missing. Serious mismatches between reported and estimated trip revenue (when available) were the most frequent reason trips were dropped during data cleaning.

**Cost - Fuel:** Cost of fuel used on trip; calculated as the price paid per gallon multiplied by the gallons used. In contrast to the other trip costs below, fuel costs are counted regardless of when (or if) the expense for this fuel was incurred, as fuel is easily stored between trips (i.e., fuel purchased prior to but not used on a trip would not be included).

**Cost - Bait:** Cash expense for bait purchased for trip. The cost of self-caught bait is not included because, presumably, fuel and labor time reflect the production of self-caught bait.

**Cost - Ice:** Cash expense for ice purchased for trip. The cost of ice generated by own ice machine(s) is not included because, presumably, fixed costs for gear and electricity reflect the own-production of ice.

**Cost - Groceries:** Cash expense for groceries purchased for this trip.

**Cost - Miscellaneous:** Cash expense for other trip-related expenses not accounted for elsewhere, including gloves, supplies for freezing product, etc.

**Cost - Hired Crew:** Payment to hired crew ("mates") and hired captain (if applicable). Reported expenses for hired crew are the most error-prone data. Substantial cleaning is necessary to make these data usable. Obvious errors and inconsistencies were blanked out, and then hired crew costs were estimated based on a complex algorithm that was developed to distinguish between small, one day trips often taking "voluntary" crew with no or in-kind payment (family, friends, etc.) and longer, professional crew positions where compensation is necessary. The resulting number is a rough estimate and should be treated as such.

**IFQ Purchase:** Cash expense for IFQ allocation purchased from third parties specifically for the trip. This primarily applies to Gulf of Mexico fisheries, where two Individual Fishing Quota (IFQ) programs exist for red snapper, groupers and tilefish. Note that many respondents have IFQ shares or long-term/annual arrangements for IFQ allocation. The use ("consumption") of annual allocation on a trip is not accounted for at a trip level in this analysis. Also, the revenue from selling annual allocation is not accounted for as it cannot, in general, be associated with a vessel and hence a trip.

**OC Owner-Captain Time:** Estimated opportunity cost (OC) of an owner's labor used on the trip. The survey does not collect this information. Instead, a value is imputed based on hired crew remuneration and the profitability of the trip because most labor is compensated based on a share system. The resulting number is a rough estimate and should be treated as such.

**Trip Net Cash Flow:** Revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, hired crew, and IFQ purchase. The focus is on actual cash transactions/money flows. In-kind contribution to the production process are ignored, including the opportunity cost of owner-captain time, as well as vessel services (fixed costs and overhead) and IFQ allocation use (if not purchased from third parties specifically for the trip). Trip Net Cash Flow represents an estimate of the money (cash) generated by the typical SOI trip over and above the cash cost of taking the trip (marginal or variable costs of trip). This implies a short term perspective.

**Trip Net Revenue:** Revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, hired crew, and the opportunity cost of owner's time as captain. By including opportunity cost of owner's time (an in-kind, variable factor to production) and excluding IFQ purchase payments, trip net revenue is a measure of the inherent short-term productivity (i.e., economic performance) of the commercial fishing process. For example, if a trip were not taken, with the owner avoiding to pay trip-related costs, then Trip Net Revenue represents the lost income to the owner. Because of the trip perspective, vessel services (fixed costs and overhead) and IFQ allocation use, purchase, or selling is not included. This implies a short term perspective.

- **Trip Net Cash Flow and Trip Net Revenue as Proportion of Trip Revenue**

**(Margins):** A chart showing Trip Net Cash Flow and Trip Net Revenue as a share of trip revenue, i.e., the gross margin of the productive activity before fixed costs are accounted for. The major cost categories that are subtracted from revenue are also displayed in percentage terms. Fuel and Supplies include the cost of fuel, bait, ice, groceries, and miscellaneous. Labor includes just Hired Crew costs for Trip Net Cash Flow and Hired Crew costs and the opportunity cost of Owner's Time for Trip Net Revenue.

- **Input Prices:** The average fuel price per gallon across all gallons used by the SOI trips is reported. This is distinct from the average fuel price across trips (not reported). The Hired Crew Wage (implicit) calculates the average amount paid (as Hired Crew costs) per hired crew-day by the SOI trips. This measure excludes an owner's crew-days in the calculation.
- **Productivity Measures:** Reports the landings (in gutted weight pounds) per gallon of fuel used as well as per crew-day of labor used. The latter measure includes an owner's crew-days in the calculation.

## **Section: Annual, Vessel-Level Summary**

For all SOI vessels, this section summarizes all logbook data. It is important to note that, during a year, some vessels will also engage in commercial fishing trips that do not require federal logbooks, such as lobster, crabs, or other state-managed species. These trips are not accounted for in this section. They ARE accounted for (implicitly) in Section Four: Annual, Vessel-Level Economics and Section Six: Annual, Vessel-Level Time Series.

- **Effort:** Number of SOI vessels, number of total trips by SOI vessels, number of SOI trips, number of non-SOI trips and total number of days at sea and crew-days on all trips by SOI vessels in the logbook data. Non-SOI trips are trips by SOI vessels that did NOT land one pound of fish that matched the SOI definition (species, gear, etc.). The days at sea variable is known to contain some imprecision.
- **Landings (gutted lbs):** Total gutted weight of landings in pounds of all trips by SOI vessels; broken down into SOI landings and non-SOI landings. "%SOI" shows the percentage share of total landings that qualify as SOI landings. The non-SOI landings occur on all trips by SOI vessels. In a species-defined SOI, non-SOI landings would

be non-SOI species catch. In a gear-defined SOI, non-SOI landings would be landings caught with non-SOI gear on a multi-gear SOI trip. The %SOI indicates the level of SOI criteria specialization (in terms of landings) of all trips by SOI vessels. A high value indicates that all trips by SOI vessels are mostly explained by the SOI criteria. A low value indicates that the SOI landings (i.e., the landings associated with the SOI criteria) are a minor part of the vessels' landings and might just be "bycatch".

- **Percent by Gear:** Trips — Percent of all trips by SOI vessels using a particular gear. Multi-gear trips are assigned a "top gear" based on which gear generated the most revenue. Vertical line gear includes hand lines, rod and reels, electrical reels and bandit gear. Total lbs — Percent of total landings by SOI vessels using particular gear.
- **Price (mean):** Average price of all landings (gutted weight pounds), as well as the average price of SOI landings and of non-SOI landings across all trips by SOI vessels.
- **Revenue:** Total estimated revenue by all trips of SOI vessels; broken down into SOI revenue and non-SOI revenue. %SOI shows the percentage share of total revenue that qualifies as SOI revenue. Revenue is estimated by multiplying catch pounds from the logbook data by the ex-vessel price estimate derived from ALS (dealer) landings data. The %SOI indicates the level of SOI criteria specialization (in terms of revenue) of all trips by SOI vessels. A high value indicates that all trips by SOI vessels are mostly explained by the SOI criteria. A low value indicates that the SOI revenue (i.e., the revenue associated with the SOI criteria) are a minor part of the vessels' landings and might just be "bycatch".
- **Revenue Percent by Species Group:** Distribution of estimated revenue on all trips by SOI vessels across selected species groups, in percent. Note, these species groups are independent and unrelated to the species-based SOI definitions. See Appendix 2 for the specific species included in each reported group. The first 5 groups contain the SG FMP species and some other bottom fished species.
- **Revenue for Top 5 Species:** Total estimated species-level revenue for the top 5 species with greatest overall revenue on all trips by SOI vessels. Note that these numbers are by species alone, not conditioned by other factors that determine a species SOI. As a result, for a specific species—especially at the annual, vessel-level—this revenue number can exceed the SOI revenue number. For example, the SOI species might be harvested in Gulf of Mexico waters, thereby not counting toward SOI landings, which are conditioned on harvest in SA waters.
- **Annual, Vessel Descriptive Statistics:** Summary statistics (mean, minimum, median, maximum) for all trips by SOI vessels derived from the logbook data: Number of trips, days at sea, number of crew, (gutted weight) pounds landed, estimated revenue, SOI estimated revenue, and the percent of total estimated revenue attributed to the SOI. This table allows for an evaluation of the scale of variation and extremes among SOI vessels.
- **SOI Share of Monthly Landings:** A chart showing the seasonality of SOI landing relative to all landings.
- **SOI Share of Revenue Per Vessel:** A graph illustrating the level of specialization (on SOI catch) by SOI vessels. The graph maps the SOI share of estimated revenue for



each vessel in the SOI, with vessels ordered from smallest to largest SOI share. Where the dashed horizontal line intersects the curve indicates the percent of vessels where the SOI share was 50% or less. The graph illustrates the share of SOI vessels where SOI revenue is minor/bycatch (from left, line hugging the x-axis), where the vessel is specialized on SOI revenue (moving toward right, line asymptotes toward 100% y-value), and those in between.

- **Percent with Federal Permit:** Lists the percent of SOI vessels that had a valid Federal permit for at least one day during the calendar year under consideration by permit or permit category. From the permit database at SERO. Permits or permit categories listed are: GOM Reef Fish, South Atlantic (SAT) Snapper & Grouper (Unlimited and Limited versions), GOM and SAT King Mackerel and Spanish Mackerel permits, Atlantic Dolphin-Wahoo (applies to SAT, not GOM), Other Commercial Fishing (including permits for sharks, swordfish, lobster, and shrimp), and For-Hire Fishing (any GOM or SAT Federal for-hire permit). The permit status is an indicator for what other fisheries the SOI vessels have the option to participate in (and might be active in).
- **Vessel Characteristics:** Summary statistics (mean, minimum, median, maximum) for SOI vessels derived from the permit database at SERO: Vessel length (in feet), year vessel was built, horsepower of all engines, as well as the percent of vessels with fiberglass hull material, diesel engines, and lack of on-board freezing capability. This table allows for an evaluation of the scale of variation and extremes among SOI vessels.

### Section: Annual, Vessel-Level Economics

- **Response Rate for SOI Vessels:** Response rates for the annual economic survey among SOI vessels. Reported are the total number of vessels in the SOI and the number of vessels selected for additional economic reporting. Further, "Responded" refers to the number of vessels that provided (some) annual economic data, while "Used" refers to the number of clean and complete annual, vessel-level observations used in the analysis.
- **Economic Results:** This table reports estimates of the population means for SOI vessels based on the annual economic survey sample data; n equals the number of observations in the sample. The population means for the economic variables are generated using a post-stratified, weighted estimation to account for the stratification of the sample and non-response. Also reported are the standard error, the 90% confidence interval for the mean [lower bound (L.B.) and upper bound (U.B.)], and the weighted median. The variables included are:

**Owner-Operated:** Percent of SOI vessels where, on the majority of trips, an owner was part of the crew, usually the captain.

**For-Hire Active:** Percent of SOI vessels that engaged in for-hire fishing during the calendar year.

**Days - Commercial Fishing:** Number of days at sea a vessel engaged in commercial fishing during a calendar year.

**Days - For-Hire Fishing:** Number of days at sea a vessel engaged in for-hire fishing during a calendar year.

**Days - Non-fishing:** Number of days at sea a vessel engaged in non-fishing

activities during a calendar year; this could include work in the oil sector, non-fishing for-hire trips, or trips for research purposes. While not the intent of the question, some individuals might be including days the vessel was used for recreational purposes.

**Vessel Value:** The estimated current market value of the vessel by respondents. Missing values are imputed. In nominal U.S. dollars, as reported on the survey.

**Has Insurance:** Percent of SOI vessels that have vessel insurance, either hull insurance, P&I insurance ("liability") or both.

*Revenue, costs and net-measures are in nominal U.S. dollars, as reported on the survey (survey year dollars).*

**Total Revenue:** Total revenue is sum of commercial and for-hire fishing revenues as reported on annual survey, i.e., total receipts from seafood sales and for-hire fees, respectively.

**Commercial Fishing Revenue:** Annual gross revenue from commercial fishing, i.e., total ex-vessel receipts from seafood sales. This can include amounts generated from fisheries outside the logbook reporting system, e.g., lobster or blue crab.

**For-Hire Fishing Revenue:** Annual gross revenue from for-hire fishing.

**Cost - Fuel:** Annual expenditures for fuel used by vessel.

**Cost - Other Supplies:** Annual expenditures for non-labor variable inputs other than fuel, including bait, ice, groceries, and miscellaneous.

**Cost - Hired Crew:** Annual expenditures for hired crew ("mates") and hired captain (if applicable), including fringe, bonuses, and other employment costs (if applicable).

**Cost - Vessel Repair & Maintenance:** Annual expenditures for vessel and associated gear repair and maintenance.

**Cost - Insurance:** Annual expenditures for vessel hull and P&I insurance.

**Cost - Overhead:** Annual expenditures for overhead, such as expenses for dockage, licenses, rent, utilities, vehicles, and professional services (or share thereof if the overhead is spread over multiple vessels).

**Cost - Loan Payment:** Annual payment for vessel loans, including both principal and interest.

**Cost - IFQ Purchase:** Cash expense for IFQ allocation purchased specifically for the vessel from a different IFQ shareholder ("arm's length" transactions, in principle). This primarily applies to Gulf of Mexico fisheries, where two Individual Fishing Quota (IFQ) programs exist for red snapper and groupers and tilefish. Respondents can own IFQ shares. The use ("consumption") of these rights is not accounted for in this analysis. Note also that the sale of IFQ allocation (or the buying or selling of IFQ shares) is not accounted for (as it cannot, in general, be associated with a vessel).

**Cost - OC Owner-Captain Time:** Estimated opportunity cost of an owner's labor as captain over the year. The survey does not collect this information, instead

a value is imputed based on hired crew remuneration and the profitability of the trip (since most labor is compensated on a share system) at the logbook trip level; and then summed to the annual, vessel level. Time spent by an owner as a captain of for-hire trips or commercial fishing trips not reported to the logbook system is not accounted for (though it would be quite minor). The resulting number is a rough estimate and should be treated as such.

**Cost - Depreciation:** The estimated contribution in dollar terms of the vessel asset to the production process. The survey does not collect this information; instead a value is calculated as 5% of the vessel's current market value.<sup>8</sup> The resulting number is a rough estimate and should be treated as such.

**Net Cash Flow:** Revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, loan payments, and IFQ purchase. The focus is on actual cash transactions/money flows. In-kind contributions to the production process, i.e., the opportunity cost of owner-captain time and depreciation are ignored. The sale of IFQ allocation or shares is also not accounted for, as these transactions cannot be associated with a vessel.

**Net Revenue from Operations:** Revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, and the opportunity cost of an owner's time as captain as well as the vessel's depreciation. By including in-kind contributions to the production process (opportunity cost of an owner's time and depreciation) and excluding transfer payments (loan payments and IFQ purchase), net revenue from operations is a measure of the inherent productivity, i.e., economic performance, of the commercial fishery. Note that IFQ share ownership is ignored here. See 'Economic Return' below for more discussion of the relationship between IFQ shareholders/transactions and the economics of the commercial fishery (primarily applicable to Gulf of Mexico fisheries).

- **Net Cash Flow and Net Revenue from Operations as Proportion of Vessel Revenue (Margins):** A chart showing Net Cash Flow and Net Revenue from Operations as a share of trip revenue, i.e., the margins of the productive activity after variable and fixed costs are accounted for. The major cost categories that are subtracted from revenue are also displayed in percentage terms. Fuel and Supplies include the cost of Fuel and Other Supplies. Labor includes just Hired Crew costs only for Net Cash Flow and Hired Crew costs and the opportunity cost of an owner's time for Net Revenue from Operations. Vessel Repair & Maintenance, Insurance and Overhead represent typical fixed costs.
- **Economic Return (on Asset Value):** The economic return is calculated by dividing the mean Net Revenue from Operations by the mean Vessel Value. For Gulf of Mexico fisheries, it is critical to note that, practically, this return is shared between owners of vessel capital AND IFQ shares. By purposefully ignoring the IFQ shareholder distribution, the focus is on the real productive capacity of the commercial fishery. All IFQ transactions are zero-sum in that they transfer wealth. The catch share management structure of the fishery allows for the realization of resource rents that will,

---

<sup>8</sup>Five percent is a rough estimate. It is based on an author's experience with the Gulf shrimp fishery and the fact that the IRS requires non-fishing vessels to be depreciated over 23 years.

in all likelihood, accrue to the IFQ shareholders.

### **Section: Trip-Level Time Series**

This section provides selected trip-level summary and trip-level economic results for the years 2014, 2015, 2016, 2017, and 2018 (current) and a simple five year average. The definitions and caveats for each result variable are equivalent to and hence reported in the respective trip-level sections. All 2014, 2015, 2016, and 2017 dollar values are inflation adjusted to nominal 2018 U.S. dollars using the U.S. Bureau of Economic Analysis's Implicit Price Deflator for GDP. Most economic results are expressed as a percent of trip revenue to better facilitate comparison across time. It should be noted that the economic estimates are derived from a sample survey and exhibit significant uncertainty (large confidence intervals). As a result, fluctuating numbers from one year to the next are not necessarily statistically significant and do not necessarily imply that the fishery has changed.

### **Section: Annual, Vessel-Level Time Series**

This section provides selected annual, vessel-level summary and annual, vessel-level economic results for the years 2014, 2015, 2016, 2017, and 2018 (current) and a simple five year average. The definitions and caveats for each result variable are equivalent to and hence reported in the respective annual, vessel-level sections. All 2014, 2015, 2016, and 2017 dollar values are inflation adjusted to nominal 2018 U.S. dollars using the U.S. Bureau of Economic Analysis's Implicit Price Deflator for GDP. Most economic results are expressed as a percent of annual vessel revenue to better facilitate comparison across time. It should be noted that the economic estimates are derived from a sample survey and exhibit significant uncertainty (large confidence intervals). As a result, fluctuating numbers from one year to the next are not necessarily statistically significant and do not necessarily imply that the fishery has changed.

# Results

## Disclaimer and Overview

All vessel and logbook trip data utilized in this report were pulled from the various databases on December 4, 2020. **The processing of data and the presentation of results are guided by the objective of presenting meaningful economic results within the fishery context. These context numbers will differ from similar numbers generated for stock assessments and other management or research purposes. For instance, there are known reasons for why logbook totals ("near census") will deviate from official Annual Catch Limits or quota numbers.<sup>9</sup> Further, the underlying databases are dynamic and continuously changing.** All dollar values are inflation adjusted to nominal 2018 U.S. dollars using the U.S. Bureau of Economic Analysis' Implicit Price Deflator for GDP.

This technical memorandum reports trip and vessel economic estimates for a select number of domains or Segments of Interest (SOI). A SOI is defined as all trips where at least one pound of fish, which matches the specifications of the domain, was landed. The SOIs reported are either specified on species or species group landed or specified on gear. Note that the different SOIs in this tech memo are not at all mutually exclusive. In fact, as the majority of trips harvest a large number of different species, most trips will be part of many different SOIs. The SOIs featured in this report include:

The Snapper-Grouper fishery (this SOI is inclusive of all the following SOIs, as all the rest are nested within/subsets of the Snapper-Grouper SOI):

1. SAT Snapper-Grouper FMP Fishery: All Gears

SOIs based on species perspective:

2. SAT Yellowtail Snapper Fishery: All Gears

3. SAT Vermilion Snapper Fishery: All Gears

4. SAT Gag Grouper Fishery: All Gears

5. SAT Black Sea Bass Fishery: All Gears

6. SAT Triggerfish Fishery: All Gears

7. SAT Scamp Fishery: All Gears

SOIs based on species group perspective:

8. SAT FMP Deepwater Fishery: All Gears

9. SAT FMP Jacks Fishery: All Gears

10. SAT FMP SWGCS<sup>10</sup> Fishery: All Gears

SOI based on gear perspective:<sup>11</sup>

<sup>9</sup>NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

<sup>10</sup>This SOI consists of mostly shallow water groupers subject to the Annual Shallow-water Grouper Spawning Season Closure, but not gag and scamp. Species included are: Black grouper, red grouper, yellowfin grouper, yellowmouth grouper, red hind, rock hind, coney, and graysby.

<sup>11</sup>The SOIs for traps and longlines can not be reported due to small sample sizes.

11. SAT Snapper-Grouper FMP Fishery: Vertical Line
12. SAT Snapper-Grouper FMP Fishery: Diver

The presentation of results is standardized across different SOIs to streamline the results sections. The definitions and caveats for each result variable or graph are only reported in the Methods section in order to keep repetition to a minimum. The results for any one SOI consists of six sections. The first section, Trip-Level Summary, summarizes the SOI at the trip-level- presenting the aggregate, cleaned logbook data for the particular SOI. The second section, Trip-Level Economics, provides estimated SOI trip economic results based on the trip-level sample survey. The third section, Annual, Vessel-Level Summary, provides information on the vessels within the SOI by aggregating across all logbook trip data (SOI and non-SOI). The section also presents vessel characteristics and permit status gleaned from each vessel's permit application. The fourth section, Annual, Vessel-Level Economics, provides estimated annual economic results for SOI vessels based on the annual sample survey. The fifth section, Trip-Level Time Series, provides selected trip-level summary and economic results for previous years, side-by-side to the current year results and a five year average. The sixth section, Annual, Vessel-Level Time Series, provides the same temporal perspective for selected annual, vessel-level summary and economic results. In both time series sections, the economic results are expressed as a percent of revenue to better facilitate comparison across time. All dollar values are inflation adjusted to nominal 2018 dollars.

A description of all tables and charts that are found in any of these sections is provided in the Methods Section - Standardized Results and Definitions. Note that percentages may not always sum to 100% in the tables and graphs due to rounding.

The reported SOIs were selected among the many possible ones after an extensive evaluation<sup>12</sup> of the validity and applicability of the economic results, including:

1. The raw data problems specific to the SOI (outliers, frequency of missing values; zeros; etc.);
2. The impact of our standardized cleaning routines (dropping records and imputing missing values);
3. The representativeness (or bias) of the SOI's economic-sample trips or vessels of the SOI population (the logbook and permit application data are a census, so there are many variables available for comparison);
4. The impact of the statistical estimation routines;
5. The economic reasonableness of the aggregate results;
6. The size of the confidence intervals; and
7. A general consistency between the trip-level and vessel-level economic results (as they are based on two different raw data streams). For the trip-level economics, an additional "separate data stream" validation is conducted that compares the economic results for selected vessels (the focus of this entire report) with the trip economics from "volunteer" vessels that fill out the economic section on the logbook report in spite of not being required to.

---

<sup>12</sup>The evaluation is facilitated by the use of a standardized, detailed, 6-page, single year "diagnostic results" product that we generate for any potential SOI.

## Choice of Economic Results for Single Species Management

While the SG FMP has 55 species, many are harvested in very small quantities and hence it is impossible to provide species-specific economic information (with sample survey data). The following table lists total 2018 revenue, gutted-weight pounds, number of trips, and number of vessel for each SG species as reported to the coastal logbook system in order to provide an impression of the relative importance of each species to the fishery. The final column lists the available SOI that best reflects any one species. If a particular species SOI is not available but economic results are desired, the authors recommend using the SOI listed in the final column as the best approximation.

### Revenue, landings, trips, vessels, and most appropriate economic results for each SG species

Species	Revenue	lbs (gw)	Trips	Vessels	Use Econ Results of SOI:
Almaco Jack	\$183,855	160,981	1,169	179	FMP Jacks
Atlantic Spadefish	\$0	0	0	0	Snapper-Grouper FMP
Banded Rudderfish	\$19,026	16,950	325	91	FMP Jacks
Bar Jack	\$846	622	24	12	FMP Jacks
Blackfin Snapper	\$2,664	690	52	27	FMP Deepwater
Black Grouper	\$315,322	53,887	751	166	FMP SWGCS
Black Sea Bass	\$705,775	202,914	1,567	190	Black Sea Bass
Blueline Tilefish	\$286,048	81,030	941	144	FMP Deepwater
Coney	\$0	0	0	0	FMP SWGCS
Cubera Snapper	\$9,999	3,090	65	42	Snapper-Grouper FMP
Gag Grouper	\$1,362,759	216,119	1,414	198	Gag Grouper
Golden Tilefish	\$1,402,467	288,125	581	100	FMP Deepwater
Goliath Grouper	\$0	0	0	0	Snapper-Grouper FMP
Graysby	\$311	42	15	6	FMP SWGCS
Gray Snapper	\$361,104	87,242	1,346	206	Snapper-Grouper FMP
Gray Triggerfish	\$781,619	284,589	1,699	209	Triggerfish
Greater Amberjack	\$1,031,942	585,450	1,662	222	FMP Jacks
Hogfish	\$118,695	24,866	435	95	Snapper-Grouper FMP
Jolthead Porgy	\$13,146	7,352	433	106	Snapper-Grouper FMP
Knobbed Porgy	\$5,165	3,587	237	52	Snapper-Grouper FMP
Lane Snapper	\$23,844	7,162	188	66	Snapper-Grouper FMP
Lesser Amberjack	\$5,117	3,485	49	31	FMP Jacks
Margate	\$2,454	2,508	227	63	Snapper-Grouper FMP
Misty Grouper	\$2,861	584	7	4	FMP Deepwater
Mutton Snapper	\$218,424	61,494	1,463	222	Snapper-Grouper FMP
Nassau Grouper	\$0	0	0	0	Snapper-Grouper FMP
Queen Snapper	\$5,737	1,293	23	16	FMP Deepwater

<b>Species</b>	<b>Revenue</b>	<b>lbs (gw)</b>	<b>Trips</b>	<b>Vessels</b>	<b>Use Econ Results of SOI:</b>
Red Grouper	\$132,353	25,962	666	185	FMP SWGCS
Red Hind	\$10,655	2,432	236	78	FMP SWGCS
Red Porgy	\$227,283	97,273	1,192	171	Snapper-Grouper FMP
Red Snapper	\$628,702	110,090	1,764	196	Snapper-Grouper FMP
Rock Hind	\$29,244	5,242	285	66	FMP SWGCS
Sailor's Choice Grunt	\$0	0	0	0	Snapper-Grouper FMP
Sand Tilefish	\$578	636	91	27	FMP Deepwater
Saucereye Porgy	\$0	0	0	0	Snapper-Grouper FMP
Scamp	\$546,668	87,919	911	144	Scamp
Scup	\$74	98	6	3	Snapper-Grouper FMP
Silk Snapper	\$85,025	20,214	280	83	FMP Deepwater
Snowy Grouper	\$786,143	139,880	1,169	153	FMP Deepwater
Speckled Hind	\$2,426	504	25	17	Snapper-Grouper FMP
Tomtate Grunt	\$104	98	9	4	Snapper-Grouper FMP
Vermilion Snapper	\$2,867,887	722,742	2,238	234	Vermilion Snapper
Warsaw Grouper		confidential			Snapper-Grouper FMP
Whitebone Porgy	\$910	505	52	21	Snapper-Grouper FMP
White Grunt	\$44,564	33,037	727	96	Snapper-Grouper FMP
Yellowedge Grouper	\$129,369	22,109	314	79	FMP Deepwater
Yellowfin Grouper	\$11,721	1,871	29	20	FMP SWGCS
Yellowmouth Grouper	\$0	0	0	0	FMP SWGCS
Yellowtail Snapper	\$3,442,445	924,422	3,341	196	Yellowtail Snapper

Note: Yellowtail Snapper landings and revenue in the logbooks are substantially less than reported through the dealer/trip ticket system. See also Footnote 2.

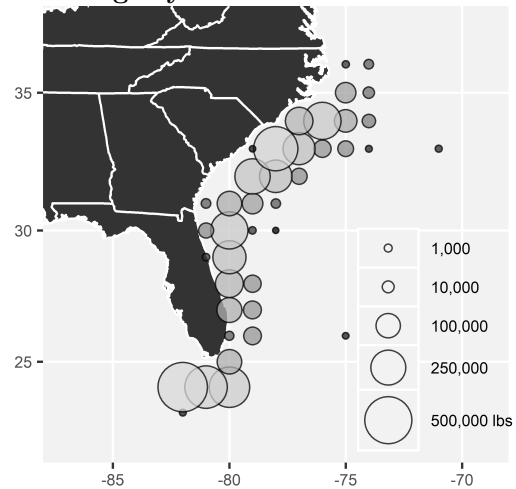




## SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of fish managed by the SAT Snapper-Grouper FMP was landed in 2018 using any gear type. Species managed include multiple species of snapper, grouper, tilefish, etc. For a complete list of the species, please refer to Appendix 1. For important **disclaimer**, see page 15.

### SOI Landings by Area Fished



### Trip-Level Summary

#### Effort

Trips	10,260
Vessels	473
Days at Sea	17,105
Crew Days	36,273

#### Landings (gutted lbs)

<u>Total</u>	4,806,801
SOI	4,298,267
Non-SOI	508,534
% SOI	89%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	85%	84%
Longline	2%	6%
Diver	6%	5%
Traps/Pots	2%	4%
Other	5%	1%

#### Price (mean)

<u>Total</u>	\$3.53
SOI	\$3.68
Non-SOI	\$2.25

#### Revenue

<u>Total</u>	\$16,963,197
SOI	\$15,821,208
Non-SOI	\$1,141,988
% SOI	93%

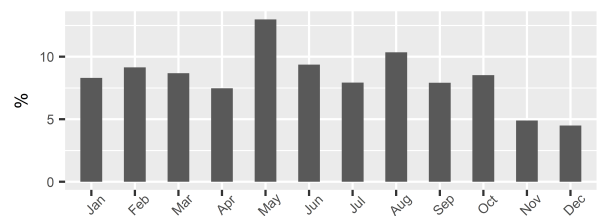
#### Percent of Revenue by Species Group

Shallow Water Groupers	14%
Shallow Water Snappers	24%
Mid-Shelf Snappers	21%
Deep Water Groupers/Tilefish	15%
Grunt/Porgy/Sea Bass/Trigger	12%
Mackerels/Dolphinfish/Jacks	11%
Other Species	3%

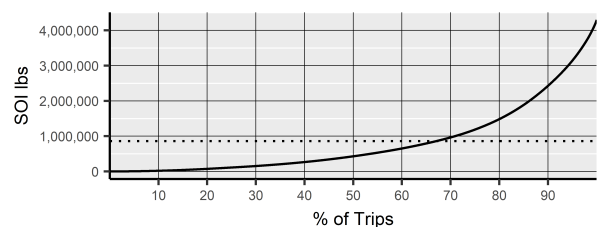
#### Revenue for Top 5 Species

Yellowtail Snapper	\$3,442,445
Vermilion Snapper	\$2,867,887
Tilefish	\$1,402,467
Gag Grouper	\$1,362,759
Greater Amberjack	\$1,031,942

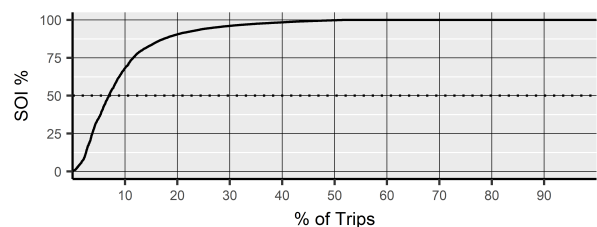
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=10,260)

	Mean	Min	Median	Max
Days at Sea	1.7	1	1	16
Crew Size	1.9	1	2	10
Landings	468	1	223	14,720
Revenue	\$1,653	\$4	\$804	\$24,676
SOI	\$1,542	\$1	\$707	\$24,529
% SOI	91%	0%	99.8%	100%

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	10,260	-	-	-
Selected	2,848	28%	-	-
Responded	2,799	27%	98%	-
Used	2,688	26%	94%	96%

#### Economic Results (n=2,688)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	73%	4.6	65%	81%	-
Days at Sea	1.7	0.2	1.4	1.9	1
Crew Size	2	0.1	1.9	2.1	2
Fuel Used	65	6	54	76	40
Landings (gutted lbs)	473	50	391	555	235
<b>Total Revenue</b>	1,750	207	1,407	2,093	898
<b>Cost</b>					
Fuel	189	17	160	218	120
Bait	125	25	84	166	50
Ice	32	5	25	40	18
Groceries	61	12	41	80	15
Miscellaneous	41	12	22	60	10
Hired Crew	517	81	383	650	165
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	279	40	213	344	138
<b>Trip Net Cash Flow*</b>	786	98	623	948	392
<b>Trip Net Revenue*</b>	507	81	373	641	198

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 45%	Trip Net Revenue* 29%
	Labor - Hired 30%	Labor - Hired & Owner 45%
	Fuel & Supplies 26%	Fuel & Supplies 26%

#### Input Prices

Fuel Price (average): \$2.90 per gallon

Hired Crew Wage (implicit): \$249 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7.3 lbs/gallon

Landings/Labor Use: 143 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	473
<u>Trips - Total</u>	<u>13,707</u>
SOI Trips	10,260
Non-SOI Trips	3,447
Days at Sea	21,133
Crew Days	42,829

### Landings (guttled lbs)

<u>Total</u>	<u>6,738,683</u>
SOI	4,298,267
Non-SOI	2,440,416
% SOI	64%

### Percent by Gear

	Trips	Total lbs
Vertical Line	73%	67%
Longline	3%	8%
Diver	5%	4%
Traps/Pots	2%	3%
Other	18%	18%

### Price (mean)

<u>Total</u>	<u>\$3.09</u>
SOI	\$3.68
Non-SOI	\$2.04

### Revenue

<u>Total</u>	<u>\$20,803,247</u>
SOI	\$15,821,208
Non-SOI	\$4,982,038
% SOI	76%

### Percent of Revenue by Species Group

Shallow Water Groupers	12%
Shallow Water Snappers	21%
Mid-Shelf Snappers	18%
Deep Water Groupers/Tilefish	13%
Grunt/Porgy/Sea Bass/Trigger	9%
Mackerels/Dolphinfish/Jacks	21%
Other Species	6%

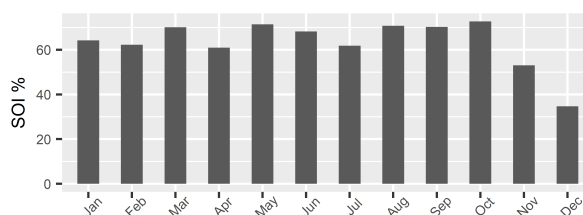
### Revenue for Top 5 Species

Yellowtail Snapper	\$3,772,926
Vermilion Snapper	\$2,897,546
King and Cero Mackerel	\$2,454,795
Tilefish	\$1,405,127
Gag Grouper	\$1,375,653

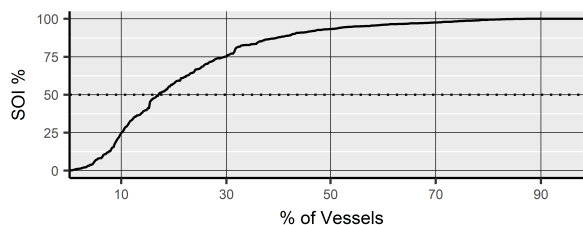
### Annual, Vessel Descriptive Statistics (N=473)

	Mean	Min	Median	Max
Trips	29	1	18	205
Days at Sea	44.7	1	29	218
Crew Days	90.5	1	55	480
Landings	14,247	14	7,022	163,037
Revenue	\$43,981	\$51	\$22,026	\$324,840
SOI	\$33,449	\$13	\$13,195	\$240,500
% SOI	78.3%	0.1%	93.3%	100%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	9%
SAT Snapper & Grouper - Unlimited	92%
SAT Snapper & Grouper - Limited	8%
King Mackerel	64%
Spanish Mackerel	72%
Dolphin-Wahoo	93%
Other Commercial Fishing	31%
For-Hire Fishing	31%

### Vessel Characteristics (N=473)

	Mean	Min	Median	Max
Length	33	17	32	70
Year Built	1991	1954	1988	2018
Horsepower	405	50	350	1,400
Fiberglass Hull	98%	-	-	-
Diesel Engine	64%	-	-	-
Ice Refrigeration	92%	-	-	-

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	473	-	-	-
Selected	122	26%	-	-
Responded	102	22%	84%	-
Used	98	21%	80%	96%

#### Economic Results (n=98)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	84%	4	78%	91%	-
For-Hire Active	11%	3.4	5%	16%	-
Days - Commercial Fishing	73	5.5	64	83	45
Days - For-Hire Fishing	4	1.8	1	7	0
Days - Non-fishing	2	0.5	1	2	0
Vessel Value	96,576	9,148	81,380	111,772	75,000
Has Insurance	43%	5.4	34%	52%	-
<b>Total Revenue</b>					
Commercial Fishing	77,199	9,947	60,677	93,722	46,766
For-Hire Fishing	74,462	10,024	57,811	91,113	37,984
	2,738	1,031	1,026	4,450	0
<b>Cost</b>					
Fuel	9,332	1,767	6,397	12,267	5,682
Other Supplies	9,364	1,032	7,649	11,078	3,800
Hired Crew	18,810	3,734	12,607	25,012	4,200
Vessel Repair & Maintenance	11,762	1,629	9,056	14,468	5,325
Insurance	1,528	236	1,136	1,921	0
Overhead	5,570	623	4,534	6,605	3,300
Loan Payment	1,151	327	609	1,694	0
IFQ Purchase	79	58	-17	175	0
OC Owner-Captain Time	8,012	926	6,474	9,550	2,548
Depreciation	4,829	457	4,069	5,589	3,750
<b>Net Cash Flow</b>	19,604	5,792	9,983	29,225	6,150
<b>Net Revenue from Operations**</b>	7,994	5,633	-1,363	17,351	-2,336

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 25%	Net Revenue - Operations 10%
		Depreciation 6%
	Loan Payment 1%	Vessel R&M, Insur, Overh 24%
	Vessel R&M, Insur, Overh 24%	
	Labor - Hired Crew 24%	Labor - Hired & Owner 35%
	Fuel & Supplies 24%	Fuel & Supplies 24%

**Economic Return\*\* (on Vessel Asset Value): 8.3%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		12,149	11,049	11,410	11,607	10,260	11,295
Vessels		527	518	509	501	473	506
Days at Sea		20,779	19,375	18,910	19,206	17,105	19,075
<b>Landings (gutted lbs)</b>							
Total		6,283,739	5,757,491	5,691,550	6,137,904	4,806,801	5,735,497
SOI		5,658,795	5,270,474	5,112,110	5,413,009	4,298,267	5,150,531
Non-SOI		624,944	487,016	579,441	724,895	508,534	584,966
% SOI		90%	92%	90%	88%	89%	90%
<b>Price (mean)</b>							
Total		\$3.36	\$3.44	\$3.48	\$3.45	\$3.53	\$3.45
SOI		\$3.33	\$3.47	\$3.55	\$3.56	\$3.68	\$3.52
Non-SOI		\$3.62	\$3.09	\$2.87	\$2.60	\$2.25	\$2.89
<b>Revenue</b>							
Total		\$21,132,760	\$19,785,002	\$19,823,433	\$21,166,100	\$16,963,197	\$19,774,098
SOI		\$18,870,207	\$18,280,751	\$18,159,402	\$19,283,676	\$15,821,208	\$18,083,049
Non-SOI		\$2,262,554	\$1,504,252	\$1,664,031	\$1,882,423	\$1,141,988	\$1,691,050
% SOI		89%	92%	92%	91%	93%	91%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		2,964	2,593	2,612	3,527	2,688	
Response Rate (%)		83%	83%	94%	92%	94%	
<b>SOI Trip</b>							
Owner-Operated		83%	88%	82%	78%	73%	80.8%
Fuel Used per Day at Sea (gallons/day)		33	38	41	41	39	38
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		13.4%	11.5%	9.3%	8.9%	10.8%	10.8%
Bait		6.9%	7.2%	7.2%	8.4%	7.2%	7.4%
Ice		1.9%	1.9%	2.1%	2.2%	1.8%	2%
Groceries		3.2%	2.8%	3.5%	3.1%	3.5%	3.2%
Miscellaneous		2.8%	2.7%	2.8%	2.5%	2.3%	2.6%
Hired Crew		32.6%	32.8%	29.4%	30.4%	29.5%	30.9%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		19.6%	18%	17%	17%	15.9%	17.5%
<b>Trip Net Cash Flow*</b>		39.1%	41.1%	45.7%	44.4%	44.9%	43%
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		19.5%	23.2%	28.7%	27.4%	29%	25.6%
Fuel & Supplies		52.2%	50.7%	46.4%	47.4%	45.4%	48.4%
<b>Input Prices</b>		28.3%	26.1%	24.9%	25.2%	25.6%	26%
Fuel Price (per gallon)		\$3.82	\$2.98	\$2.32	\$2.50	\$2.90	\$2.90
Hire Crew Wage (per crew-day)		\$278	\$292	\$259	\$284	\$249	\$272
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		8.7	7.7	6.8	8.4	7.3	8
Landings/Labor Use (lbs/crew-day)		150	149	141	172	143	151

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Vessels		527	518	509	501	473	506
Trips - Total		16,461	14,978	15,339	15,204	13,707	15,138
SOI Trips		12,149	11,049	11,410	11,607	10,260	11,295
Non-SOI Trips		4,312	3,929	3,929	3,597	3,447	3,843
Days at Sea		26,230	24,475	23,811	23,581	21,133	23,846
<b>Landings (gutted lbs)</b>							
Total		9,046,958	8,259,398	8,209,132	8,336,410	6,738,683	8,118,116
SOI		5,658,795	5,270,474	5,112,110	5,413,009	4,298,267	5,150,531
Non-SOI		3,388,163	2,988,923	3,097,022	2,923,401	2,440,416	2,967,585
% SOI		63%	64%	62%	65%	64%	64%
<b>Revenue</b>							
Total		\$26,697,481	\$24,969,535	\$24,762,671	\$25,721,762	\$20,803,247	\$24,590,939
SOI		\$18,870,207	\$18,280,751	\$18,159,402	\$19,283,676	\$15,821,208	\$18,083,049
Non-SOI		\$7,827,275	\$6,688,785	\$6,603,269	\$6,438,085	\$4,982,038	\$6,507,890
% SOI		71%	73%	73%	75%	76%	74%
<b>Vessel Characteristics</b>							
Length		33	33	33	33	33	33
Year Built		1989	1989	1990	1990	1991	1990
For-Hire Fishing Permit		27%	26%	28%	29%	31%	28%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Snapper-Grouper FMP Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

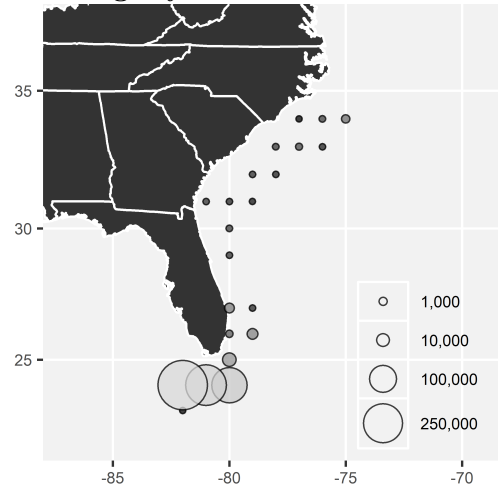
Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		75	101	94	104	98	
Response Rate (%)		50%	75%	71%	70%	80%	
<b>SOI Vessel</b>							
Owner-Operated		85%	91%	89%	81%	84%	86%
For-Hire Active		22%	19%	12%	19%	11%	17%
Vessel Value		\$80,387	\$80,529	\$97,773	\$111,821	\$96,576	\$93,417
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		15%	11.7%	10.1%	10%	12.1%	11.8%
Other Supplies		12.1%	12.9%	14.5%	12%	12.1%	12.7%
Hired Crew		28.4%	23.9%	27.8%	28.3%	24.4%	26.6%
Vessel Repair & Maintenance		14.7%	15.7%	15.1%	10.6%	15.2%	14.3%
Insurance		1.5%	1.6%	2.1%	1.7%	2%	1.8%
Overhead		6.8%	8.4%	10.2%	6%	7.2%	7.7%
Loan Payment		2.5%	3.3%	4.6%	2.1%	1.5%	2.8%
IFQ Purchase		0%	0.1%	0%	0.2%	0.1%	0.1%
OC Owner-Captain Time		10.6%	12.8%	13.1%	9.5%	10.4%	11.3%
<b>Net Cash Flow</b>		19%	22.4%	15.5%	29.2%	25.4%	22.3%
<b>Net Revenue for Operations**</b>							
Depreciation		5.7%	7.7%	0.2%	16.9%	10.4%	8.2%
Vessel R&M, Insur, Overh		5.3%	5.3%	6.7%	5%	6.3%	5.7%
Labor - Hired & Owner		23%	25.7%	27.5%	18.3%	24.4%	23.8%
Fuel & Supplies		39%	36.7%	40.9%	37.8%	34.7%	37.8%
<b>Economic Return** (on asset value)</b>		27.1%	24.7%	24.6%	21.9%	24.2%	24.5%
		5.4%	7.3%	0.2%	16.9%	8.3%	7.6%

\*\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of yellowtail snapper was landed in 2018 using any gear type. NMFS is aware of underreporting in the Florida Keys in 2018, which will especially impact yellowtail snapper summary context data For important **disclaimer**, see page 15.

### SOI Landings by Area Fished



### Trip-Level Summary

#### Effort

Trips	3,341
Vessels	196
Days at Sea	4,895
Crew Days	9,997

#### Landings (gutted lbs)

<u>Total</u>	1,145,500
SOI	924,422
Non-SOI	221,077
% SOI	81%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	99%	100%
Longline	0%	0%
Diver	0.3%	0%
Traps/Pots	0%	0%
Other	0.5%	0%

#### Price (mean)

<u>Total</u>	\$3.49
SOI	\$3.72
Non-SOI	\$2.50

#### Revenue

<u>Total</u>	\$3,995,580
SOI	\$3,442,445
Non-SOI	\$553,135
% SOI	86%

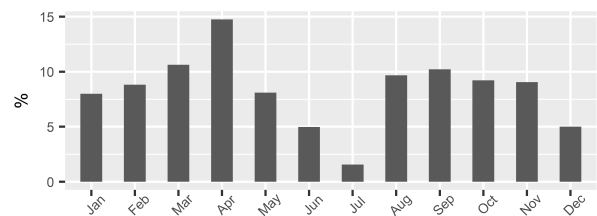
#### Percent of Revenue by Species Group

Shallow Water Groupers	3%
Shallow Water Snappers	88%
Mid-Shelf Snappers	2%
Deep Water Groupers/Tilefish	1%
Grunt/Porgy/Sea Bass/Trigger	1%
Mackerels/Dolphinfish/Jacks	2%
Other Species	2%

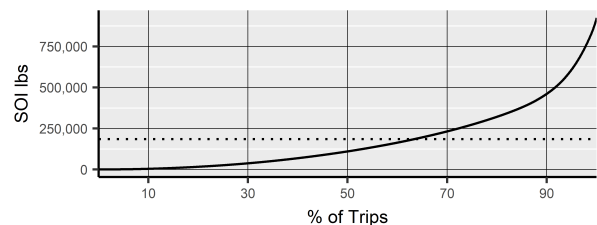
#### Revenue for Top 5 Species

Yellowtail Snapper	\$3,442,445
Vermilion Snapper	\$78,125
Gag Grouper	\$53,534
Blue Runner	\$51,040
Gray Snapper	\$43,406

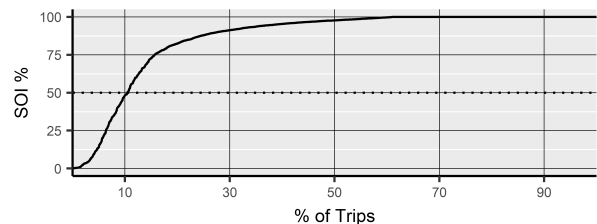
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=3,341)

	Mean	Min	Median	Max
Days at Sea	1.5	1	1	16
Crew Size	1.9	1	2	10
Landings	343	1	186	6,711
Revenue	\$1,196	\$4	\$629	\$19,419
SOI	\$1,030	\$3	\$528	\$19,419
% SOI	86%	0%	97.7%	100%

## SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	3,341	-	-	-
Selected	1,006	30%	-	-
Responded	975	29%	97%	-
Used	902	27%	90%	93%

#### Economic Results (n=902)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	70%	5.5	61%	79%	-
Days at Sea	1.3	0.3	0.8	1.8	1
Crew Size	1.9	0.1	1.7	2.1	2
Fuel Used	33	11	15	52	20
Landings (gutted lbs)	321	83	182	460	200
<b>Total Revenue</b>	1,204	314	679	1,729	723
<b>Cost</b>					
Fuel	103	30	53	154	60
Bait	214	36	154	274	165
Ice	30	8	16	44	18
Groceries	37	25	-4	79	10
Miscellaneous	25	20	-7	58	10
Hired Crew	294	139	61	527	150
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	215	48	136	295	141
<b>Trip Net Cash Flow*</b>	499	120	299	700	272
<b>Trip Net Revenue*</b>	284	105	108	461	111

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 41%	Trip Net Revenue* 24%
	Labor - Hired 24%	Labor - Hired & Owner 42%
	Fuel & Supplies 34%	Fuel & Supplies 34%

#### Input Prices

Fuel Price (average): \$3.08 per gallon

Hired Crew Wage (implicit): \$193 per crew-day

#### Productivity Measures

Landings/Fuel Use: 9.6 lbs/gallon

Landings/Labor Use: 132 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	196
<u>Trips - Total</u>	<u>6,641</u>
SOI Trips	3,341
Non-SOI Trips	3,300
Days at Sea	10,459
Crew Days	21,795

### Landings (guttled lbs)

<u>Total</u>	<u>2,850,771</u>
SOI	924,422
Non-SOI	1,926,349
% SOI	32%

### Percent by Gear

	Trips	Total lbs
Vertical Line	89%	89%
Longline	0.1%	0.2%
Diver	2%	3%
Traps/Pots	0.4%	0.5%
Other	9%	7%

### Price (mean)

<u>Total</u>	<u>\$3.30</u>
SOI	\$3.72
Non-SOI	\$3.10

### Revenue

<u>Total</u>	<u>\$9,416,357</u>
SOI	\$3,442,445
Non-SOI	\$5,973,912
% SOI	37%

### Percent of Revenue by Species Group

Shallow Water Groupers	11%
Shallow Water Snappers	45%
Mid-Shelf Snappers	14%
Deep Water Groupers/Tilefish	6%
Grunt/Porgy/Sea Bass/Trigger	5%
Mackerels/Dolphinfish/Jacks	16%
Other Species	3%

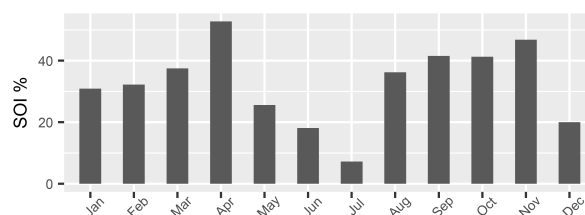
### Revenue for Top 5 Species

Yellowtail Snapper	\$3,772,467
Vermilion Snapper	\$1,127,925
King and Cero Mackerel	\$832,578
Gag Grouper	\$518,730
Greater Amberjack	\$472,877

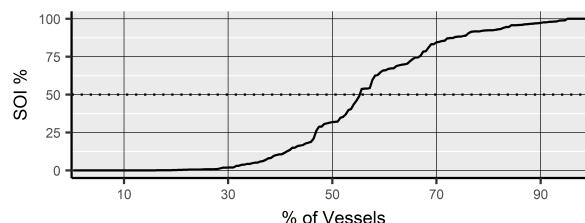
### Annual, Vessel Descriptive Statistics (N=196)

	Mean	Min	Median	Max
Trips	33.9	1	21	183
Days at Sea	53.4	1	37	218
Crew Days	111.2	1	70	480
Landings	14,545	14	9,025	93,793
Revenue	\$48,043	\$51	\$27,862	\$324,840
SOI	\$17,563	\$4	\$2,010	\$228,819
% SOI	43.5%	0%	32%	100%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	18%
SAT Snapper & Grouper - Unlimited	92%
SAT Snapper & Grouper - Limited	9%
King Mackerel	63%
Spanish Mackerel	75%
Dolphin-Wahoo	93%
Other Commercial Fishing	25%
For-Hire Fishing	24%

### Vessel Characteristics (N=196)

	Mean	Min	Median	Max
Length	33	21	32	49
Year Built	1989	1962	1986	2018
Horsepower	394	128	350	1,200
Fiberglass Hull	99%	-	-	-
Diesel Engine	67%	-	-	-
Ice Refrigeration	87%	-	-	-

## SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	196	-	-	-
Selected	65	33%	-	-
Responded	54	28%	83%	-
Used	51	26%	78%	94%

#### Economic Results (n=51)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	87%	4.5	80%	94%	-
For-Hire Active	7%	3.5	2%	13%	-
Days - Commercial Fishing	89	8.8	75	104	63
Days - For-Hire Fishing	2	1	0	4	0
Days - Non-fishing	2	0.7	1	3	0
Vessel Value	88,418	11,626	68,918	107,918	60,000
Has Insurance	32%	6.2	21%	42%	-
<b>Total Revenue</b>	93,993	18,157	63,539	124,447	47,202
Commercial Fishing	92,089	18,200	61,563	122,615	47,202
For-Hire Fishing	1,904	1,118	29	3,778	0
<b>Cost</b>					
Fuel	10,745	3,444	4,969	16,520	3,397
Other Supplies	11,552	1,709	8,685	14,419	4,000
Hired Crew	23,853	7,053	12,024	35,682	5,000
Vessel Repair & Maintenance	9,375	1,432	6,973	11,777	5,588
Insurance	1,203	289	718	1,687	0
Overhead	5,919	872	4,457	7,382	4,500
Loan Payment	1,292	522	417	2,167	0
IFQ Purchase	28	24	-12	68	0
OC Owner-Captain Time	7,465	1,070	5,670	9,260	2,548
Depreciation	4,421	581	3,446	5,396	3,000
<b>Net Cash Flow</b>	30,025	10,307	12,737	47,313	7,683
<b>Net Revenue from Operations**</b>	19,460	10,049	2,606	36,313	-1,266

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 32%	Net Revenue - Operations 21%
		Depreciation 5%
	Loan Payment 1%	Vessel R&M, Insur, Overh 18%
	Vessel R&M, Insur, Overh 18%	Labor - Hired & Owner 33%
	Labor - Hired Crew 25%	Fuel & Supplies 24%
Fuel & Supplies 24%		

**Economic Return\*\* (on Vessel Asset Value): 22%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		4,494	4,067	4,645	4,098	3,341	4,129
Vessels		264	243	257	223	196	237
Days at Sea		6,733	6,339	6,584	5,782	4,895	6,067
<b>Landings (gutted lbs)</b>							
Total		1,466,837	1,586,000	1,716,080	1,852,814	1,145,500	1,553,446
SOI		1,043,931	1,251,445	1,348,325	1,582,144	924,422	1,230,053
Non-SOI		422,906	334,554	367,755	270,670	221,077	323,392
% SOI		71%	79%	79%	85%	81%	79%
<b>Price (mean)</b>							
Total		\$3.41	\$3.45	\$3.46	\$3.35	\$3.49	\$3.43
SOI		\$3.63	\$3.62	\$3.61	\$3.47	\$3.72	\$3.61
Non-SOI		\$2.84	\$2.81	\$2.94	\$2.64	\$2.50	\$2.75
<b>Revenue</b>							
Total		\$4,987,650	\$5,462,072	\$5,947,173	\$6,205,903	\$3,995,580	\$5,319,676
SOI		\$3,785,353	\$4,520,726	\$4,865,550	\$5,491,652	\$3,442,445	\$4,421,145
Non-SOI		\$1,202,297	\$941,346	\$1,081,623	\$714,251	\$553,135	\$898,530
% SOI		76%	83%	82%	88%	86%	83%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		912	865	900	1,434	902	
Response Rate (%)		79%	80%	92%	87%	90%	
<b>SOI Trip</b>							
Owner-Operated		84%	84%	80%	77%	70%	79%
Fuel Used per Day at Sea (gallons/day)		17	21	27	28	26	24
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		10.8%	10.7%	9.4%	7.4%	8.6%	9.4%
Bait		18%	19.7%	16%	17.8%	17.8%	17.9%
Ice		2.3%	2%	2.9%	2.6%	2.5%	2.5%
Groceries		2.8%	1.7%	3.7%	2.6%	3.1%	2.8%
Miscellaneous		2.1%	2.4%	2.3%	2.5%	2.1%	2.3%
Hired Crew		24.5%	33.1%	26.2%	26.1%	24.4%	26.9%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		24.7%	16.9%	18%	19.7%	17.9%	19.4%
<b>Trip Net Cash Flow*</b>		<b>39.4%</b>	<b>30.5%</b>	<b>39.6%</b>	<b>40.9%</b>	<b>41.5%</b>	<b>38.4%</b>
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		14.7%	13.6%	21.6%	21.2%	23.6%	18.9%
Fuel & Supplies		49.2%	50%	44.1%	45.8%	42.3%	46.3%
		36.1%	36.5%	34.3%	33%	34.1%	34.8%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.88	\$3.76	\$2.65	\$2.83	\$3.08	\$3.24
Hire Crew Wage (per crew-day)		\$176	\$229	\$174	\$231	\$193	\$201
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		10.4	10.7	7.9	11.6	9.6	10
Landings/Labor Use (lbs/crew-day)		104	119	110	164	132	126

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

<b>Annual, Vessel-Level Summary</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018***</b>	<b>Average</b>
<b>Effort</b>							
Vessels		264	243	257	223	196	237
Trips - Total		9,651	8,238	8,833	7,792	6,641	8,231
SOI Trips		4,494	4,067	4,645	4,098	3,341	4,129
Non-SOI Trips		5,157	4,171	4,188	3,694	3,300	4,102
Days at Sea		15,759	13,263	13,956	11,563	10,459	13,000
<b>Landings (gutted lbs)</b>							
Total		4,429,505	3,883,369	4,116,780	4,016,462	2,850,771	3,859,377
SOI		1,043,931	1,251,445	1,348,325	1,582,144	924,422	1,230,053
Non-SOI		3,385,574	2,631,923	2,768,455	2,434,318	1,926,349	2,629,324
% SOI		24%	32%	33%	39%	32%	32%
<b>Revenue</b>							
Total		\$14,622,446	\$12,504,628	\$13,663,611	\$12,790,959	\$9,416,357	\$12,599,600
SOI		\$3,785,353	\$4,520,726	\$4,865,550	\$5,491,652	\$3,442,445	\$4,421,145
Non-SOI		\$10,837,093	\$7,983,902	\$8,798,062	\$7,299,308	\$5,973,912	\$8,178,455
% SOI		26%	36%	36%	43%	37%	36%
<b>Vessel Characteristics</b>							
Length		32	32	33	32	33	32
Year Built		1988	1988	1988	1988	1989	1988
For-Hire Fishing Permit		22%	21%	20%	22%	24%	22%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Yellowtail Snapper Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		35	44	52	40	51	
Response Rate (%)		44%	68%	72%	67%	78%	
<b>SOI Vessel</b>							
Owner-Operated		79%	89%	96%	83%	87%	87%
For-Hire Active		7%	13%	3%	21%	7%	10%
Vessel Value		\$84,724	\$73,375	\$91,032	\$114,805	\$88,418	\$90,471
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		11.4%	11.6%	8.4%	8.9%	11.4%	10.3%
Other Supplies		11.6%	16.1%	16.6%	14.1%	12.3%	14.1%
Hired Crew		30.3%	22.4%	30.3%	28.8%	25.4%	27.4%
Vessel Repair & Maintenance		12.8%	15.1%	13.9%	9.2%	10%	12.2%
Insurance		1.1%	1.1%	1.7%	1.5%	1.3%	1.3%
Overhead		5.4%	9.1%	9.3%	5%	6.3%	7%
Loan Payment		1.9%	4.2%	4.2%	1.6%	1.4%	2.7%
IFQ Purchase		0%	0.3%	0.1%	0.3%	0%	0.1%
OC Owner-Captain Time		12.4%	15.6%	16%	9.7%	7.9%	12.3%
<b>Net Cash Flow</b>		25.5%	19.9%	15.6%	30.7%	31.9%	24.7%
<b>Net Revenue for Operations**</b>							
Depreciation		10.3%	2.8%	-2.3%	18.6%	20.7%	10%
Vessel R&M, Insur, Overh		4.7%	6.2%	6.1%	4.2%	4.7%	5.2%
Labor - Hired & Owner		19.3%	25.4%	24.9%	15.7%	17.6%	20.6%
Fuel & Supplies		42.7%	37.9%	46.3%	38.5%	33.3%	39.7%
<b>Economic Return** (on asset value)</b>		11.1%	2.2%	-1.9%	22.2%	22%	11.1%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Vermilion Snapper Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of vermilion snapper was landed in 2018 using any gear type. For important **disclaimer**, see page 15.

### Trip-Level Summary

#### Effort

Trips	2,238
Vessels	234
Days at Sea	6,676
Crew Days	16,025

#### Landings (gutted lbs)

<u>Total</u>	2,125,200
SOI	722,742
Non-SOI	1,402,458
% SOI	34%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	92%	99%
Longline	0%	0%
Diver	4%	0.3%
Traps/Pots	3%	1%
Other	0.8%	0%

#### Price (mean)

<u>Total</u>	\$3.53
SOI	\$3.97
Non-SOI	\$3.31

#### Revenue

<u>Total</u>	\$7,508,374
SOI	\$2,867,887
Non-SOI	\$4,640,487
% SOI	38%

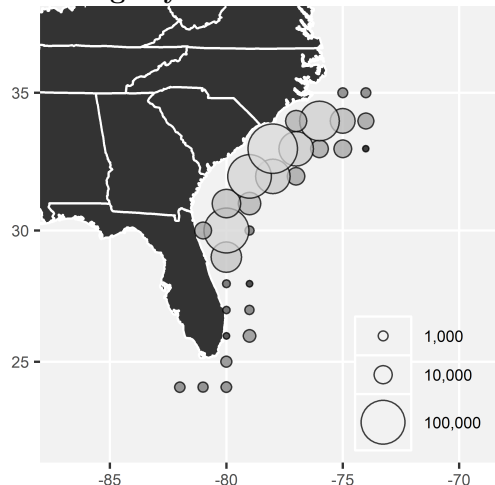
#### Percent of Revenue by Species Group

Shallow Water Groupers	21%
Shallow Water Snappers	2%
Mid-Shelf Snappers	41%
Deep Water Groupers/Tilefish	6%
Grunt/Porgy/Sea Bass/Trigger	19%
Mackerels/Dolphinfish/Jacks	9%
Other Species	2%

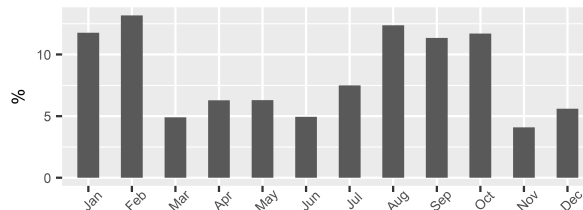
#### Revenue for Top 5 Species

Vermilion Snapper	\$2,867,887
Gag Grouper	\$909,235
Gray Triggerfish	\$738,282
Scamp	\$466,990
Greater Amberjack	\$314,332

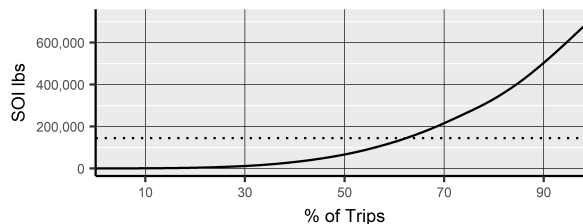
### SOI Landings by Area Fished



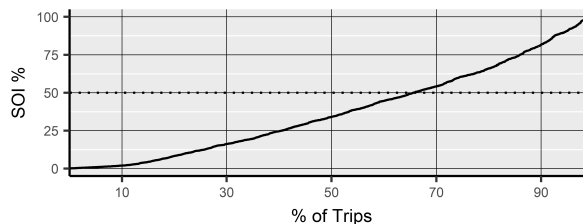
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=2,238)

	Mean	Min	Median	Max
Days at Sea	3	1	3	12
Crew Size	2.3	1	2	6
Landings	950	4	770	14,720
Revenue	\$3,355	\$15	\$2,694	\$18,437
SOI	\$1,281	\$3	\$808	\$5,849
% SOI	38%	0.1%	34.1%	100%

## SOI: 2018 SAT Vermilion Snapper Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	2,238	-	-	-
Selected	752	34%	-	-
Responded	746	33%	99%	-
Used	735	33%	98%	99%

#### Economic Results (n=735)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	70%	5.4	61%	80%	-
Days at Sea	2.7	0.2	2.4	3	2
Crew Size	2.3	0.1	2.1	2.4	2
Fuel Used	115	7	103	126	97
Landings (gutted lbs)	798	60	699	898	565
<b>Total Revenue</b>	2,928	229	2,545	3,311	2,020
<b>Cost</b>					
Fuel	322	19	289	354	275
Bait	112	12	91	132	60
Ice	49	5	40	57	20
Groceries	129	15	105	154	40
Miscellaneous	63	17	35	91	0
Hired Crew	1,015	98	852	1,178	500
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	320	45	245	395	0
<b>Trip Net Cash Flow*</b>	1,239	115	1,047	1,430	926
<b>Trip Net Revenue*</b>	918	93	763	1,074	631

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 42%	Trip Net Revenue* 31%
	Labor - Hired 35%	Labor - Hired & Owner 46%
	Fuel & Supplies 23%	Fuel & Supplies 23%

#### Input Prices

Fuel Price (average): \$2.80 per gallon      Hired Crew Wage (implicit): \$243 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7 lbs/gallon      Landings/Labor Use: 131 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Vermilion Snapper Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	234
<u>Trips - Total</u>	<u>7,185</u>
SOI Trips	2,238
Non-SOI Trips	4,947
Days at Sea	12,641
Crew Days	26,747

### Landings (guttled lbs)

<u>Total</u>	<u>4,091,522</u>
SOI	722,742
Non-SOI	3,368,780
% SOI	18%

### Percent by Gear

	Trips	Total lbs
Vertical Line	78%	74%
Longline	2%	7%
Diver	4%	5%
Traps/Pots	2%	3%
Other	14%	11%

### Price (mean)

<u>Total</u>	<u>\$3.21</u>
SOI	\$3.97
Non-SOI	\$3.05

### Revenue

<u>Total</u>	<u>\$13,134,659</u>
SOI	\$2,867,887
Non-SOI	\$10,266,772
% SOI	22%

### Percent of Revenue by Species Group

Shallow Water Groupers	16%
Shallow Water Snappers	7%
Mid-Shelf Snappers	26%
Deep Water Groupers/Tilefish	12%
Grunt/Porgy/Sea Bass/Trigger	14%
Mackerels/Dolphinfish/Jacks	19%
Other Species	5%

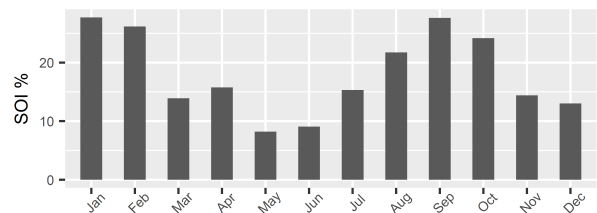
### Revenue for Top 5 Species

Vermilion Snapper	\$2,896,806
Gag Grouper	\$1,285,762
King and Cero Mackerel	\$1,051,575
Greater Amberjack	\$827,024
Gray Triggerfish	\$778,548

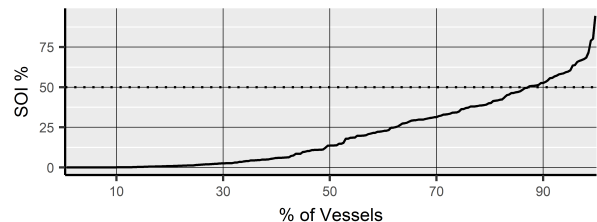
### Annual, Vessel Descriptive Statistics (N=234)

	Mean	Min	Median	Max
Trips	30.7	1	21	205
Days at Sea	54	1	42	205
Crew Days	114.3	2	77	438
Landings	17,485	139	11,552	162,736
Revenue	\$56,131	\$235	\$33,946	\$277,165
SOI	\$12,256	\$3	\$1,955	\$82,570
% SOI	20.9%	0%	13.6%	94.4%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	3%
SAT Snapper & Grouper - Unlimited	96%
SAT Snapper & Grouper - Limited	5%
King Mackerel	68%
Spanish Mackerel	66%
Dolphin-Wahoo	95%
Other Commercial Fishing	35%
For-Hire Fishing	38%

### Vessel Characteristics (N=234)

	Mean	Min	Median	Max
Length	34	23	32	70
Year Built	1992	1962	1989	2018
Horsepower	412	125	365	1,250
Fiberglass Hull	97%	-	-	-
Diesel Engine	67%	-	-	-
Ice Refrigeration	94%	-	-	-

## SOI: 2018 SAT Vermilion Snapper Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	234	-	-	-
Selected	64	27%	-	-
Responded	53	23%	83%	-
Used	52	22%	81%	98%

#### Economic Results (n=52)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	80%	5.4	71%	89%	-
For-Hire Active	13%	4.6	5%	21%	-
Days - Commercial Fishing	71	7.1	59	83	63
Days - For-Hire Fishing	9	4.7	1	17	0
Days - Non-fishing	2	1	0	3	0
Vessel Value	106,723	17,903	76,720	136,727	75,000
Has Insurance	64%	6.5	53%	75%	-
<b>Total Revenue</b>	70,015	6,943	58,379	81,650	60,087
Commercial Fishing	64,843	7,071	52,993	76,694	51,234
For-Hire Fishing	5,171	2,517	954	9,389	0
<b>Cost</b>					
Fuel	9,478	1,019	7,770	11,186	7,886
Other Supplies	8,338	1,067	6,551	10,126	5,000
Hired Crew	17,493	2,357	13,543	21,443	8,134
Vessel Repair & Maintenance	13,220	2,043	9,796	16,644	8,250
Insurance	2,258	354	1,665	2,852	850
Overhead	5,984	857	4,547	7,420	4,700
Loan Payment	1,914	626	865	2,963	0
IFQ Purchase	219	205	-124	562	0
OC Owner-Captain Time	9,032	1,379	6,721	11,344	2,732
Depreciation	5,336	895	3,836	6,836	3,750
<b>Net Cash Flow</b>	11,110	3,778	4,779	17,441	8,400
<b>Net Revenue from Operations**</b>	-1,125	3,798	-7,490	5,239	-1,726

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 16%	Net Revenue - Operations -2%
	Loan Payment 3%	Depreciation 8%
	Vessel R&M, Insur, Overh 31%	Vessel R&M, Insur, Overh 31%
	Labor - Hired Crew 25%	Labor - Hired & Owner 38%
	Fuel & Supplies 25%	Fuel & Supplies 25%

**Economic Return\*\* (on Vessel Asset Value):** -1.1%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Vermilion Snapper Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		1,768	1,725	1,695	1,915	2,238	1,868
Vessels		217	204	206	200	234	212
Days at Sea		4,803	4,991	4,876	5,409	6,676	5,351
<b>Landings (guttled lbs)</b>							
Total		1,758,651	1,723,407	1,659,059	1,792,547	2,125,200	1,811,773
SOI		810,598	774,166	742,028	766,448	722,742	763,196
Non-SOI		948,053	949,242	917,032	1,026,099	1,402,458	1,048,577
% SOI		46%	45%	45%	43%	34%	43%
<b>Price (mean)</b>							
Total		\$3.42	\$3.41	\$3.53	\$3.57	\$3.53	\$3.49
SOI		\$4.04	\$4.02	\$4.15	\$4.09	\$3.97	\$4.05
Non-SOI		\$2.88	\$2.91	\$3.02	\$3.18	\$3.31	\$3.06
<b>Revenue</b>							
Total		\$6,012,361	\$5,872,381	\$5,851,466	\$6,397,547	\$7,508,374	\$6,328,426
SOI		\$3,281,823	\$3,112,255	\$3,082,400	\$3,133,535	\$2,867,887	\$3,095,580
Non-SOI		\$2,730,538	\$2,760,126	\$2,769,066	\$3,264,012	\$4,640,487	\$3,232,846
% SOI		55%	53%	53%	49%	38%	50%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Vermilion Snapper Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		503	381	351	608	735	
Response Rate (%)		92%	84%	97%	98%	98%	
<b>SOI Trip</b>							
Owner-Operated		74%	86%	69%	71%	70%	74%
Fuel Used per Day at Sea (gallons/day)		45	49	44	43	43	45
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		12.8%	10.6%	8.4%	8.3%	11%	10.2%
Bait		3.9%	4%	3.8%	3.5%	3.8%	3.8%
Ice		1.9%	2.3%	2.3%	2%	1.7%	2%
Groceries		3.7%	4.1%	4.7%	4.1%	4.4%	4.2%
Miscellaneous		2.6%	2.4%	2.8%	2.3%	2.2%	2.5%
Hired Crew		39.1%	34.4%	40.4%	39.2%	34.7%	37.6%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		14.8%	12.6%	14.3%	11.8%	10.9%	12.9%
<b>Trip Net Cash Flow*</b>		<b>36%</b>	<b>42.3%</b>	<b>37.5%</b>	<b>40.7%</b>	<b>42.3%</b>	<b>39.8%</b>
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		21.2%	29.6%	23.2%	28.9%	31.4%	26.9%
Fuel & Supplies		53.9%	47%	54.7%	51%	45.6%	50.4%
		24.8%	23.3%	22.1%	20.1%	23%	22.7%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.75	\$2.69	\$2.04	\$2.27	\$2.80	\$2.71
Hire Crew Wage (per crew-day)		\$275	\$260	\$247	\$277	\$243	\$260
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		8.4	7.6	7	8.1	7	8
Landings/Labor Use (lbs/crew-day)		143	148	126	146	131	139

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Vermilion Snapper Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Vessels		217	204	206	200	234	212
Trips - Total		7,350	6,635	6,554	6,521	7,185	6,849
SOI Trips		1,768	1,725	1,695	1,915	2,238	1,868
Non-SOI Trips		5,582	4,910	4,859	4,606	4,947	4,981
Days at Sea		14,207	12,583	12,519	12,289	12,641	12,848
<b>Landings (gutted lbs)</b>							
Total		4,780,918	3,930,910	4,219,654	3,941,306	4,091,522	4,192,862
SOI		810,598	774,166	742,028	766,448	722,742	763,196
Non-SOI		3,970,320	3,156,744	3,477,626	3,174,858	3,368,780	3,429,666
% SOI		17%	20%	18%	19%	18%	18%
<b>Revenue</b>							
Total		\$16,226,526	\$13,355,624	\$13,649,173	\$13,480,297	\$13,134,659	\$13,969,256
SOI		\$3,281,823	\$3,112,255	\$3,082,400	\$3,133,535	\$2,867,887	\$3,095,580
Non-SOI		\$12,944,703	\$10,243,370	\$10,566,773	\$10,346,762	\$10,266,772	\$10,873,676
% SOI		20%	23%	23%	23%	22%	22%
<b>Vessel Characteristics</b>							
Length		34	34	34	33	34	34
Year Built		1988	1990	1991	1991	1992	1990
For-Hire Fishing Permit		35%	32%	34%	36%	38%	35%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Vermilion Snapper Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		38	48	40	49	52	
Response Rate (%)		58%	89%	82%	74%	81%	
<b>SOI Vessel</b>							
Owner-Operated		81%	91%	82%	80%	80%	83%
For-Hire Active		30%	26%	20%	20%	13%	22%
Vessel Value		\$78,699	\$89,044	\$102,456	\$96,791	\$106,723	\$94,743
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		16.5%	12.1%	10.7%	10.6%	13.5%	12.7%
Other Supplies		12.9%	16%	13.5%	12.7%	11.9%	13.4%
Hired Crew		30.4%	26.4%	34.3%	31.5%	25%	29.5%
Vessel Repair & Maintenance		16.7%	19.2%	11.8%	14.3%	18.9%	16.2%
Insurance		1.1%	1.8%	2%	2.1%	3.2%	2%
Overhead		8.1%	8.5%	7%	8.2%	8.5%	8.1%
Loan Payment		3%	5.9%	6.5%	2.1%	2.7%	4%
IFQ Purchase		0%	0%	0%	0.4%	0.3%	0.1%
OC Owner-Captain Time		12.5%	13.3%	13%	10.9%	12.9%	12.5%
<b>Net Cash Flow</b>		11.2%	10.1%	14.2%	18.2%	15.9%	13.9%
<b>Net Revenue for Operations**</b>							
Depreciation		-2.6%	-2.1%	1.8%	5%	-1.6%	0.1%
Vessel R&M, Insur, Overh		4.3%	4.7%	5.8%	4.9%	7.6%	5.5%
Labor - Hired & Owner		25.9%	29.5%	20.8%	24.6%	30.7%	26.3%
Fuel & Supplies		43%	39.7%	47.3%	42.4%	37.9%	42.1%
<b>Economic Return** (on asset value)</b>		-3%	-2.2%	1.6%	5.1%	-1.1%	0.1%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Gag Grouper Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of gag grouper was landed in 2018 using any gear type. For important **disclaimer**, see page 15.

### Trip-Level Summary

#### Effort

Trips	1,414
Vessels	198
Days at Sea	3,832
Crew Days	9,114

#### Landings (gutted lbs)

<u>Total</u>	1,289,265
SOI	216,119
Non-SOI	1,073,146
% SOI	17%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	80%	75%
Longline	0.1%	0.1%
Diver	18%	24%
Traps/Pots	0.8%	0%
Other	1%	0.1%

#### Price (mean)

<u>Total</u>	\$3.73
SOI	\$6.31
Non-SOI	\$3.21

#### Revenue

<u>Total</u>	\$4,804,871
SOI	\$1,362,759
Non-SOI	\$3,442,112
% SOI	28%

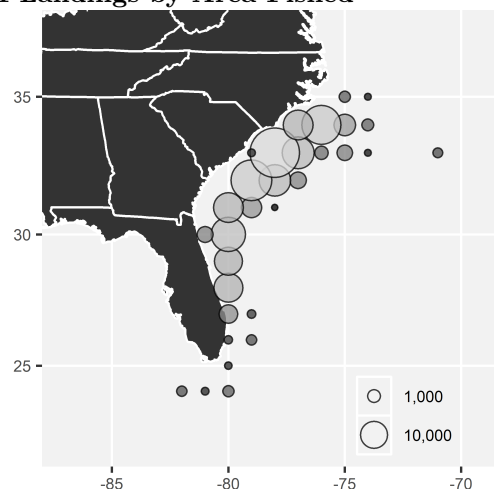
#### Percent of Revenue by Species Group

Shallow Water Groupers	41%
Shallow Water Snappers	2%
Mid-Shelf Snappers	25%
Deep Water Groupers/Tilefish	3%
Grunt/Porgy/Sea Bass/Trigger	13%
Mackerels/Dolphinfish/Jacks	12%
Other Species	4%

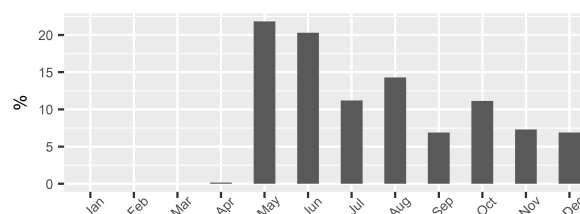
#### Revenue for Top 5 Species

Gag Grouper	\$1,362,759
Vermilion Snapper	\$1,026,888
Scamp	\$453,726
Greater Amberjack	\$367,596
Gray Triggerfish	\$248,444

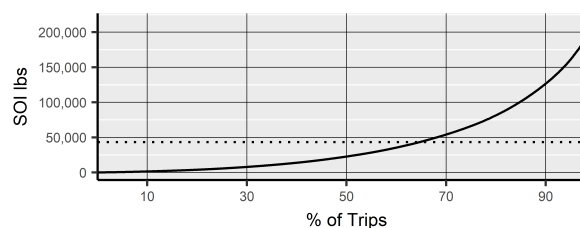
### SOI Landings by Area Fished



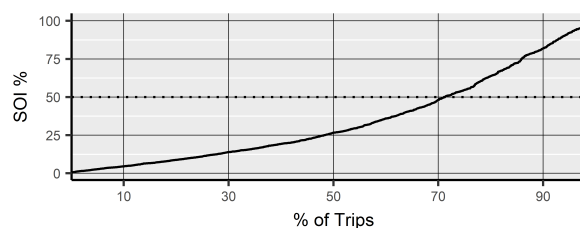
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=1,414)

	Mean	Min	Median	Max
Days at Sea	2.7	1	1	14
Crew Size	2.2	1	2	5
Landings	912	12	575	14,720
Revenue	\$3,398	\$44	\$2,098	\$18,437
SOI	\$964	\$25	\$446	\$6,897
% SOI	35%	0.6%	26.6%	100%

## SOI: 2018 SAT Gag Grouper Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	1,414	-	-	-
Selected	481	34%	-	-
Responded	478	34%	99%	-
Used	462	33%	96%	97%

#### Economic Results (n=462)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	69%	6.8	58%	81%	-
Days at Sea	2.7	0.2	2.3	3	1
Crew Size	2.2	0.1	2	2.3	2
Fuel Used	116	9	101	131	80
Landings (gutted lbs)	851	78	720	981	352
<b>Total Revenue</b>	<b>3,512</b>	<b>314</b>	<b>2,986</b>	<b>4,039</b>	<b>1,499</b>
<b>Cost</b>					
Fuel	331	27	286	376	244
Bait	118	18	88	148	55
Ice	50	6	39	61	20
Groceries	123	18	93	153	20
Miscellaneous	88	19	56	119	25
Hired Crew	1,139	138	908	1,371	231
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	515	62	410	619	122
<b>Trip Net Cash Flow*</b>	<b>1,663</b>	<b>160</b>	<b>1,395</b>	<b>1,932</b>	<b>845</b>
<b>Trip Net Revenue*</b>	<b>1,149</b>	<b>130</b>	<b>931</b>	<b>1,366</b>	<b>587</b>

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 47%	Trip Net Revenue* 33%
	Labor - Hired 32%	Labor - Hired & Owner 47%
	Fuel & Supplies 20%	Fuel & Supplies 20%

#### Input Prices

Fuel Price (average): \$2.85 per gallon

Hired Crew Wage (implicit): \$289 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7.3 lbs/gallon

Landings/Labor Use: 147 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Gag Grouper Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	198
<u>Trips - Total</u>	<u>6,688</u>
SOI Trips	1,414
Non-SOI Trips	5,274
Days at Sea	11,146
Crew Days	23,572

### Landings (guttled lbs)

<u>Total</u>	<u>3,635,033</u>
SOI	216,119
Non-SOI	3,418,914
% SOI	6%

### Percent by Gear

	Trips	Total lbs
Vertical Line	79%	77%
Longline	0.9%	4%
Diver	7%	6%
Traps/Pots	1%	2%
Other	12%	11%

### Price (mean)

<u>Total</u>	<u>\$3.25</u>
SOI	\$6.31
Non-SOI	\$3.06

### Revenue

<u>Total</u>	<u>\$11,813,847</u>
SOI	\$1,362,759
Non-SOI	\$10,451,088
% SOI	12%

### Percent of Revenue by Species Group

Shallow Water Groupers	18%
Shallow Water Snappers	8%
Mid-Shelf Snappers	26%
Deep Water Groupers/Tilefish	10%
Grunt/Porgy/Sea Bass/Trigger	12%
Mackerels/Dolphinfish/Jacks	20%
Other Species	5%

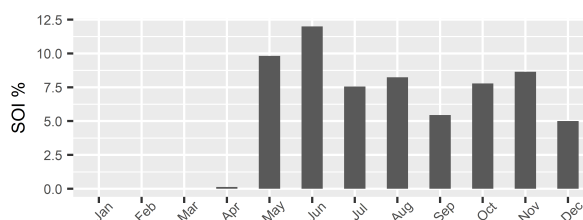
### Revenue for Top 5 Species

Vermilion Snapper	\$2,490,730
Gag Grouper	\$1,369,237
King and Cero Mackerel	\$1,034,758
Greater Amberjack	\$783,839
Gray Triggerfish	\$648,026

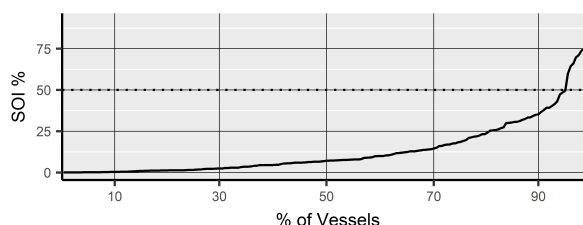
### Annual, Vessel Descriptive Statistics (N=198)

	Mean	Min	Median	Max
Trips	33.8	1	21	205
Days at Sea	56.3	1	44	205
Crew Days	119.1	1	82	438
Landings	18,359	68	12,619	162,736
Revenue	\$59,666	\$419	\$39,718	\$236,055
SOI	\$6,883	\$37	\$1,700	\$65,910
% SOI	14.1%	0%	7.1%	91.9%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	2%
SAT Snapper & Grouper - Unlimited	95%
SAT Snapper & Grouper - Limited	6%
King Mackerel	67%
Spanish Mackerel	66%
Dolphin-Wahoo	95%
Other Commercial Fishing	38%
For-Hire Fishing	40%

### Vessel Characteristics (N=198)

	Mean	Min	Median	Max
Length	33	19	32	53
Year Built	1993	1967	1991.5	2018
Horsepower	407	90	375	1,200
Fiberglass Hull	97%	-	-	-
Diesel Engine	60%	-	-	-
Ice Refrigeration	95%	-	-	-

## SOI: 2018 SAT Gag Grouper Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	198	-	-	-
Selected	50	25%	-	-
Responded	39	20%	78%	-
Used	39	20%	78%	100%

#### Economic Results (n=39)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	81%	6.3	70%	91%	-
For-Hire Active	15%	5.7	5%	24%	-
Days - Commercial Fishing	61	6.4	50	71	62
Days - For-Hire Fishing	11	6	1	21	0
Days - Non-fishing	2	1.3	0	4	0
Vessel Value	124,239	22,636	86,050	162,429	80,000
Has Insurance	68%	7.5	55%	81%	-
<b>Total Revenue</b>	73,978	8,270	60,025	87,931	61,612
Commercial Fishing	67,763	8,559	53,322	82,203	51,234
For-Hire Fishing	6,216	3,196	824	11,607	0
<b>Cost</b>					
Fuel	10,035	1,195	8,018	12,051	7,941
Other Supplies	8,447	1,115	6,566	10,328	7,362
Hired Crew	18,503	2,869	13,662	23,343	9,352
Vessel Repair & Maintenance	14,188	2,517	9,941	18,434	8,780
Insurance	2,519	438	1,781	3,258	1,131
Overhead	6,097	1,076	4,282	7,912	4,700
Loan Payment	2,151	793	812	3,489	0
IFQ Purchase	275	258	-160	710	0
OC Owner-Captain Time	9,596	1,661	6,793	12,399	2,732
Depreciation	6,212	1,132	4,302	8,121	4,000
<b>Net Cash Flow</b>	11,764	4,730	3,784	19,744	14,873
<b>Net Revenue from Operations**</b>	-1,619	4,560	-9,312	6,075	-2,336

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 16%	Net Revenue - Operations -2%
	Loan Payment 3%	Depreciation 8%
	Vessel R&M, Insur, Overh 31%	Vessel R&M, Insur, Overh 31%
	Labor - Hired Crew 25%	Labor - Hired & Owner 38%
	Fuel & Supplies 25%	Fuel & Supplies 25%

**Economic Return\*\* (on Vessel Asset Value): -1.3%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Gag Grouper Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		1,909	1,591	1,434	1,412	1,414	1,552
Vessels		224	204	201	197	198	205
Days at Sea		5,037	4,014	3,638	3,617	3,832	4,028
<b>Landings (guttled lbs)</b>							
Total		1,471,168	1,148,247	1,054,654	1,081,277	1,289,265	1,208,922
SOI		308,872	243,089	201,773	175,302	216,119	229,031
Non-SOI		1,162,296	905,157	852,881	905,974	1,073,146	979,891
% SOI		21%	21%	19%	16%	17%	19%
<b>Price (mean)</b>							
Total		\$3.66	\$3.81	\$3.91	\$3.87	\$3.73	\$3.8
SOI		\$5.87	\$6.11	\$6.12	\$6.24	\$6.31	\$6.13
Non-SOI		\$3.08	\$3.18	\$3.39	\$3.41	\$3.21	\$3.25
<b>Revenue</b>							
Total		\$5,390,925	\$4,373,614	\$4,131,218	\$4,187,374	\$4,804,871	\$4,577,600
SOI		\$1,815,290	\$1,487,374	\$1,236,124	\$1,094,032	\$1,362,759	\$1,399,116
Non-SOI		\$3,575,635	\$2,886,240	\$2,895,094	\$3,093,343	\$3,442,112	\$3,178,485
% SOI		34%	34%	30%	26%	28%	30%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Gag Grouper Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		586	461	344	362	462	
Response Rate (%)		93%	88%	97%	99%	96%	
<b>SOI Trip</b>							
Owner-Operated		81%	81%	78%	78%	69%	77.4%
Fuel Used per Day at Sea (gallons/day)		38	52	42	43	44	44
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		12.4%	12.7%	8.5%	8.1%	9.4%	10.2%
Bait		4.8%	4.7%	3.9%	3.9%	3.4%	4.1%
Ice		1.9%	2%	1.9%	1.7%	1.4%	1.8%
Groceries		3.9%	3.1%	3.8%	3.3%	3.5%	3.5%
Miscellaneous		3.1%	3%	4.4%	2.2%	2.5%	3%
Hired Crew		36.2%	33.2%	37.2%	36.1%	32.4%	35%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		18.4%	21.3%	20.8%	14.7%	14.7%	18%
<b>Trip Net Cash Flow*</b>		<b>37.8%</b>	<b>41.4%</b>	<b>40.3%</b>	<b>44.9%</b>	<b>47.4%</b>	<b>42.4%</b>
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		19.3%	20%	19.5%	30.1%	32.7%	24.3%
Fuel & Supplies		54.6%	54.5%	58%	50.8%	47.1%	53%
		26%	25.5%	22.5%	19.1%	20.2%	22.7%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.74	\$2.80	\$2.30	\$2.34	\$2.85	\$2.81
Hire Crew Wage (per crew-day)		\$302	\$288	\$299	\$297	\$289	\$295
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		7.8	5.2	6.8	8.1	7.3	7
Landings/Labor Use (lbs/crew-day)		136	127	130	151	147	138

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Gag Grouper Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Vessels		224	204	201	197	198	205
Trips - Total		7,960	6,953	6,879	6,767	6,688	7,049
SOI Trips		1,909	1,591	1,434	1,412	1,414	1,552
Non-SOI Trips		6,051	5,362	5,445	5,355	5,274	5,497
Days at Sea		14,489	12,406	12,379	11,973	11,146	12,479
<b>Landings (gutted lbs)</b>							
Total		4,952,566	4,318,391	4,095,684	4,027,551	3,635,033	4,205,845
SOI		308,872	243,089	201,773	175,302	216,119	229,031
Non-SOI		4,643,694	4,075,302	3,893,910	3,852,248	3,418,914	3,976,814
% SOI		6%	6%	5%	4%	6%	5%
<b>Revenue</b>							
Total		\$16,280,072	\$13,773,591	\$13,636,744	\$12,733,657	\$11,813,847	\$13,647,582
SOI		\$1,815,290	\$1,487,374	\$1,236,124	\$1,094,032	\$1,362,759	\$1,399,116
Non-SOI		\$14,464,783	\$12,286,217	\$12,400,620	\$11,639,625	\$10,451,088	\$12,248,467
% SOI		11%	11%	9%	9%	12%	10%
<b>Vessel Characteristics</b>							
Length		33	33	33	33	33	33
Year Built		1990	1991	1992	1992	1993	1992
For-Hire Fishing Permit		31%	31%	35%	39%	40%	35%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Gag Grouper Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		34	52	39	44	39	
Response Rate (%)		56%	87%	78%	79%	78%	
<b>SOI Vessel</b>							
Owner-Operated		86%	90%	85%	87%	81%	86%
For-Hire Active		20%	21%	11%	14%	15%	16%
Vessel Value		\$62,273	\$78,847	\$102,917	\$77,048	\$124,239	\$89,065
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		16.5%	11.4%	10.2%	10.2%	13.6%	12.4%
Other Supplies		14.2%	12.6%	15.5%	12.6%	11.4%	13.3%
Hired Crew		32.3%	25.7%	32.2%	28.4%	25%	28.7%
Vessel Repair & Maintenance		13.1%	15.9%	13%	13.9%	19.2%	15%
Insurance		1.3%	1.4%	1.8%	2%	3.4%	2%
Overhead		6.2%	8.9%	7.5%	7.2%	8.2%	7.6%
Loan Payment		1.9%	2.8%	3.3%	2%	2.9%	2.6%
IFQ Purchase		0%	0%	0.1%	0.6%	0.4%	0.2%
OC Owner-Captain Time		12.9%	14.7%	14.1%	16.8%	13%	14.3%
<b>Net Cash Flow</b>		14.4%	21.3%	16.4%	23%	15.9%	18.2%
<b>Net Revenue for Operations**</b>							
Depreciation		-0.2%	4.9%	-0.2%	3.5%	-2.2%	1.2%
Vessel R&M, Insur, Overh		3.8%	4.5%	5.8%	5.3%	8.4%	5.6%
Labor - Hired & Owner		20.6%	26.2%	22.3%	23.1%	30.8%	24.6%
Fuel & Supplies		45.2%	40.4%	46.4%	45.3%	38%	43.1%
<b>Economic Return** (on asset value)</b>		-0.3%	5.4%	-0.2%	3.3%	-1.3%	1.4%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Black Sea Bass Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of black sea bass was landed in 2018 using any gear type. For important **disclaimer**, see page 15.

### Trip-Level Summary

#### Effort

Trips	1,567
Vessels	190
Days at Sea	3,428
Crew Days	7,682

#### Landings (gutted lbs)

<u>Total</u>	<u>1,059,195</u>
SOI	202,914
Non-SOI	856,281
% SOI	19%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	78%	34%
Longline	0.1%	0%
Diver	7%	0.5%
Traps/Pots	13%	65%
Other	2%	0.1%

#### Price (mean)

<u>Total</u>	<u>\$3.62</u>
SOI	\$3.48
Non-SOI	\$3.65

#### Revenue

<u>Total</u>	<u>\$3,834,369</u>
SOI	\$705,775
Non-SOI	\$3,128,594
% SOI	18%

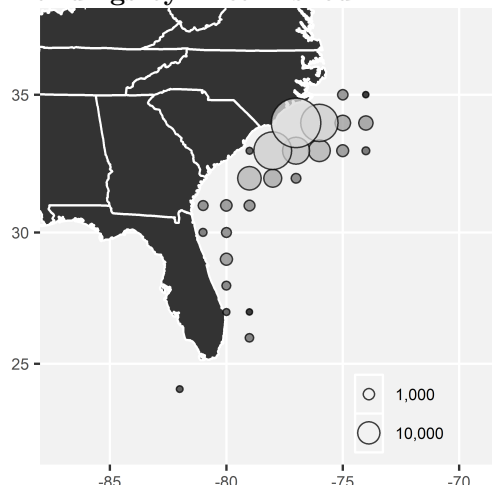
#### Percent of Revenue by Species Group

Shallow Water Groupers	23%
Shallow Water Snappers	0.7%
Mid-Shelf Snappers	31%
Deep Water Groupers/Tilefish	5%
Grunt/Porgy/Sea Bass/Trigger	31%
Mackerels/Dolphinfish/Jacks	6%
Other Species	3%

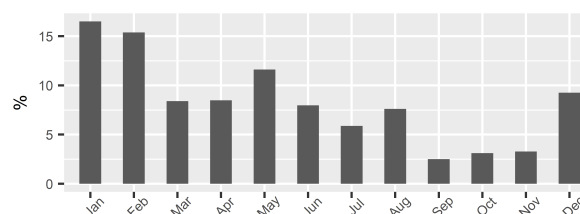
#### Revenue for Top 5 Species

Vermilion Snapper	\$1,057,072
Black Sea bass	\$705,775
Gag Grouper	\$557,665
Gray Triggerfish	\$265,310
Scamp	\$256,745

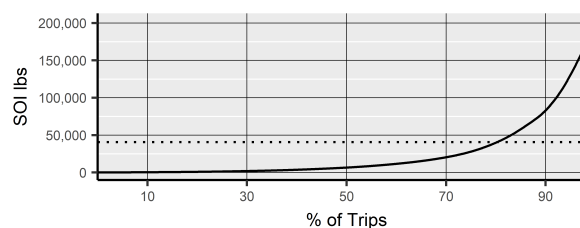
### SOI Landings by Area Fished



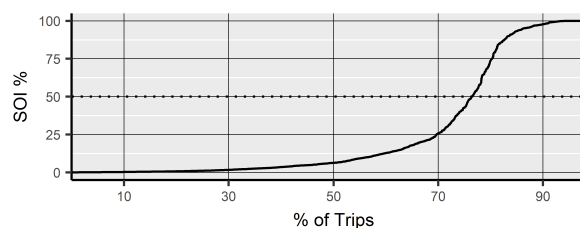
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=1,567)

	Mean	Min	Median	Max
Days at Sea	2.2	1	1	12
Crew Size	2.1	1	2	5
Landings	676	9	446	14,720
Revenue	\$2,447	\$28	\$1,571	\$18,437
SOI	\$450	\$2	\$80	\$6,451
% SOI	27%	0%	6.4%	100%

## SOI: 2018 SAT Black Sea Bass Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	1,567	-	-	-
Selected	595	38%	-	-
Responded	592	38%	99%	-
Used	581	37%	98%	98%

#### Economic Results (n=581)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	66%	6.2	56%	76%	-
Days at Sea	2.1	0.2	1.8	2.4	1
Crew Size	2	0.1	1.9	2.2	2
Fuel Used	92	7	80	103	75
Landings (gutted lbs)	621	75	496	746	364
<b>Total Revenue</b>	2,369	274	1,911	2,827	1,415
<b>Cost</b>					
Fuel	260	18	230	290	228
Bait	85	11	66	104	54
Ice	33	6	23	43	10
Groceries	82	15	56	107	20
Miscellaneous	43	14	20	67	10
Hired Crew	720	124	512	928	245
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	411	59	312	511	150
<b>Trip Net Cash Flow*</b>	1,145	139	913	1,378	743
<b>Trip Net Revenue*</b>	734	116	540	928	473

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 48%	Trip Net Revenue* 31%
	Labor - Hired 30%	Labor - Hired & Owner 48%
	Fuel & Supplies 21%	Fuel & Supplies 21%

#### Input Prices

Fuel Price (average): \$2.84 per gallon

Hired Crew Wage (implicit): \$248 per crew-day

#### Productivity Measures

Landings/Fuel Use: 6.8 lbs/gallon

Landings/Labor Use: 145 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Black Sea Bass Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	190
<u>Trips - Total</u>	<u>5,337</u>
SOI Trips	1,567
Non-SOI Trips	3,770
Days at Sea	10,151
Crew Days	21,788

### Landings (guttled lbs)

<u>Total</u>	<u>3,633,225</u>
SOI	202,914
Non-SOI	3,430,311
% SOI	6%

### Percent by Gear

	Trips	Total lbs
Vertical Line	72%	64%
Longline	3%	8%
Diver	6%	6%
Traps/Pots	4%	5%
Other	15%	18%

### Price (mean)

<u>Total</u>	<u>\$3.08</u>
SOI	\$3.48
Non-SOI	\$3.06

### Revenue

<u>Total</u>	<u>\$11,188,334</u>
SOI	\$705,775
Non-SOI	\$10,482,560
% SOI	6%

### Percent of Revenue by Species Group

Shallow Water Groupers	17%
Shallow Water Snappers	2%
Mid-Shelf Snappers	28%
Deep Water Groupers/Tilefish	12%
Grunt/Porgy/Sea Bass/Trigger	16%
Mackerels/Dolphinfish/Jacks	18%
Other Species	7%

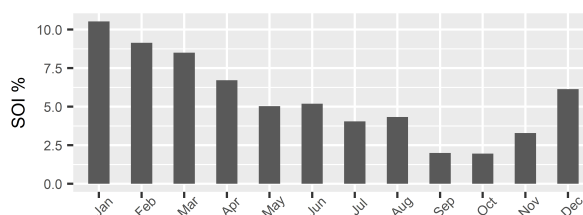
### Revenue for Top 5 Species

Vermilion Snapper	\$2,622,849
Gag Grouper	\$1,160,395
King and Cero Mackerel	\$855,276
Gray Triggerfish	\$729,103
Black Sea bass	\$705,890

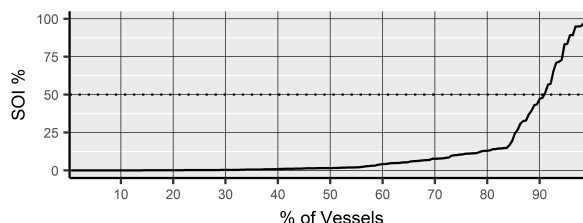
### Annual, Vessel Descriptive Statistics (N=190)

	Mean	Min	Median	Max
Trips	28.1	1	20	205
Days at Sea	53.4	1	40	205
Crew Days	114.7	2	77	438
Landings	19,122	95	11,806	163,037
Revenue	\$58,886	\$193	\$38,484	\$277,165
SOI	\$3,715	\$3	\$508	\$77,344
% SOI	12.7%	0%	1.6%	100%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	1%
SAT Snapper & Grouper - Unlimited	98%
SAT Snapper & Grouper - Limited	3%
King Mackerel	68%
Spanish Mackerel	63%
Dolphin-Wahoo	95%
Other Commercial Fishing	36%
For-Hire Fishing	39%

### Vessel Characteristics (N=190)

	Mean	Min	Median	Max
Length	34	19	33	70
Year Built	1992	1954	1989.5	2018
Horsepower	413	85	372.5	1,400
Fiberglass Hull	96%	-	-	-
Diesel Engine	68%	-	-	-
Ice Refrigeration	96%	-	-	-

## SOI: 2018 SAT Black Sea Bass Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	190	-	-	-
Selected	54	28%	-	-
Responded	45	24%	83%	-
Used	45	24%	83%	100%

#### Economic Results (n=45)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	77%	5.9	67%	87%	-
For-Hire Active	12%	4.6	5%	20%	-
Days - Commercial Fishing	60	5.7	51	70	62
Days - For-Hire Fishing	9	4.8	1	17	0
Days - Non-fishing	1	0.5	0	2	0
Vessel Value	86,830	8,420	72,676	100,985	75,000
Has Insurance	62%	6.8	51%	73%	-
<b>Total Revenue</b>					
Commercial Fishing	68,676	7,070	56,790	80,562	56,021
For-Hire Fishing	63,460	7,231	51,304	75,616	50,359
	5,216	2,549	931	9,500	0
<b>Cost</b>					
Fuel	8,894	1,014	7,190	10,598	7,332
Other Supplies	7,312	938	5,735	8,889	5,000
Hired Crew	18,821	2,682	14,312	23,330	9,352
Vessel Repair & Maintenance	13,452	2,287	9,608	17,296	8,780
Insurance	2,182	374	1,554	2,810	800
Overhead	6,263	989	4,600	7,926	3,600
Loan Payment	1,780	651	685	2,875	0
IFQ Purchase	213	195	-115	541	0
OC Owner-Captain Time	8,758	1,567	6,124	11,392	2,732
Depreciation	4,342	421	3,634	5,049	3,750
<b>Net Cash Flow</b>	<b>9,759</b>	<b>3,782</b>	<b>3,401</b>	<b>16,117</b>	<b>8,400</b>
<b>Net Revenue from Operations**</b>	<b>-1,348</b>	<b>3,527</b>	<b>-7,277</b>	<b>4,581</b>	<b>-2,336</b>

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 15%	Net Revenue - Operations -2%
	Loan Payment 3%	Depreciation 6%
	Vessel R&M, Insur, Overh 32%	Vessel R&M, Insur, Overh 32%
	Labor - Hired Crew 27%	Labor - Hired & Owner 40%
	Fuel & Supplies 24%	Fuel & Supplies 24%

**Economic Return\*\* (on Vessel Asset Value): -1.6%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Black Sea Bass Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		2,535	2,006	1,914	2,030	1,567	2,010
Vessels		225	198	186	212	190	202
Days at Sea		5,918	4,828	4,057	4,213	3,428	4,489
<b>Landings (gutted lbs)</b>							
Total		1,741,206	1,393,028	1,165,688	1,249,328	1,059,195	1,321,689
SOI		365,007	251,988	210,004	274,789	202,914	260,940
Non-SOI		1,376,198	1,141,039	955,684	974,539	856,281	1,060,748
% SOI		21%	18%	18%	22%	19%	20%
<b>Price (mean)</b>							
Total		\$3.46	\$3.59	\$3.71	\$3.65	\$3.62	\$3.61
SOI		\$3.20	\$3.46	\$3.67	\$3.42	\$3.48	\$3.45
Non-SOI		\$3.52	\$3.63	\$3.72	\$3.72	\$3.65	\$3.65
<b>Revenue</b>							
Total		\$6,021,441	\$5,008,861	\$4,335,341	\$4,556,836	\$3,834,369	\$4,751,370
SOI		\$1,170,834	\$870,807	\$771,082	\$939,076	\$705,775	\$891,515
Non-SOI		\$4,850,607	\$4,138,054	\$3,564,260	\$3,617,760	\$3,128,594	\$3,859,855
% SOI		19%	17%	18%	21%	18%	19%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Black Sea Bass Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		740	587	458	585	581	
Response Rate (%)		91%	92%	99%	96%	98%	
<b>SOI Trip</b>							
Owner-Operated		74%	81%	75%	72%	66%	73.6%
Fuel Used per Day at Sea (gallons/day)		41	52	42	50	44	46
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		14.5%	12.6%	9.2%	10.4%	11%	11.5%
Bait		4.7%	4.8%	3.8%	4.5%	3.6%	4.3%
Ice		2%	2.1%	2%	1.7%	1.4%	1.8%
Groceries		3.5%	3.3%	3.5%	3.3%	3.4%	3.4%
Miscellaneous		2.7%	2.5%	2.9%	1.8%	1.8%	2.3%
Hired Crew		36.7%	32.3%	39.7%	33.3%	30.4%	34.5%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		19.1%	19.4%	19.8%	16.2%	17.4%	18.4%
<b>Trip Net Cash Flow*</b>		<b>35.8%</b>	<b>42.4%</b>	<b>39%</b>	<b>45.1%</b>	<b>48.3%</b>	<b>42.1%</b>
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		16.7%	23%	19.1%	28.9%	31%	23.7%
Fuel & Supplies		55.8%	51.7%	59.5%	49.5%	47.8%	52.9%
		27.5%	25.3%	21.4%	21.6%	21.3%	23.4%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.74	\$2.81	\$2.21	\$2.32	\$2.84	\$2.78
Hire Crew Wage (per crew-day)		\$269	\$273	\$298	\$278	\$248	\$273
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		7.4	5.9	6.2	6.6	6.8	7
Landings/Labor Use (lbs/crew-day)		138	140	125	159	145	141

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Black Sea Bass Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

<b>Annual, Vessel-Level Summary</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018***</b>	<b>Average</b>
<b>Effort</b>							
Vessels		225	198	186	212	190	202
Trips - Total		7,001	5,685	5,655	6,120	5,337	5,960
SOI Trips		<u>2,535</u>	<u>2,006</u>	<u>1,914</u>	<u>2,030</u>	<u>1,567</u>	<u>2,010</u>
Non-SOI Trips		4,466	3,679	3,741	4,090	3,770	3,949
Days at Sea		13,486	11,527	10,612	11,659	10,151	11,487
<b>Landings (gutted lbs)</b>							
Total		<u>5,146,377</u>	<u>4,004,385</u>	<u>3,809,395</u>	<u>3,908,087</u>	<u>3,633,225</u>	<u>4,100,294</u>
SOI		<u>365,007</u>	<u>251,988</u>	<u>210,004</u>	<u>274,789</u>	<u>202,914</u>	<u>260,940</u>
Non-SOI		4,781,369	3,752,397	3,599,391	3,633,298	3,430,311	3,839,353
% SOI		7%	6%	6%	7%	6%	6%
<b>Revenue</b>							
Total		<u>\$14,866,002</u>	<u>\$12,927,279</u>	<u>\$11,367,716</u>	<u>\$12,353,211</u>	<u>\$11,188,334</u>	<u>\$12,540,508</u>
SOI		<u>\$1,170,834</u>	<u>\$870,807</u>	<u>\$771,082</u>	<u>\$939,076</u>	<u>\$705,775</u>	<u>\$891,515</u>
Non-SOI		\$13,695,167	\$12,056,472	\$10,596,635	\$11,414,135	\$10,482,560	\$11,648,994
% SOI		8%	7%	7%	8%	6%	7%
<b>Vessel Characteristics</b>							
Length		34	34	34	34	34	34
Year Built		1990	1990	1991	1992	1992	1991
For-Hire Fishing Permit		37%	32%	36%	39%	39%	37%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Black Sea Bass Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		36	48	38	47	45	
Response Rate (%)		57%	87%	79%	75%	83%	
<b>SOI Vessel</b>							
Owner-Operated		81%	88%	84%	80%	77%	82%
For-Hire Active		26%	19%	15%	19%	12%	18%
Vessel Value		\$68,289	\$83,034	\$90,609	\$89,172	\$86,830	\$83,587
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		17.4%	12.1%	11.7%	10.9%	13%	13%
Other Supplies		13.4%	15.5%	15.2%	11.6%	10.6%	13.3%
Hired Crew		33.7%	26.9%	34.8%	32.7%	27.4%	31.1%
Vessel Repair & Maintenance		16.3%	17.9%	13.7%	12.7%	19.6%	16%
Insurance		1.2%	1.7%	2.2%	2.5%	3.2%	2.2%
Overhead		7.5%	8.4%	7%	8.6%	9.1%	8.1%
Loan Payment		2.9%	5.4%	5.5%	2.1%	2.6%	3.7%
IFQ Purchase		0%	0%	0%	0%	0.3%	0.1%
OC Owner-Captain Time		12.5%	13.1%	15.4%	10.6%	12.8%	12.9%
<b>Net Cash Flow</b>		7.7%	12.2%	10.1%	18.8%	14.2%	12.6%
<b>Net Revenue for Operations**</b>							
Depreciation		-6.2%	-0.3%	-5.9%	5.1%	-2%	-1.9%
Vessel R&M, Insur, Overh		4.2%	4.7%	6.1%	5.1%	6.3%	5.3%
Labor - Hired & Owner		25%	28%	22.8%	23.9%	31.9%	26.3%
Fuel & Supplies		46.2%	40%	50.1%	43.4%	40.2%	44%
<b>Economic Return** (on asset value)</b>		-7.3%	-0.3%	-4.8%	5%	-1.6%	-1.8%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Triggerfish Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of gray triggerfish was landed in 2018 using any gear type. An Ecosystem Component Species — ocean triggerfish — is also included; landings for this species are negligible. For important **disclaimer**, see page 15.

### Trip-Level Summary

#### Effort

Trips	1,838
Vessels	226
Days at Sea	5,366
Crew Days	12,922

#### Landings (gutted lbs)

<u>Total</u>	1,731,479
SOI	293,503
Non-SOI	1,437,976
% SOI	17%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	85%	97%
Longline	0.2%	0%
Diver	9%	2%
Traps/Pots	4%	0.7%
Other	2%	0.1%

#### Price (mean)

<u>Total</u>	\$3.53
SOI	\$2.72
Non-SOI	\$3.69

#### Revenue

<u>Total</u>	\$6,103,846
SOI	\$797,030
Non-SOI	\$5,306,816
% SOI	13%

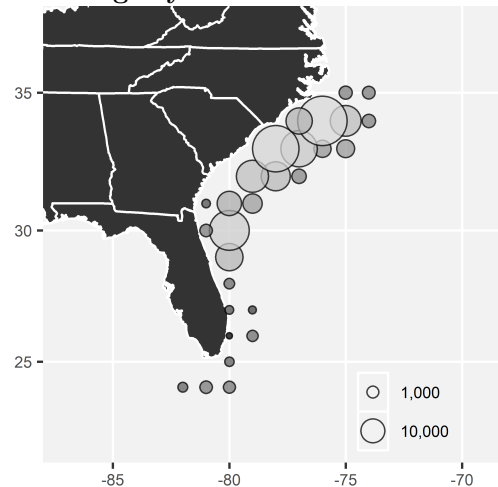
#### Percent of Revenue by Species Group

Shallow Water Groupers	19%
Shallow Water Snappers	2%
Mid-Shelf Snappers	40%
Deep Water Groupers/Tilefish	6%
Grunt/Porgy/Sea Bass/Trigger	22%
Mackerels/Dolphinfish/Jacks	8%
Other Species	2%

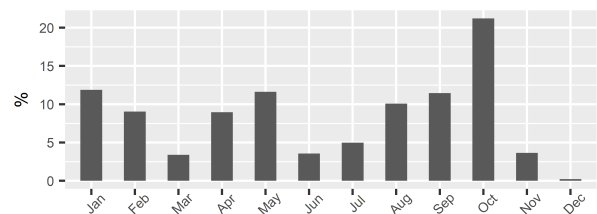
#### Revenue for Top 5 Species

Vermilion Snapper	\$2,242,084
Gray Triggerfish	\$781,619
Gag Grouper	\$642,697
Scamp	\$346,814
Greater Amberjack	\$236,890

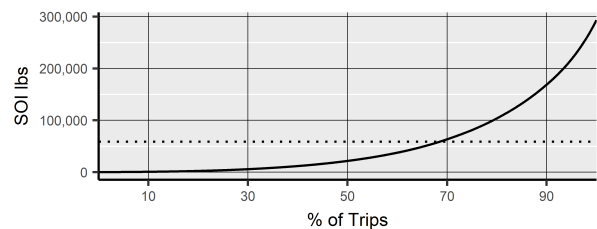
### SOI Landings by Area Fished



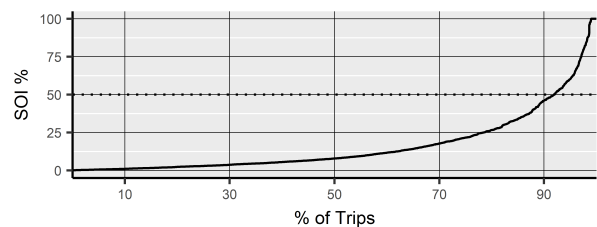
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=1,838)

	Mean	Min	Median	Max
Days at Sea	2.9	1	3	12
Crew Size	2.3	1	2	6
Landings	942	11	781	4,402
Revenue	\$3,321	\$19	\$2,688	\$16,027
SOI	\$434	\$1	\$184	\$3,012
% SOI	16%	0%	7.9%	100%

## SOI: 2018 SAT Triggerfish Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	1,838	-	-	-
Selected	619	34%	-	-
Responded	615	33%	99%	-
Used	604	33%	98%	98%

#### Economic Results (n=604)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	72%	5	64%	81%	-
Days at Sea	2.6	0.2	2.3	2.9	2
Crew Size	2.3	0.1	2.1	2.4	2
Fuel Used	115	6	105	126	100
Landings (gutted lbs)	845	65	736	953	627
<b>Total Revenue</b>	3,077	262	2,640	3,514	2,256
<b>Cost</b>					
Fuel	326	17	297	354	288
Bait	107	13	86	128	60
Ice	48	6	39	57	20
Groceries	121	15	96	147	40
Miscellaneous	58	18	28	87	0
Hired Crew	1,029	107	850	1,208	575
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	392	52	306	478	99
<b>Trip Net Cash Flow*</b>	1,388	149	1,140	1,637	1,065
<b>Trip Net Revenue*</b>	996	119	798	1,195	710

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 45%	Trip Net Revenue* 32%
	Labor - Hired 33%	Labor - Hired & Owner 46%
	Fuel & Supplies 21%	Fuel & Supplies 21%

#### Input Prices

Fuel Price (average): \$2.82 per gallon

Hired Crew Wage (implicit): \$255 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7.3 lbs/gallon

Landings/Labor Use: 142 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Triggerfish Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	226
<u>Trips - Total</u>	<u>6,583</u>
SOI Trips	1,838
Non-SOI Trips	4,745
Days at Sea	12,007
Crew Days	25,985

### Landings (guttled lbs)

<u>Total</u>	<u>4,016,753</u>
SOI	293,503
Non-SOI	3,723,249
% SOI	7%

### Percent by Gear

	Trips	Total lbs
Vertical Line	74%	70%
Longline	2%	7%
Diver	7%	6%
Traps/Pots	3%	4%
Other	14%	13%

### Price (mean)

<u>Total</u>	<u>\$3.20</u>
SOI	\$2.72
Non-SOI	\$3.24

### Revenue

<u>Total</u>	<u>\$12,853,207</u>
SOI	\$797,030
Non-SOI	\$12,056,176
% SOI	6%

### Percent of Revenue by Species Group

Shallow Water Groupers	17%
Shallow Water Snappers	7%
Mid-Shelf Snappers	27%
Deep Water Groupers/Tilefish	11%
Grunt/Porgy/Sea Bass/Trigger	15%
Mackerels/Dolphinfish/Jacks	17%
Other Species	6%

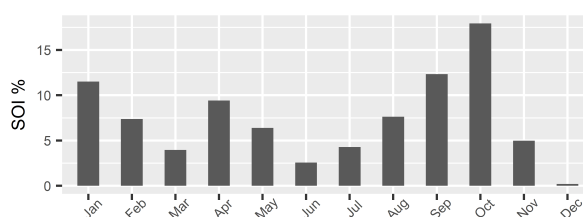
### Revenue for Top 5 Species

Vermilion Snapper	\$2,843,431
Gag Grouper	\$1,281,561
King and Cero Mackerel	\$866,859
Gray Triggerfish	\$784,863
Greater Amberjack	\$759,999

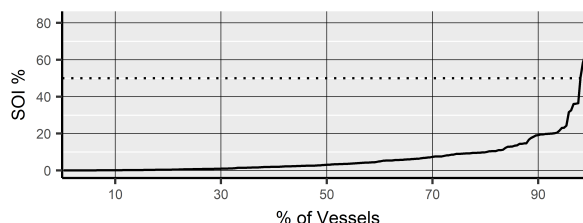
### Annual, Vessel Descriptive Statistics (N=226)

	Mean	Min	Median	Max
Trips	29.1	1	21	205
Days at Sea	53.1	1	39	205
Crew Days	115	2	78	438
Landings	17,773	95	10,112	163,037
Revenue	\$56,873	\$193	\$33,061	\$277,165
SOI	\$3,527	\$1	\$645	\$36,247
% SOI	7.3%	0%	3.1%	82.2%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	4%
SAT Snapper & Grouper - Unlimited	96%
SAT Snapper & Grouper - Limited	5%
King Mackerel	66%
Spanish Mackerel	66%
Dolphin-Wahoo	95%
Other Commercial Fishing	33%
For-Hire Fishing	36%

### Vessel Characteristics (N=226)

	Mean	Min	Median	Max
Length	34	20	32	70
Year Built	1992	1954	1989	2018
Horsepower	421	115	370	1,400
Fiberglass Hull	96%	-	-	-
Diesel Engine	63%	-	-	-
Ice Refrigeration	93%	-	-	-

## SOI: 2018 SAT Triggerfish Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	226	-	-	-
Selected	66	29%	-	-
Responded	57	25%	86%	-
Used	57	25%	86%	100%

#### Economic Results (n=57)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	82%	4.6	74%	90%	-
For-Hire Active	13%	4	6%	20%	-
Days - Commercial Fishing	69	5.9	59	78	62
Days - For-Hire Fishing	7	3.5	1	13	0
Days - Non-fishing	2	0.7	0	3	0
Vessel Value	102,587	14,104	78,990	126,183	75,000
Has Insurance	57%	5.9	47%	67%	-
<b>Total Revenue</b>					
Commercial Fishing	77,874	11,135	59,246	96,503	51,234
For-Hire Fishing	73,597	11,207	54,847	92,347	47,627
	4,277	1,855	1,174	7,380	0
<b>Cost</b>					
Fuel	11,933	2,946	7,004	16,862	7,332
Other Supplies	7,737	876	6,272	9,202	4,500
Hired Crew	17,299	2,262	13,515	21,084	8,559
Vessel Repair & Maintenance	12,733	1,972	9,433	16,032	8,000
Insurance	2,155	338	1,590	2,720	739
Overhead	5,727	820	4,355	7,099	3,100
Loan Payment	1,483	497	652	2,314	0
IFQ Purchase	182	134	-42	406	0
OC Owner-Captain Time	8,775	1,323	6,562	10,988	3,938
Depreciation	5,129	705	3,950	6,309	3,750
<b>Net Cash Flow</b>	18,625	7,009	6,898	30,352	9,700
<b>Net Revenue from Operations**</b>	6,386	6,832	-5,045	17,817	-2,336

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 24%	Net Revenue - Operations 8%
		Depreciation 7%
	Loan Payment 2%	Vessel R&M, Insur, Overh 26%
	Vessel R&M, Insur, Overh 26%	
	Labor - Hired Crew 22%	Labor - Hired & Owner 33%
	Fuel & Supplies 25%	Fuel & Supplies 25%

**Economic Return\*\* (on Vessel Asset Value): 6.2%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Triggerfish Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		1,150	1,701	1,856	2,253	1,838	1,760
Vessels		207	233	222	238	226	225
Days at Sea		3,079	4,732	5,354	6,175	5,366	4,941
<b>Landings (gutted lbs)</b>							
Total		1,066,892	1,614,154	1,732,465	1,979,787	1,731,479	1,624,955
SOI		249,783	303,454	270,899	296,023	293,503	282,732
Non-SOI		817,108	1,310,700	1,461,566	1,683,764	1,437,976	1,342,223
% SOI		23%	19%	16%	15%	17%	18%
<b>Price (mean)</b>							
Total		\$3.29	\$3.43	\$3.54	\$3.60	\$3.53	\$3.48
SOI		\$2.60	\$2.59	\$2.71	\$2.92	\$2.72	\$2.71
Non-SOI		\$3.50	\$3.63	\$3.69	\$3.73	\$3.69	\$3.65
<b>Revenue</b>							
Total		\$3,511,046	\$5,532,710	\$6,131,047	\$7,142,250	\$6,103,846	\$5,684,180
SOI		\$649,572	\$785,985	\$734,021	\$863,323	\$797,030	\$765,986
Non-SOI		\$2,861,474	\$4,746,725	\$5,397,026	\$6,278,927	\$5,306,816	\$4,918,194
% SOI		19%	14%	12%	12%	13%	14%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Triggerfish Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		313	362	390	739	604	
Response Rate (%)		92%	78%	98%	98%	98%	
<b>SOI Trip</b>							
Owner-Operated		78%	83%	74%	71%	72%	75.6%
Fuel Used per Day at Sea (gallons/day)		42	46	44	44	44	44
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		13.8%	10.2%	8.5%	8.7%	10.6%	10.4%
Bait		3.6%	3.7%	3.8%	3.6%	3.5%	3.6%
Ice		2.1%	2.2%	2.3%	2%	1.6%	2%
Groceries		3.8%	4%	4.8%	4%	3.9%	4.1%
Miscellaneous		2.4%	1.9%	3.1%	2.1%	1.9%	2.3%
Hired Crew		39.4%	35.8%	39%	38.3%	33.4%	37.2%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		16.8%	12.7%	15.5%	12.5%	12.7%	14%
<b>Trip Net Cash Flow*</b>		<b>34.8%</b>	<b>42.2%</b>	<b>38.5%</b>	<b>41.4%</b>	<b>45.1%</b>	<b>40.4%</b>
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		18.1%	29.5%	23%	28.9%	32.4%	26.4%
Fuel & Supplies		56.2%	48.5%	54.4%	50.7%	46.2%	51.2%
		25.8%	22%	22.5%	20.4%	21.4%	22.4%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.79	\$2.74	\$2.07	\$2.30	\$2.82	\$2.74
Hire Crew Wage (per crew-day)		\$274	\$263	\$246	\$274	\$255	\$262
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		8.3	7.9	6.7	7.8	7.3	8
Landings/Labor Use (lbs/crew-day)		144	144	122	147	142	140

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Triggerfish Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

<b>Annual, Vessel-Level Summary</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018***</b>	<b>Average</b>
<b>Effort</b>							
Vessels		207	233	222	238	226	225
Trips - Total		8,106	7,609	7,577	7,968	6,583	7,569
SOI Trips		1,150	1,701	1,856	2,253	1,838	1,760
Non-SOI Trips		6,956	5,908	5,721	5,715	4,745	5,809
Days at Sea		14,795	14,217	13,535	13,938	12,007	13,698
<b>Landings (gutted lbs)</b>							
Total		4,952,137	4,370,719	4,494,436	4,604,787	4,016,753	4,487,766
SOI		249,783	303,454	270,899	296,023	293,503	282,732
Non-SOI		4,702,353	4,067,264	4,223,537	4,308,764	3,723,249	4,205,033
% SOI		5%	7%	6%	6%	7%	6%
<b>Revenue</b>							
Total		\$16,275,243	\$14,986,469	\$14,268,916	\$15,013,892	\$12,853,207	\$14,679,545
SOI		\$649,572	\$785,985	\$734,021	\$863,323	\$797,030	\$765,986
Non-SOI		\$15,625,671	\$14,200,484	\$13,534,894	\$14,150,569	\$12,056,176	\$13,913,559
% SOI		4%	5%	5%	6%	6%	5%
<b>Vessel Characteristics</b>							
Length		33	33	34	33	34	33
Year Built		1989	1989	1992	1991	1992	1991
For-Hire Fishing Permit		35%	31%	37%	34%	36%	35%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Triggerfish Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		32	51	43	53	57	
Response Rate (%)		51%	81%	78%	76%	86%	
<b>SOI Vessel</b>							
Owner-Operated		84%	90%	83%	79%	82%	84%
For-Hire Active		25%	22%	20%	20%	13%	20%
Vessel Value		\$74,373	\$81,666	\$113,171	\$97,867	\$102,587	\$93,933
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		15.5%	11.7%	11.2%	10.6%	15.3%	12.9%
Other Supplies		12.4%	15.1%	14.8%	11.8%	9.9%	12.8%
Hired Crew		31.9%	27.5%	30.3%	32%	22.2%	28.8%
Vessel Repair & Maintenance		12.6%	17.3%	13.1%	11%	16.4%	14.1%
Insurance		1.3%	1.7%	2.2%	2%	2.8%	2%
Overhead		6.5%	8%	6%	7.2%	7.4%	7%
Loan Payment		2.2%	4.5%	5.5%	1.9%	1.9%	3.2%
IFQ Purchase		0%	0%	0%	0.3%	0.2%	0.1%
OC Owner-Captain Time		15.2%	13.1%	12.4%	9%	11.3%	12.2%
<b>Net Cash Flow</b>		17.5%	14.3%	16.9%	23.2%	23.9%	19.2%
<b>Net Revenue for Operations**</b>							
Depreciation		0.1%	1.1%	3.7%	12.2%	8.2%	5.1%
Vessel R&M, Insur, Overh		4.4%	4.6%	6.4%	4.3%	6.6%	5.3%
Labor - Hired & Owner		20.4%	27%	21.3%	20.1%	26.5%	23.1%
Fuel & Supplies		47.1%	40.6%	42.7%	41%	33.5%	41%
<b>Economic Return** (on asset value)</b>		28%	26.8%	26%	22.4%	25.3%	25.7%
		0.1%	1.2%	2.9%	14.2%	6.2%	4.9%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Scamp Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of scamp grouper was landed in 2018 using any gear type. For important **disclaimer**, see page 15.

### Trip-Level Summary

#### Effort

Trips	911
Vessels	144
Days at Sea	3,547
Crew Days	8,573

#### Landings (gutted lbs)

<u>Total</u>	1,182,244
SOI	87,919
Non-SOI	1,094,325
% SOI	7%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	86%	75%
Longline	0%	0%
Diver	13%	24%
Traps/Pots	0.7%	0.3%
Other	0.2%	0%

#### Price (mean)

<u>Total</u>	\$3.71
SOI	\$6.22
Non-SOI	\$3.51

#### Revenue

<u>Total</u>	\$4,387,118
SOI	\$546,668
Non-SOI	\$3,840,450
% SOI	12%

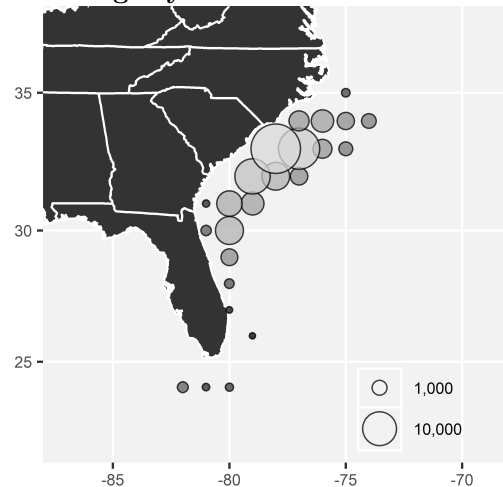
#### Percent of Revenue by Species Group

Shallow Water Groupers	38%
Shallow Water Snappers	2%
Mid-Shelf Snappers	29%
Deep Water Groupers/Tilefish	4%
Grunt/Porgy/Sea Bass/Trigger	15%
Mackerels/Dolphinfish/Jacks	10%
Other Species	2%

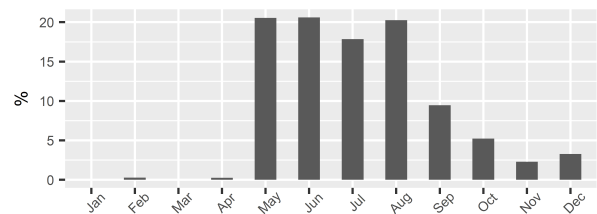
#### Revenue for Top 5 Species

Vermilion Snapper	\$1,137,780
Gag Grouper	\$916,539
Scamp	\$546,668
Gray Triggerfish	\$290,245
Greater Amberjack	\$237,566

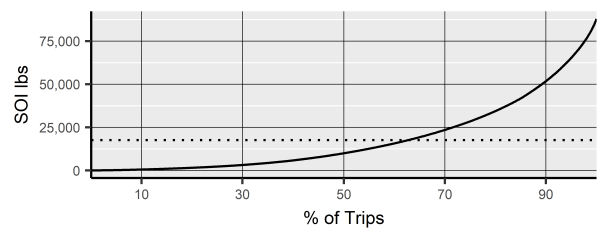
### SOI Landings by Area Fished



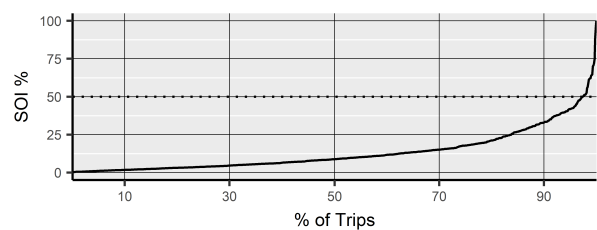
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=911)

	Mean	Min	Median	Max
Days at Sea	3.9	1	4	14
Crew Size	2.3	1	2	5
Landings	1,298	21	1,170	14,720
Revenue	\$4,816	\$118	\$4,315	\$18,437
SOI	\$600	\$5	\$320	\$6,738
% SOI	14%	0.1%	8.8%	100%

## SOI: 2018 SAT Scamp Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	911	-	-	-
Selected	332	36%	-	-
Responded	328	36%	99%	-
Used	326	36%	98%	99%

#### Economic Results (n=326)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	64%	7.8	51%	78%	-
Days at Sea	3.6	0.2	3.1	4	3
Crew Size	2.4	0.1	2.3	2.5	2
Fuel Used	143	8	129	157	120
Landings (gutted lbs)	1,076	79	943	1,210	870
<b>Total Revenue</b>	<b>4,398</b>	<b>333</b>	<b>3,837</b>	<b>4,959</b>	<b>3,407</b>
<b>Cost</b>					
Fuel	404	21	368	440	348
Bait	153	20	120	186	100
Ice	68	9	54	83	50
Groceries	185	21	149	221	111
Miscellaneous	99	22	61	136	0
Hired Crew	1,541	143	1,300	1,782	994
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	552	76	424	679	74
<b>Trip Net Cash Flow*</b>	<b>1,948</b>	<b>185</b>	<b>1,636</b>	<b>2,260</b>	<b>1,413</b>
<b>Trip Net Revenue*</b>	<b>1,397</b>	<b>148</b>	<b>1,147</b>	<b>1,646</b>	<b>1,065</b>

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 44%	Trip Net Revenue* 32%
	Labor - Hired 35%	Labor - Hired & Owner 48%
	Fuel & Supplies 21%	Fuel & Supplies 21%

#### Input Prices

Fuel Price (average): \$2.82 per gallon

Hired Crew Wage (implicit): \$247 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7.5 lbs/gallon

Landings/Labor Use: 126 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Scamp Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	144
<u>Trips - Total</u>	<u>4,509</u>
SOI Trips	911
Non-SOI Trips	3,598
Days at Sea	9,406
Crew Days	20,974

### Landings (guttled lbs)

<u>Total</u>	<u>3,146,387</u>
SOI	87,919
Non-SOI	3,058,468
% SOI	3%

### Percent by Gear

	Trips	Total lbs
Vertical Line	86%	80%
Longline	0.8%	3%
Diver	5%	6%
Traps/Pots	1%	2%
Other	7%	7%

### Price (mean)

<u>Total</u>	<u>\$3.35</u>
SOI	\$6.22
Non-SOI	\$3.27

### Revenue

<u>Total</u>	<u>\$10,546,777</u>
SOI	\$546,668
Non-SOI	\$10,000,109
% SOI	5%

### Percent of Revenue by Species Group

Shallow Water Groupers	20%
Shallow Water Snappers	5%
Mid-Shelf Snappers	30%
Deep Water Groupers/Tilefish	10%
Grunt/Porgy/Sea Bass/Trigger	14%
Mackerels/Dolphinfish/Jacks	17%
Other Species	4%

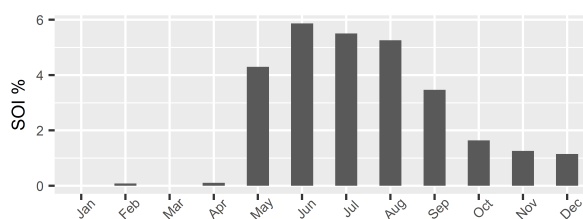
### Revenue for Top 5 Species

Vermilion Snapper	\$2,669,429
Gag Grouper	\$1,234,259
Gray Triggerfish	\$718,640
King and Cero Mackerel	\$641,491
Greater Amberjack	\$607,209

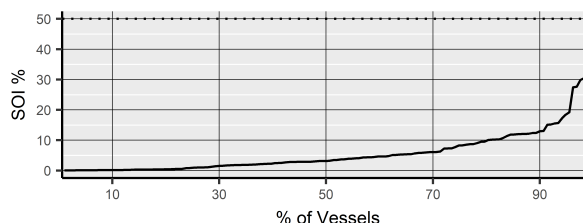
### Annual, Vessel Descriptive Statistics (N=144)

	Mean	Min	Median	Max
Trips	31.3	1	22	205
Days at Sea	65.3	1	64	205
Crew Days	145.7	3	128	438
Landings	21,850	95	18,368	162,736
Revenue	\$73,242	\$193	\$67,658	\$236,055
SOI	\$3,796	\$18	\$1,327	\$36,984
% SOI	5.7%	0%	3.2%	35.1%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	3%
SAT Snapper & Grouper - Unlimited	98%
SAT Snapper & Grouper - Limited	3%
King Mackerel	66%
Spanish Mackerel	61%
Dolphin-Wahoo	97%
Other Commercial Fishing	38%
For-Hire Fishing	44%

### Vessel Characteristics (N=144)

	Mean	Min	Median	Max
Length	34	23	33	53
Year Built	1992	1967	1990	2018
Horsepower	420	150	375	1,400
Fiberglass Hull	97%	-	-	-
Diesel Engine	68%	-	-	-
Ice Refrigeration	93%	-	-	-

## SOI: 2018 SAT Scamp Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	144	-	-	-
Selected	42	29%	-	-
Responded	33	23%	79%	-
Used	33	23%	79%	100%

#### Economic Results (n=33)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	77%	7.5	64%	90%	-
For-Hire Active	16%	6.6	5%	28%	-
Days - Commercial Fishing	66	5.7	56	76	66
Days - For-Hire Fishing	9	6.8	-2	21	0
Days - Non-fishing	1	0.4	0	1	0
Vessel Value	98,141	10,485	80,363	115,920	80,000
Has Insurance	66%	8.4	52%	80%	-
<b>Total Revenue</b>					
Commercial Fishing	74,548	7,440	61,933	87,164	73,800
For-Hire Fishing	69,288	7,304	56,905	81,671	63,596
	5,260	3,663	-951	11,471	0
<b>Cost</b>					
Fuel	9,258	1,358	6,955	11,562	6,500
Other Supplies	7,907	1,035	6,152	9,662	5,000
Hired Crew	20,292	3,067	15,092	25,492	10,384
Vessel Repair & Maintenance	15,857	2,779	11,145	20,569	10,000
Insurance	2,365	433	1,631	3,098	1,131
Overhead	6,955	1,273	4,797	9,113	4,700
Loan Payment	1,676	618	628	2,724	0
IFQ Purchase	85	80	-50	221	0
OC Owner-Captain Time	10,383	1,930	7,110	13,656	3,938
Depreciation	4,907	524	4,018	5,796	4,000
<b>Net Cash Flow</b>	10,152	4,448	2,611	17,694	10,324
<b>Net Revenue from Operations**</b>	-3,376	3,987	-10,136	3,383	-1,726

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 14%	Net Revenue - Operations -5%
	Loan Payment 2%	Depreciation 7%
	Vessel R&M, Insur, Overh 34%	Vessel R&M, Insur, Overh 34%
	Labor - Hired Crew 27%	Labor - Hired & Owner 41%
	Fuel & Supplies 23%	Fuel & Supplies 23%

**Economic Return\*\* (on Vessel Asset Value): -3.4%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Scamp Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		1,169	1,036	910	972	911	1,000
Vessels		159	151	142	151	144	149
Days at Sea		4,501	4,040	3,561	3,642	3,547	3,858
<b>Landings (guttled lbs)</b>							
Total		1,362,835	1,221,525	1,090,115	1,112,977	1,182,244	1,193,939
SOI		145,120	114,821	104,289	103,466	87,919	111,123
Non-SOI		1,217,715	1,106,704	985,827	1,009,511	1,094,325	1,082,816
% SOI		11%	9%	10%	9%	7%	9%
<b>Price (mean)</b>							
Total		\$3.60	\$3.71	\$3.79	\$3.83	\$3.71	\$3.73
SOI		\$6.02	\$6.20	\$6.33	\$6.42	\$6.22	\$6.24
Non-SOI		\$3.31	\$3.46	\$3.53	\$3.56	\$3.51	\$3.47
<b>Revenue</b>							
Total		\$4,902,135	\$4,538,836	\$4,133,411	\$4,257,476	\$4,387,118	\$4,443,795
SOI		\$874,406	\$712,279	\$660,794	\$664,113	\$546,668	\$691,652
Non-SOI		\$4,027,728	\$3,826,557	\$3,472,617	\$3,593,364	\$3,840,450	\$3,752,143
% SOI		18%	16%	16%	16%	12%	16%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Scamp Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		353	218	209	303	326	
Response Rate (%)		92%	88%	98%	100%	98%	
<b>SOI Trip</b>							
Owner-Operated		68%	73%	68%	69%	64%	68.4%
Fuel Used per Day at Sea (gallons/day)		39	44	38	40	40	40
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		12.4%	10%	7.7%	7.6%	9.2%	9.4%
Bait		5%	4.6%	4.5%	3.9%	3.5%	4.3%
Ice		2.1%	2.5%	2.3%	1.8%	1.6%	2.1%
Groceries		4.2%	4.5%	5.1%	3.9%	4.2%	4.4%
Miscellaneous		2.8%	2.6%	4.3%	2.3%	2.2%	2.8%
Hired Crew		37.6%	35.3%	38.1%	37.7%	35%	36.7%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		15.6%	10.8%	15.1%	12.1%	12.5%	13.2%
<b>Trip Net Cash Flow*</b>		<b>36%</b>	<b>40.5%</b>	<b>38.2%</b>	<b>42.8%</b>	<b>44.3%</b>	<b>40.4%</b>
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		20.3%	29.7%	23.1%	30.7%	31.8%	27.1%
Fuel & Supplies		53.3%	46.1%	53.2%	49.8%	47.6%	50%
		26.4%	24.2%	23.8%	19.5%	20.7%	22.9%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.69	\$2.72	\$2.19	\$2.28	\$2.82	\$2.74
Hire Crew Wage (per crew-day)		\$253	\$229	\$243	\$277	\$247	\$250
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		8	7.6	7.5	8.5	7.5	8
Landings/Labor Use (lbs/crew-day)		130	130	119	147	126	130

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Scamp Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Summary						
	2014	2015	2016	2017	2018***	Average
<b>Effort</b>						
Vessels	159	151	142	151	144	149
Trips - Total	5,251	4,698	4,775	4,809	4,509	4,808
SOI Trips	<u>1,169</u>	<u>1,036</u>	<u>910</u>	<u>972</u>	<u>911</u>	<u>1,000</u>
Non-SOI Trips	4,082	3,662	3,865	3,837	3,598	3,809
Days at Sea	11,734	10,813	10,598	10,217	9,406	10,554
<b>Landings (gutted lbs)</b>						
Total	4,101,367	3,761,038	3,709,859	3,236,146	3,146,387	3,590,959
SOI	<u>145,120</u>	<u>114,821</u>	<u>104,289</u>	<u>103,466</u>	<u>87,919</u>	<u>111,123</u>
Non-SOI	3,956,247	3,646,216	3,605,570	3,132,680	3,058,468	3,479,836
% SOI	4%	3%	3%	3%	3%	3%
<b>Revenue</b>						
Total	\$12,941,644	\$12,331,918	\$12,282,371	\$11,246,193	\$10,546,777	\$11,869,781
SOI	<u>\$874,406</u>	<u>\$712,279</u>	<u>\$660,794</u>	<u>\$664,113</u>	<u>\$546,668</u>	<u>\$691,652</u>
Non-SOI	\$12,067,238	\$11,619,638	\$11,621,577	\$10,582,080	\$10,000,109	\$11,178,128
% SOI	7%	6%	5%	6%	5%	6%
<b>Vessel Characteristics</b>						
Length	34	34	35	34	34	34
Year Built	1990	1990	1990	1991	1992	1991
For-Hire Fishing Permit	36%	33%	32%	39%	44%	37%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Scamp Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

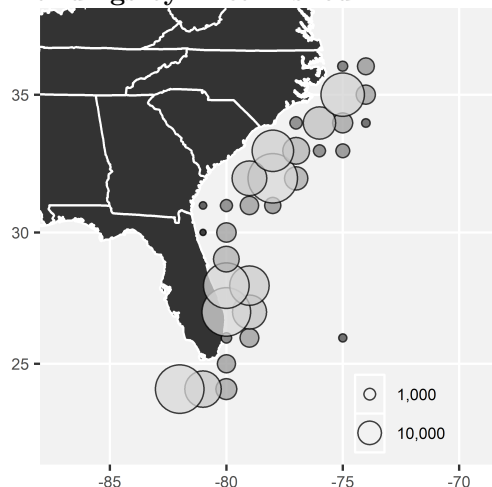
Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		25	36	27	37	33	
Response Rate (%)		54%	86%	84%	79%	79%	
<b>SOI Vessel</b>							
Owner-Operated		78%	89%	78%	80%	77%	80%
For-Hire Active		28%	25%	12%	14%	16%	19%
Vessel Value		\$69,390	\$93,233	\$96,906	\$74,935	\$98,141	\$86,521
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		17.7%	10.7%	11.3%	10.5%	12.4%	12.5%
Other Supplies		13.1%	16.5%	15.4%	14.8%	10.6%	14.1%
Hired Crew		33.6%	28.2%	37.2%	31.1%	27.2%	31.5%
Vessel Repair & Maintenance		13.5%	16.7%	12.3%	13.1%	21.3%	15.4%
Insurance		1.4%	1.6%	2%	1.5%	3.2%	1.9%
Overhead		5.4%	7.8%	9%	7%	9.3%	7.7%
Loan Payment		1.9%	2.6%	3.9%	2.4%	2.2%	2.6%
IFQ Purchase		0%	0%	0%	0.6%	0.1%	0.1%
OC Owner-Captain Time		11.5%	11.5%	14.1%	14.9%	13.9%	13.2%
<b>Net Cash Flow</b>		13.4%	15.9%	9.1%	18.9%	13.6%	14.2%
<b>Net Revenue for Operations**</b>							
Depreciation		0.6%	2.8%	-6.5%	2.9%	-4.5%	-0.9%
Vessel R&M, Insur, Overh		3.3%	4.2%	5.3%	4.1%	6.6%	4.7%
Labor - Hired & Owner		20.4%	26%	23.2%	21.6%	33.8%	25%
Fuel & Supplies		45.1%	39.8%	51.3%	46.1%	41.1%	44.7%
<b>Economic Return** (on asset value)</b>		0.9%	3.3%	-6.2%	3.5%	-3.4%	-0.4%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT FMP Deepwater Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of deepwater fish (snapper, tilefish, and grouper species) managed by the SAT Snapper-Grouper FMP was landed in 2018 using any gear type. For a complete list of the species, please refer to Appendix 1. For important **disclaimer**, see page 15.

### SOI Landings by Area Fished



### Trip-Level Summary

#### Effort

Trips	1,941
Vessels	219
Days at Sea	4,524
Crew Days	10,121

#### Landings (gutted lbs)

<u>Total</u>	1,449,842
SOI	554,561
Non-SOI	895,281
% SOI	38%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	83%	48%
Longline	11%	44%
Diver	1%	0.1%
Traps/Pots	0.3%	0%
Other	5%	7%

#### Price (mean)

<u>Total</u>	\$3.94
SOI	\$4.87
Non-SOI	\$3.36

#### Revenue

<u>Total</u>	\$5,708,257
SOI	\$2,700,892
Non-SOI	\$3,007,365
% SOI	47%

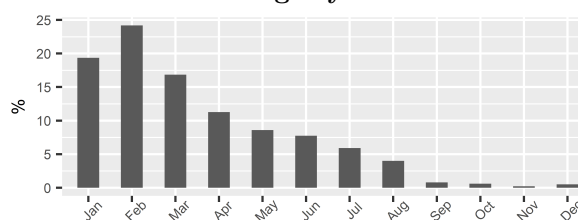
#### Percent of Revenue by Species Group

Shallow Water Groupers	13%
Shallow Water Snappers	1%
Mid-Shelf Snappers	22%
Deep Water Groupers/Tilefish	46%
Grunt/Porgy/Sea Bass/Trigger	9%
Mackerels/Dolphinfish/Jacks	7%
Other Species	2%

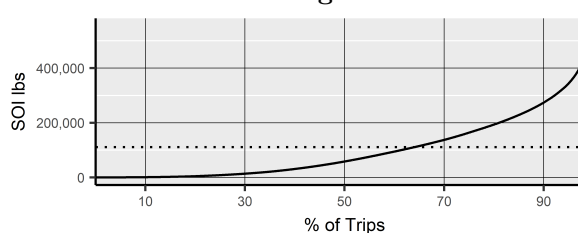
#### Revenue for Top 5 Species

Tilefish	\$1,402,467
Vermilion Snapper	\$1,104,931
Snowy Grouper	\$786,143
Gag Grouper	\$430,944
Gray Triggerfish	\$300,295

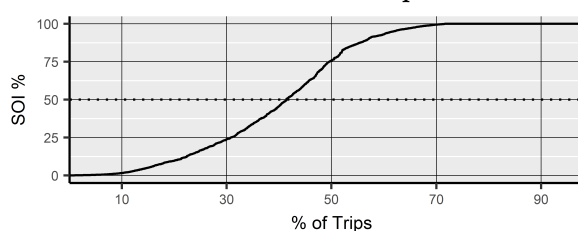
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=1,941)

	Mean	Min	Median	Max
Days at Sea	2.3	1	1	14
Crew Size	1.9	1	2	6
Landings	747	9	368	4,863
Revenue	\$2,941	\$42	\$1,518	\$24,676
SOI	\$1,391	\$1	\$822	\$24,501
% SOI	60%	0%	75.8%	100%

## SOI: 2018 SAT FMP Deepwater Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	1,941	-	-	-
Selected	453	23%	-	-
Responded	439	23%	97%	-
Used	436	22%	96%	99%

#### Economic Results (n=436)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	61%	6.2	51%	72%	-
Days at Sea	2.7	0.2	2.4	3.1	1
Crew Size	2	0.1	1.9	2.2	2
Fuel Used	122	9	108	137	100
Landings (gutted lbs)	778	71	660	896	409
<b>Total Revenue</b>	<b>3,105</b>	<b>301</b>	<b>2,602</b>	<b>3,608</b>	<b>1,700</b>
<b>Cost</b>					
Fuel	345	22	308	382	292
Bait	156	34	98	214	55
Ice	49	7	38	61	20
Groceries	122	17	94	150	25
Miscellaneous	71	17	43	99	0
Hired Crew	1,074	129	859	1,289	400
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	392	65	283	500	100
<b>Trip Net Cash Flow*</b>	<b>1,287</b>	<b>141</b>	<b>1,051</b>	<b>1,524</b>	<b>861</b>
<b>Trip Net Revenue*</b>	<b>896</b>	<b>116</b>	<b>702</b>	<b>1,089</b>	<b>523</b>

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 41%	Trip Net Revenue* 29%
	Labor - Hired 35%	Labor - Hired & Owner 47%
	Fuel & Supplies 24%	Fuel & Supplies 24%

#### Input Prices

Fuel Price (average): \$2.83 per gallon

Hired Crew Wage (implicit): \$276 per crew-day

#### Productivity Measures

Landings/Fuel Use: 6.4 lbs/gallon

Landings/Labor Use: 140 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT FMP Deepwater Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	219
<u>Trips - Total</u>	<u>7,988</u>
SOI Trips	1,941
Non-SOI Trips	6,047
Days at Sea	13,185
Crew Days	27,140

### Landings (guttled lbs)

<u>Total</u>	<u>4,657,219</u>
SOI	554,561
Non-SOI	4,102,658
% SOI	12%

### Percent by Gear

	Trips	Total lbs
Vertical Line	73%	65%
Longline	4%	11%
Diver	4%	3%
Traps/Pots	1%	2%
Other	18%	19%

### Price (mean)

<u>Total</u>	<u>\$3.03</u>
SOI	\$4.87
Non-SOI	\$2.78

### Revenue

<u>Total</u>	<u>\$14,088,678</u>
SOI	\$2,700,892
Non-SOI	\$11,387,786
% SOI	19%

### Percent of Revenue by Species Group

Shallow Water Groupers	14%
Shallow Water Snappers	6%
Mid-Shelf Snappers	22%
Deep Water Groupers/Tilefish	19%
Grunt/Porgy/Sea Bass/Trigger	10%
Mackerels/Dolphinfish/Jacks	21%
Other Species	8%

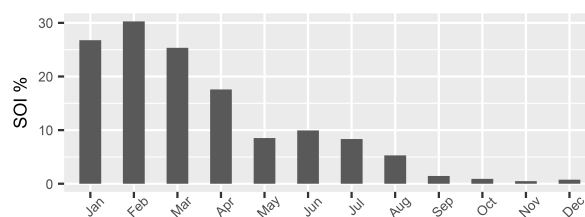
### Revenue for Top 5 Species

Vermilion Snapper	\$2,606,904
King and Cero Mackerel	\$1,444,475
Tilefish	\$1,405,080
Gag Grouper	\$1,138,790
Greater Amberjack	\$878,390

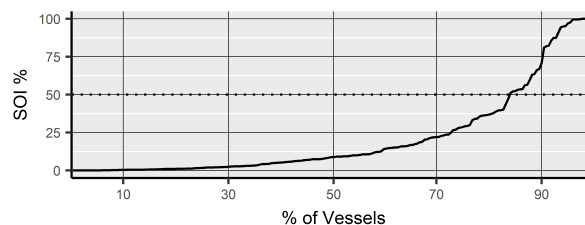
### Annual, Vessel Descriptive Statistics (N=219)

	Mean	Min	Median	Max
Trips	36.5	1	24	205
Days at Sea	60.2	1	49	205
Crew Days	123.9	1	92	438
Landings	21,266	76	14,574	163,037
Revenue	\$64,332	\$235	\$50,715	\$277,165
SOI	\$12,333	\$2	\$2,877	\$227,216
% SOI	21.8%	0%	8.8%	100%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	5%
SAT Snapper & Grouper - Unlimited	95%
SAT Snapper & Grouper - Limited	5%
King Mackerel	67%
Spanish Mackerel	68%
Dolphin-Wahoo	96%
Other Commercial Fishing	37%
For-Hire Fishing	34%

### Vessel Characteristics (N=219)

	Mean	Min	Median	Max
Length	35	20	33	70
Year Built	1991	1962	1989	2018
Horsepower	408	50	375	1,250
Fiberglass Hull	98%	-	-	-
Diesel Engine	70%	-	-	-
Ice Refrigeration	94%	-	-	-

## SOI: 2018 SAT FMP Deepwater Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	219	-	-	-
Selected	59	27%	-	-
Responded	48	22%	81%	-
Used	47	21%	80%	98%

#### Economic Results (n=47)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	70%	6.7	58%	81%	-
For-Hire Active	8%	3.9	1%	14%	-
Days - Commercial Fishing	85	9.2	70	101	69
Days - For-Hire Fishing	1	0.6	0	2	0
Days - Non-fishing	2	0.7	1	3	0
Vessel Value	109,421	16,230	82,165	136,678	75,000
Has Insurance	55%	7.3	43%	67%	-
<b>Total Revenue</b>	79,997	11,164	61,247	98,746	71,185
Commercial Fishing	78,980	11,277	60,042	97,919	70,000
For-Hire Fishing	1,017	603	4	2,029	0
<b>Cost</b>					
Fuel	9,629	1,115	7,757	11,501	7,941
Other Supplies	9,778	1,218	7,732	11,825	7,362
Hired Crew	22,961	4,923	14,694	31,229	9,352
Vessel Repair & Maintenance	16,137	3,734	9,867	22,408	9,357
Insurance	2,153	370	1,531	2,774	1,100
Overhead	7,034	1,135	5,127	8,941	4,700
Loan Payment	1,168	460	395	1,941	0
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	9,383	1,567	6,751	12,015	2,121
Depreciation	5,471	811	4,108	6,834	3,750
<b>Net Cash Flow</b>	11,137	3,524	5,219	17,054	10,324
<b>Net Revenue from Operations**</b>	-2,549	3,068	-7,701	2,602	-1,624

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 14%	Net Revenue - Operations -3%
	Loan Payment 1%	Depreciation 7%
	Vessel R&M, Insur, Overh 32%	Vessel R&M, Insur, Overh 32%
	Labor - Hired Crew 29%	Labor - Hired & Owner 40%
	Fuel & Supplies 24%	Fuel & Supplies 24%

**Economic Return\*\* (on Vessel Asset Value): -2.3%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT FMP Deepwater Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		1,900	2,203	2,207	2,068	1,941	2,064
Vessels		230	233	217	224	219	225
Days at Sea		4,568	5,120	5,436	5,096	4,524	4,949
<b>Landings (guttled lbs)</b>							
Total		1,885,239	1,775,433	1,812,462	1,647,116	1,449,842	1,714,018
SOI		943,714	772,537	804,850	769,988	554,561	769,130
Non-SOI		941,524	1,002,896	1,007,611	877,128	895,281	944,888
% SOI		50%	44%	44%	47%	38%	45%
<b>Price (mean)</b>							
Total		\$3.31	\$3.66	\$3.85	\$4.01	\$3.94	\$3.75
SOI		\$3.59	\$4.26	\$4.55	\$4.71	\$4.87	\$4.4
Non-SOI		\$3.02	\$3.18	\$3.30	\$3.41	\$3.36	\$3.25
<b>Revenue</b>							
Total		\$6,229,589	\$6,489,096	\$6,984,766	\$6,616,633	\$5,708,257	\$6,405,668
SOI		\$3,380,625	\$3,294,237	\$3,664,758	\$3,628,957	\$2,700,892	\$3,333,894
Non-SOI		\$2,848,964	\$3,194,859	\$3,320,007	\$2,987,676	\$3,007,365	\$3,071,774
% SOI		54%	51%	52%	55%	47%	52%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT FMP Deepwater Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		418	472	541	487	436	
Response Rate (%)		83%	86%	93%	95%	96%	
<b>SOI Trip</b>							
Owner-Operated		81%	84%	76%	63%	61%	73%
Fuel Used per Day at Sea (gallons/day)		42	44	47	50	45	46
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		12.9%	10.5%	8.9%	8.9%	11.1%	10.5%
Bait		5.3%	4.4%	5.8%	5.2%	5%	5.1%
Ice		1.7%	1.7%	2%	1.9%	1.6%	1.8%
Groceries		3.8%	2.8%	4.1%	3.4%	3.9%	3.6%
Miscellaneous		3%	3.3%	2.9%	3.2%	2.3%	2.9%
Hired Crew		35.7%	33.4%	32.9%	34.7%	34.6%	34.3%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		13%	14.2%	15.4%	10.6%	12.6%	13.2%
<b>Trip Net Cash Flow*</b>		<b>37.6%</b>	<b>43.9%</b>	<b>43.5%</b>	<b>42.6%</b>	<b>41.5%</b>	<b>41.8%</b>
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		24.6%	29.7%	28.1%	32%	28.8%	28.6%
Fuel & Supplies		48.8%	47.6%	48.3%	45.4%	47.2%	47.5%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.85	\$2.95	\$2.23	\$2.34	\$2.83	\$2.84
Hire Crew Wage (per crew-day)		\$328	\$373	\$346	\$318	\$276	\$328
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		8.9	7.8	6.7	6.7	6.4	7
Landings/Labor Use (lbs/crew-day)		172	177	166	162	140	163

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT FMP Deepwater Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Summary						
	2014	2015	2016	2017	2018***	Average
<b>Effort</b>						
Vessels	230	233	217	224	219	225
Trips - Total	8,590	8,123	7,800	8,013	7,988	8,103
SOI Trips	1,900	2,203	2,207	2,068	1,941	2,064
Non-SOI Trips	6,690	5,920	5,593	5,945	6,047	6,039
Days at Sea	15,550	14,973	14,061	14,037	13,185	14,361
<b>Landings (gutted lbs)</b>						
Total	6,514,291	5,792,353	5,442,995	4,916,669	4,657,219	5,464,705
SOI	943,714	772,537	804,850	769,988	554,561	769,130
Non-SOI	5,570,576	5,019,816	4,638,145	4,146,681	4,102,658	4,695,575
% SOI	14%	13%	15%	16%	12%	14%
<b>Revenue</b>						
Total	\$18,701,376	\$17,106,914	\$16,375,570	\$15,933,912	\$14,088,678	\$16,441,290
SOI	\$3,380,625	\$3,294,237	\$3,664,758	\$3,628,957	\$2,700,892	\$3,333,894
Non-SOI	\$15,320,751	\$13,812,677	\$12,710,812	\$12,304,954	\$11,387,786	\$13,107,396
% SOI	18%	19%	22%	23%	19%	20%
<b>Vessel Characteristics</b>						
Length	34	34	35	34	35	34
Year Built	1988	1989	1990	1991	1991	1990
For-Hire Fishing Permit	26%	27%	29%	32%	34%	30%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT FMP Deepwater Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

<b>Annual, Vessel-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		34	50	42	50	47	
Response Rate (%)		51%	79%	72%	78%	80%	
<b>SOI Vessel</b>							
Owner-Operated		82%	90%	83%	73%	70%	80%
For-Hire Active		24%	15%	10%	12%	8%	14%
Vessel Value		\$98,794	\$83,042	\$113,491	\$121,887	\$109,421	\$105,327
<b>Total Revenue</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Costs (% of Revenue)</b>							
Fuel		13.7%	11%	10.3%	10.2%	12%	11.4%
Other Supplies		13.9%	15.2%	15.6%	12.2%	12.2%	13.8%
Hired Crew		30.1%	25.5%	31.7%	32.4%	28.7%	29.7%
Vessel Repair & Maintenance		11.1%	14%	14.1%	11.9%	20.2%	14.3%
Insurance		1.4%	1.6%	2%	1.4%	2.7%	1.8%
Overhead		6.2%	8.8%	7.4%	6.1%	8.8%	7.5%
Loan Payment		1.5%	2.8%	3.1%	3.3%	1.5%	2.4%
IFQ Purchase		0%	0.2%	0%	0.4%	0%	0.1%
OC Owner-Captain Time		12.7%	12.5%	13.6%	11.2%	11.7%	12.3%
<b>Net Cash Flow</b>		<b>22.1%</b>	<b>20.9%</b>	<b>15.7%</b>	<b>22.1%</b>	<b>13.9%</b>	<b>18.9%</b>
<b>Net Revenue for Operations**</b>							
Depreciation		6.6%	6.8%	-0.7%	8.8%	-3.2%	3.7%
Vessel R&M, Insur, Overh		4.4%	4.6%	6%	5.7%	6.8%	5.5%
Labor - Hired & Owner		18.7%	24.4%	23.4%	19.4%	31.7%	23.5%
Fuel & Supplies		42.8%	38%	45.3%	43.6%	40.4%	42%
<b>Economic Return** (on asset value)</b>		<b>7.5%</b>	<b>7.5%</b>	<b>-0.6%</b>	<b>7.6%</b>	<b>-2.3%</b>	<b>3.9%</b>

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT FMP Jacks Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of jack species managed by the South Atlantic Snapper-Grouper FMP was landed in 2018 using any gear type. For a complete list of the species, please refer to Appendix 1. For important **disclaimer**, see page 15.

### Trip-Level Summary

#### Effort

Trips	2,592
Vessels	269
Days at Sea	6,289
Crew Days	14,561

#### Landings (gutted lbs)

<u>Total</u>	2,276,129
SOI	767,487
Non-SOI	1,508,641
% SOI	34%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	88%	92%
Longline	0.1%	0.1%
Diver	6%	7%
Traps/Pots	0.3%	0%
Other	6%	1%

#### Price (mean)

<u>Total</u>	\$3.18
SOI	\$1.62
Non-SOI	\$3.98

#### Revenue

<u>Total</u>	\$7,241,815
SOI	\$1,240,787
Non-SOI	\$6,001,028
% SOI	17%

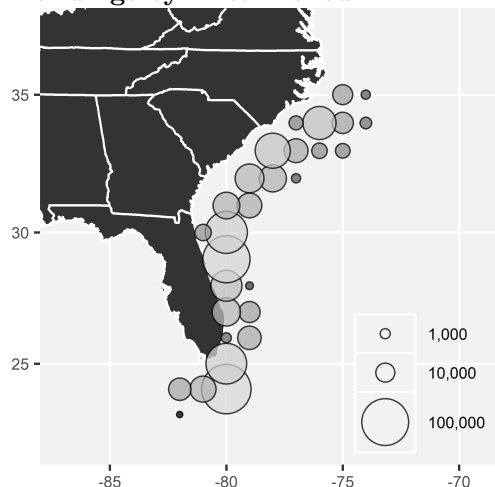
#### Percent of Revenue by Species Group

Shallow Water Groupers	22%
Shallow Water Snappers	4%
Mid-Shelf Snappers	31%
Deep Water Groupers/Tilefish	7%
Grunt/Porgy/Sea Bass/Trigger	12%
Mackerels/Dolphinfish/Jacks	21%
Other Species	3%

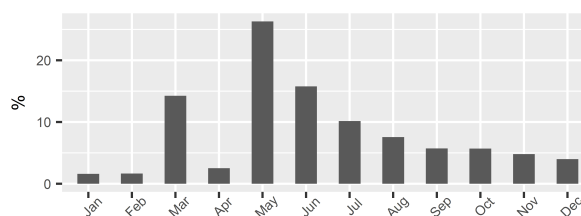
#### Revenue for Top 5 Species

Vermilion Snapper	\$2,041,437
Greater Amberjack	\$1,031,942
Gag Grouper	\$967,797
Gray Triggerfish	\$487,846
Scamp	\$433,494

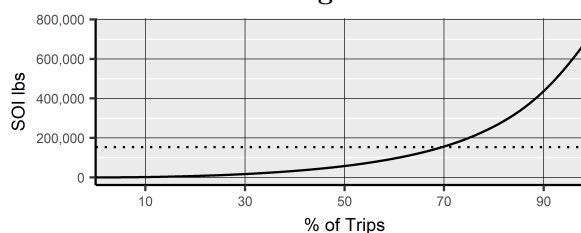
### SOI Landings by Area Fished



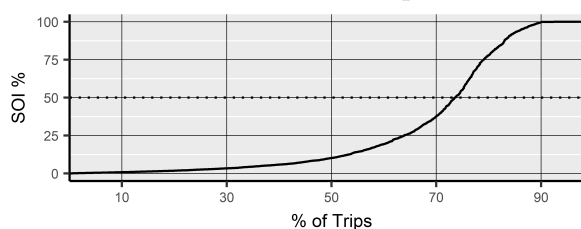
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=2,592)

	Mean	Min	Median	Max
Days at Sea	2.4	1	1	14
Crew Size	2.1	1	2	8
Landings	878	17	653	14,720
Revenue	\$2,794	\$11	\$1,754	\$24,676
SOI	\$479	\$1	\$168	\$4,902
% SOI	31%	0%	10.2%	100%

## SOI: 2018 SAT FMP Jacks Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	2,592	-	-	-
Selected	732	28%	-	-
Responded	728	28%	99%	-
Used	715	28%	98%	98%

#### Economic Results (n=715)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	67%	5.1	59%	76%	-
Days at Sea	2.5	0.2	2.2	2.8	1
Crew Size	2.1	0.1	2	2.2	2
Fuel Used	102	7	89	114	80
Landings (gutted lbs)	854	58	758	950	636
<b>Total Revenue</b>	<b>2,879</b>	<b>236</b>	<b>2,486</b>	<b>3,273</b>	<b>1,760</b>
<b>Cost</b>					
Fuel	282	20	249	315	244
Bait	99	12	79	119	50
Ice	46	5	38	55	25
Groceries	118	15	93	142	25
Miscellaneous	69	16	43	96	13
Hired Crew	937	99	773	1,102	300
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	373	46	295	450	150
<b>Trip Net Cash Flow*</b>	<b>1,328</b>	<b>120</b>	<b>1,128</b>	<b>1,528</b>	<b>945</b>
<b>Trip Net Revenue*</b>	<b>955</b>	<b>95</b>	<b>797</b>	<b>1,113</b>	<b>578</b>

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 46%	Trip Net Revenue* 33%
	Labor - Hired 33%	Labor - Hired & Owner 45%
	Fuel & Supplies 21%	Fuel & Supplies 21%

#### Input Prices

Fuel Price (average): \$2.77 per gallon

Hired Crew Wage (implicit): \$265 per crew-day

#### Productivity Measures

Landings/Fuel Use: 8.4 lbs/gallon

Landings/Labor Use: 164 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT FMP Jacks Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	269
<u>Trips - Total</u>	<u>9,941</u>
SOI Trips	2,592
Non-SOI Trips	7,349
Days at Sea	15,370
Crew Days	31,094

### Landings (guttled lbs)

<u>Total</u>	<u>4,957,785</u>
SOI	767,487
Non-SOI	4,190,298
% SOI	15%

### Percent by Gear

	Trips	Total lbs
Vertical Line	76%	74%
Longline	1%	5%
Diver	5%	5%
Traps/Pots	0.7%	1%
Other	18%	15%

### Price (mean)

<u>Total</u>	<u>\$3.11</u>
SOI	\$1.62
Non-SOI	\$3.39

### Revenue

<u>Total</u>	<u>\$15,438,388</u>
SOI	\$1,240,787
Non-SOI	\$14,197,601
% SOI	8%

### Percent of Revenue by Species Group

Shallow Water Groupers	15%
Shallow Water Snappers	14%
Mid-Shelf Snappers	22%
Deep Water Groupers/Tilefish	11%
Grunt/Porgy/Sea Bass/Trigger	10%
Mackerels/Dolphinfish/Jacks	22%
Other Species	6%

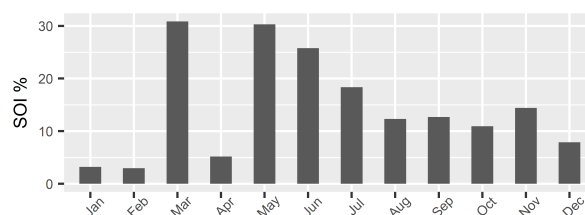
### Revenue for Top 5 Species

Vermilion Snapper	\$2,787,000
Yellowtail Snapper	\$1,732,320
King and Cero Mackerel	\$1,647,778
Gag Grouper	\$1,316,754
Greater Amberjack	\$1,052,026

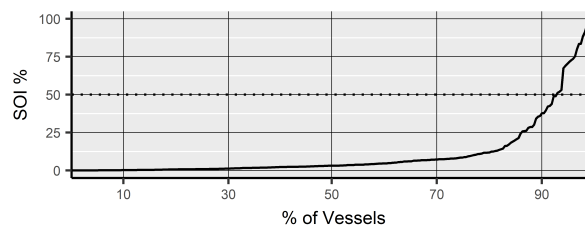
### Annual, Vessel Descriptive Statistics (N=269)

	Mean	Min	Median	Max
Trips	37	1	23	205
Days at Sea	57.1	1	43	218
Crew Days	115.6	1	81	480
Landings	18,430	78	12,454	162,736
Revenue	\$57,392	\$275	\$37,535	\$324,840
SOI	\$4,613	\$1	\$916	\$76,738
% SOI	11.7%	0%	3.2%	100%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	5%
SAT Snapper & Grouper - Unlimited	94%
SAT Snapper & Grouper - Limited	7%
King Mackerel	72%
Spanish Mackerel	72%
Dolphin-Wahoo	94%
Other Commercial Fishing	35%
For-Hire Fishing	37%

### Vessel Characteristics (N=269)

	Mean	Min	Median	Max
Length	33	20	32	70
Year Built	1992	1962	1989	2018
Horsepower	413	85	375	1,400
Fiberglass Hull	98%	-	-	-
Diesel Engine	66%	-	-	-
Ice Refrigeration	92%	-	-	-

## SOI: 2018 SAT FMP Jacks Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	269	-	-	-
Selected	71	26%	-	-
Responded	59	22%	83%	-
Used	58	22%	82%	98%

#### Economic Results (n=58)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	80%	4.8	72%	88%	-
For-Hire Active	12%	4	6%	19%	-
Days - Commercial Fishing	81	7.5	69	94	63
Days - For-Hire Fishing	7	3.6	1	13	0
Days - Non-fishing	2	0.9	1	4	0
Vessel Value	97,731	13,801	74,649	120,813	60,000
Has Insurance	57%	6	47%	67%	-
<b>Total Revenue</b>					
Commercial Fishing	69,777	6,312	59,220	80,334	53,162
For-Hire Fishing	4,286	1,902	1,104	7,468	0
<b>Cost</b>					
Fuel	8,760	911	7,237	10,283	6,118
Other Supplies	9,943	1,475	7,476	12,410	5,000
Hired Crew	19,460	2,566	15,169	23,751	8,559
Vessel Repair & Maintenance	14,573	2,075	11,102	18,043	9,100
Insurance	1,970	314	1,445	2,495	800
Overhead	6,400	839	4,997	7,802	4,700
Loan Payment	1,679	518	811	2,546	0
IFQ Purchase	181	135	-45	407	0
OC Owner-Captain Time	9,711	1,386	7,393	12,029	4,250
Depreciation	4,887	690	3,732	6,041	3,000
<b>Net Cash Flow</b>	11,098	3,405	5,403	16,794	8,400
<b>Net Revenue from Operations**</b>	-1,640	3,152	-6,912	3,633	-2,336

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 15%	Net Revenue - Operations -2%
	Loan Payment 2%	Depreciation 7%
	Vessel R&M, Insur, Overh 31%	Vessel R&M, Insur, Overh 31%
	Labor - Hired Crew 26%	Labor - Hired & Owner 39%
	Fuel & Supplies 25%	Fuel & Supplies 25%

**Economic Return\*\* (on Vessel Asset Value): -1.7%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT FMP Jacks Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		3,329	3,086	2,896	2,748	2,592	2,930
Vessels		306	303	289	283	269	290
Days at Sea		8,102	7,361	6,472	6,264	6,289	6,898
<b>Landings (guttled lbs)</b>							
Total		2,983,634	2,630,974	2,439,003	2,398,458	2,276,129	2,545,640
SOI		1,149,932	977,656	936,337	927,093	767,487	951,701
Non-SOI		1,833,702	1,653,318	1,502,666	1,471,365	1,508,641	1,593,938
% SOI		39%	37%	38%	39%	34%	37%
<b>Price (mean)</b>							
Total		\$2.97	\$3.02	\$3.04	\$3.02	\$3.18	\$3.05
SOI		\$1.48	\$1.58	\$1.54	\$1.58	\$1.62	\$1.56
Non-SOI		\$3.91	\$3.86	\$3.95	\$3.93	\$3.98	\$3.93
<b>Revenue</b>							
Total		\$8,853,379	\$7,930,596	\$7,392,229	\$7,245,295	\$7,241,815	\$7,732,663
SOI		\$1,695,391	\$1,545,368	\$1,447,204	\$1,465,670	\$1,240,787	\$1,478,884
Non-SOI		\$7,157,988	\$6,385,228	\$5,945,025	\$5,779,625	\$6,001,028	\$6,253,779
% SOI		19%	19%	20%	20%	17%	19%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT FMP Jacks Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		1,000	677	691	800	715	
Response Rate (%)		90%	83%	97%	96%	98%	
<b>SOI Trip</b>							
Owner-Operated		81%	83%	79%	77%	67%	77.4%
Fuel Used per Day at Sea (gallons/day)		40	44	44	42	41	42
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		13.5%	11.2%	9%	8.3%	9.8%	10.4%
Bait		4%	3.8%	4.1%	3.3%	3.4%	3.7%
Ice		1.9%	1.9%	2.2%	1.9%	1.6%	1.9%
Groceries		3.8%	3.9%	4.3%	3.6%	4.1%	3.9%
Miscellaneous		3%	2.6%	3.3%	2.4%	2.4%	2.7%
Hired Crew		34.3%	33.8%	34.6%	33.9%	32.6%	33.8%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		16.9%	15.4%	17.2%	14.9%	12.9%	15.5%
<b>Trip Net Cash Flow*</b>		39.6%	42.7%	42.6%	46.7%	46.1%	43.5%
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		22.7%	27.4%	25.4%	31.7%	33.2%	28.1%
Fuel & Supplies		51.2%	49.1%	51.8%	48.8%	45.5%	49.3%
		26.1%	23.5%	22.8%	19.4%	21.3%	22.6%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.76	\$2.80	\$2.14	\$2.30	\$2.77	\$2.75
Hire Crew Wage (per crew-day)		\$283	\$283	\$297	\$286	\$265	\$283
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		9.2	8.6	8.2	9.6	8.4	9
Landings/Labor Use (lbs/crew-day)		169	175	179	187	164	175

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT FMP Jacks Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Vessels		306	303	289	283	269	290
Trips - Total		11,549	10,952	10,530	10,966	9,941	10,788
SOI Trips		3,329	3,086	2,896	2,748	2,592	2,930
Non-SOI Trips		8,220	7,866	7,634	8,218	7,349	7,857
Days at Sea		19,179	18,099	16,984	17,367	15,370	17,400
<b>Landings (guttled lbs)</b>							
Total		6,728,214	6,450,729	6,035,054	6,054,299	4,957,785	6,045,216
SOI		1,149,932	977,656	936,337	927,093	767,487	951,701
Non-SOI		5,578,282	5,473,073	5,098,716	5,127,206	4,190,298	5,093,515
% SOI		17%	15%	16%	15%	15%	16%
<b>Revenue</b>							
Total		\$20,473,409	\$19,108,357	\$17,705,463	\$18,447,213	\$15,438,388	\$18,234,566
SOI		\$1,695,391	\$1,545,368	\$1,447,204	\$1,465,670	\$1,240,787	\$1,478,884
Non-SOI		\$18,778,018	\$17,562,989	\$16,258,259	\$16,981,543	\$14,197,601	\$16,755,682
% SOI		8%	8%	8%	8%	8%	8%
<b>Vessel Characteristics</b>							
Length		33	33	33	33	33	33
Year Built		1989	1989	1990	1990	1992	1990
For-Hire Fishing Permit		34%	32%	33%	33%	37%	34%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT FMP Jacks Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

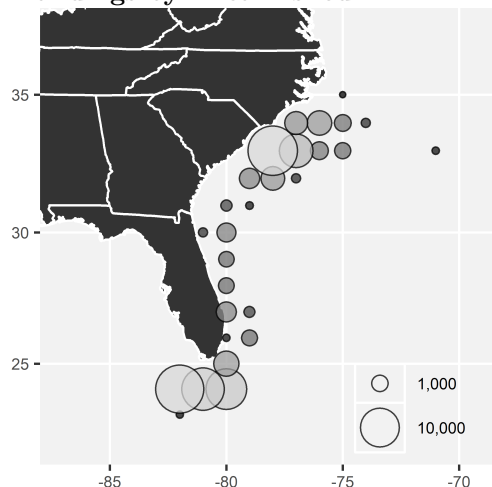
Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		52	64	54	67	58	
Response Rate (%)		57%	76%	77%	78%	82%	
<b>SOI Vessel</b>							
Owner-Operated		88%	87%	85%	86%	80%	85%
For-Hire Active		30%	23%	17%	19%	12%	20%
Vessel Value		\$74,713	\$85,650	\$112,528	\$91,751	\$97,731	\$92,475
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		16.8%	12%	10.6%	10.3%	11.8%	12.3%
Other Supplies		13%	14%	15.1%	12.6%	13.4%	13.6%
Hired Crew		26.2%	24.4%	28.4%	26.2%	26.3%	26.3%
Vessel Repair & Maintenance		13.1%	16%	14.3%	12.1%	19.7%	15%
Insurance		1.4%	1.6%	2.2%	1.8%	2.7%	1.9%
Overhead		7.4%	8.3%	8.7%	7.7%	8.6%	8.1%
Loan Payment		2.3%	2.7%	4.9%	2.3%	2.3%	2.9%
IFQ Purchase		0%	0.1%	0%	0.3%	0.2%	0.1%
OC Owner-Captain Time		13.2%	12.2%	13%	13.5%	13.1%	13%
<b>Net Cash Flow</b>		19.9%	20.9%	15.8%	26.7%	15%	19.7%
<b>Net Revenue for Operations**</b>							
Depreciation		4.5%	7%	1%	11.2%	-2.2%	4.3%
Vessel R&M, Insur, Overh		4.5%	4.6%	6.7%	4.6%	6.6%	5.4%
Labor - Hired & Owner		21.9%	25.9%	25.1%	21.6%	31%	25.1%
Fuel & Supplies		39.4%	36.6%	41.5%	39.8%	39.4%	39.3%
<b>Economic Return** (on asset value)</b>		5.1%	7.6%	0.7%	12.3%	-1.7%	4.8%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT FMP SWGCS Fishery: All Gears

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of shallow water grouper managed by the South Atlantic Snapper-Grouper FMP was landed in 2018 using any gear type. Note: Scamp and gag grouper are not included in this SOI. Refer to Appendix 1 for a list of species. For important **disclaimer**, see page 15.

### SOI Landings by Area Fished



### Trip-Level Summary

#### Effort

Trips	1,539
Vessels	269
Days at Sea	4,092
Crew Days	9,499

#### Landings (gutted lbs)

<u>Total</u>	1,187,294
SOI	89,437
Non-SOI	1,097,857
% SOI	8%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	75%	63%
Longline	0.2%	0.1%
Diver	22%	37%
Traps/Pots	0.7%	0.1%
Other	2%	0.7%

#### Price (mean)

<u>Total</u>	\$3.68
SOI	\$5.59
Non-SOI	\$3.52

#### Revenue

<u>Total</u>	\$4,367,578
SOI	\$499,607
Non-SOI	\$3,867,971
% SOI	11%

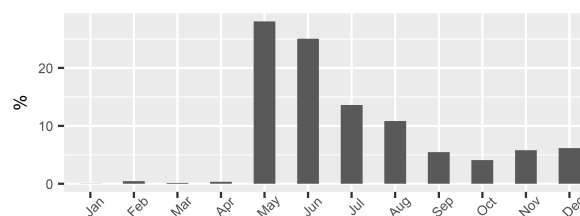
#### Percent of Revenue by Species Group

Shallow Water Groupers	38%
Shallow Water Snappers	8%
Mid-Shelf Snappers	24%
Deep Water Groupers/Tilefish	3%
Grunt/Porgy/Sea Bass/Trigger	14%
Mackerels/Dolphinfish/Jacks	9%
Other Species	3%

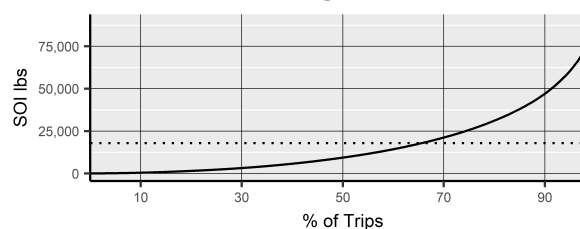
#### Revenue for Top 5 Species

Vermilion Snapper	\$919,462
Gag Grouper	\$768,386
Scamp	\$411,715
Black Grouper	\$315,322
Gray Triggerfish	\$267,069

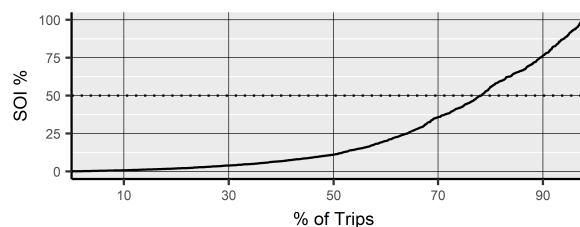
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=1,539)

	Mean	Min	Median	Max
Days at Sea	2.7	1	1	14
Crew Size	2.2	1	2	4
Landings	771	5	460	14,720
Revenue	\$2,838	\$26	\$1,554	\$18,437
SOI	\$325	\$3	\$149	\$4,373
% SOI	26%	0%	11.1%	100%

## SOI: 2018 SAT FMP SWGCS Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	1,539	-	-	-
Selected	429	28%	-	-
Responded	423	27%	99%	-
Used	415	27%	97%	98%

#### Economic Results (n=415)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	69%	5.3	60%	78%	-
Days at Sea	2.8	0.2	2.5	3.2	2
Crew Size	2.1	0.1	2	2.3	2
Fuel Used	105	7	93	116	92
Landings (gutted lbs)	795	64	688	901	594
<b>Total Revenue</b>	<b>3,250</b>	<b>265</b>	<b>2,808</b>	<b>3,693</b>	<b>2,411</b>
<b>Cost</b>					
Fuel	307	19	275	339	290
Bait	146	21	110	181	83
Ice	56	6	46	65	40
Groceries	138	15	113	163	65
Miscellaneous	80	16	54	106	20
Hired Crew	1,074	110	890	1,258	600
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	483	55	392	574	150
<b>Trip Net Cash Flow*</b>	<b>1,449</b>	<b>135</b>	<b>1,224</b>	<b>1,675</b>	<b>960</b>
<b>Trip Net Revenue*</b>	<b>967</b>	<b>103</b>	<b>794</b>	<b>1,139</b>	<b>632</b>

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 45%	Trip Net Revenue* 30%
	Labor - Hired 33%	Labor - Hired & Owner 48%
	Fuel & Supplies 22%	Fuel & Supplies 22%

#### Input Prices

Fuel Price (average): \$2.94 per gallon

Hired Crew Wage (implicit): \$262 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7.6 lbs/gallon

Landings/Labor Use: 131 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT FMP SWGCS Fishery: All Gears

## Annual, Vessel-Level Summary

### Effort

Vessels	269
<u>Trips - Total</u>	<u>9,799</u>
SOI Trips	1,539
Non-SOI Trips	8,260
Days at Sea	15,877
Crew Days	33,026

### Landings (guttled lbs)

<u>Total</u>	<u>4,964,754</u>
SOI	89,437
Non-SOI	4,875,317
% SOI	2%

### Percent by Gear

	Trips	Total lbs
Vertical Line	80%	77%
Longline	2%	6%
Diver	7%	5%
Traps/Pots	1%	3%
Other	10%	9%

### Price (mean)

<u>Total</u>	<u>\$3.20</u>
SOI	\$5.59
Non-SOI	\$3.16

### Revenue

<u>Total</u>	<u>\$15,888,826</u>
SOI	\$499,607
Non-SOI	\$15,389,219
% SOI	3%

### Percent of Revenue by Species Group

Shallow Water Groupers	15%
Shallow Water Snappers	21%
Mid-Shelf Snappers	20%
Deep Water Groupers/Tilefish	10%
Grunt/Porgy/Sea Bass/Trigger	11%
Mackerels/Dolphinfish/Jacks	18%
Other Species	5%

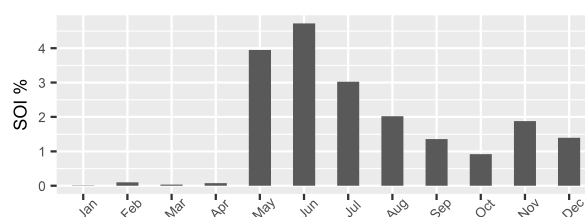
### Revenue for Top 5 Species

Yellowtail Snapper	\$2,713,460
Vermilion Snapper	\$2,702,753
Gag Grouper	\$1,304,573
King and Cero Mackerel	\$1,280,180
Greater Amberjack	\$980,702

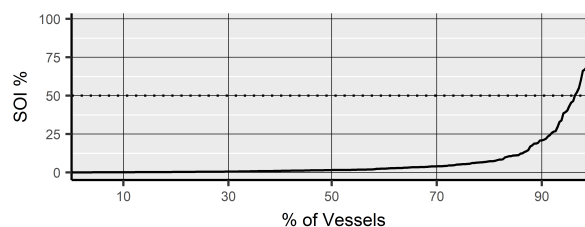
### Annual, Vessel Descriptive Statistics (N=269)

	Mean	Min	Median	Max
Trips	36.4	1	23	205
Days at Sea	59	1	47	218
Crew Days	122.8	1	87	480
Landings	18,456	64	12,979	162,736
Revenue	\$59,066	\$193	\$38,036	\$324,840
SOI	\$1,857	\$7	\$490	\$34,612
% SOI	7.3%	0%	1.6%	98.7%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	8%
SAT Snapper & Grouper - Unlimited	94%
SAT Snapper & Grouper - Limited	6%
King Mackerel	64%
Spanish Mackerel	68%
Dolphin-Wahoo	94%
Other Commercial Fishing	32%
For-Hire Fishing	31%

### Vessel Characteristics (N=269)

	Mean	Min	Median	Max
Length	33	17	32	66
Year Built	1991	1962	1989	2018
Horsepower	408	115	370	1,400
Fiberglass Hull	98%	-	-	-
Diesel Engine	63%	-	-	-
Ice Refrigeration	89%	-	-	-

## SOI: 2018 SAT FMP SWGCS Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	269	-	-	-
Selected	77	29%	-	-
Responded	64	24%	83%	-
Used	63	23%	82%	98%

#### Economic Results (n=63)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	84%	4.6	76%	91%	-
For-Hire Active	6%	2.9	1%	11%	-
Days - Commercial Fishing	88	7.2	76	100	69
Days - For-Hire Fishing	3	2	-1	6	0
Days - Non-fishing	1	0.4	0	1	0
Vessel Value	90,954	10,490	73,429	108,479	60,000
Has Insurance	40%	6.1	30%	50%	-
<b>Total Revenue</b>	85,611	10,574	67,946	103,277	65,072
Commercial Fishing	84,002	10,577	66,332	101,672	63,596
For-Hire Fishing	1,609	1,066	-171	3,390	0
<b>Cost</b>					
Fuel	11,034	2,714	6,500	15,569	6,500
Other Supplies	10,935	1,388	8,617	13,253	6,000
Hired Crew	18,471	2,333	14,573	22,369	8,559
Vessel Repair & Maintenance	13,822	1,954	10,557	17,087	8,780
Insurance	1,549	271	1,096	2,002	0
Overhead	6,361	776	5,064	7,657	4,812
Loan Payment	1,509	464	734	2,284	0
IFQ Purchase	25	22	-12	62	0
OC Owner-Captain Time	10,305	1,281	8,164	12,446	5,765
Depreciation	4,548	524	3,671	5,424	3,000
<b>Net Cash Flow</b>	21,906	6,900	10,378	33,434	15,504
<b>Net Revenue from Operations**</b>	8,587	6,732	-2,661	19,834	-1,672

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 26%	Net Revenue - Operations 10%
		Depreciation 5%
	Loan Payment 2%	Vessel R&M, Insur, Overh 25%
	Vessel R&M, Insur, Overh 25%	Labor - Hired & Owner 34%
	Labor - Hired Crew 22%	
	Fuel & Supplies 26%	Fuel & Supplies 26%

**Economic Return\*\* (on Vessel Asset Value): 9.4%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT FMP SWGCS Fishery: All Gears**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		2,145	1,930	1,778	1,806	1,539	1,840
Vessels		315	292	284	270	269	286
Days at Sea		5,433	4,802	4,229	4,327	4,092	4,577
<b>Landings (guttled lbs)</b>							
Total		1,409,892	1,290,503	1,136,414	1,226,286	1,187,294	1,250,078
SOI		159,117	153,751	107,189	114,978	89,437	124,894
Non-SOI		1,250,775	1,136,752	1,029,224	1,111,308	1,097,857	1,125,183
% SOI		11%	12%	9%	9%	8%	10%
<b>Price (mean)</b>							
Total		\$3.80	\$3.74	\$3.85	\$3.87	\$3.68	\$3.79
SOI		\$4.96	\$5.14	\$5.21	\$5.38	\$5.59	\$5.26
Non-SOI		\$3.66	\$3.55	\$3.71	\$3.72	\$3.52	\$3.63
<b>Revenue</b>							
Total		\$5,361,428	\$4,824,789	\$4,375,692	\$4,743,263	\$4,367,578	\$4,734,550
SOI		\$788,684	\$791,130	\$557,558	\$617,788	\$499,607	\$650,953
Non-SOI		\$4,572,744	\$4,033,659	\$3,818,134	\$4,125,476	\$3,867,971	\$4,083,597
% SOI		15%	16%	13%	13%	11%	14%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT FMP SWGCS Fishery: All Gears**  
**Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		548	389	353	562	415	
Response Rate (%)		81%	81%	94%	94%	97%	
<b>SOI Trip</b>							
Owner-Operated		84%	80%	74%	73%	69%	76%
Fuel Used per Day at Sea (gallons/day)		34	35	38	38	37	36
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		13.2%	10.5%	8.5%	8.8%	9.5%	10.1%
Bait		5.9%	5.6%	5.1%	5.5%	4.5%	5.3%
Ice		2%	1.9%	1.9%	2%	1.7%	1.9%
Groceries		4.1%	3.9%	4.3%	3.8%	4.2%	4.1%
Miscellaneous		2.8%	2.4%	4.1%	2.5%	2.5%	2.9%
Hired Crew		35.7%	34.4%	33%	36.4%	33.1%	34.5%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		16.8%	11.9%	16.1%	12.9%	14.9%	14.5%
<b>Trip Net Cash Flow*</b>		36.4%	41.3%	43.2%	40.8%	44.6%	41.3%
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		19.6%	29.4%	27.1%	28%	29.7%	26.8%
Fuel & Supplies		52.5%	46.3%	49.1%	49.3%	47.9%	49%
		27.9%	24.3%	23.8%	22.7%	22.4%	24.2%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.80	\$2.88	\$2.35	\$2.48	\$2.94	\$2.89
Hire Crew Wage (per crew-day)		\$278	\$256	\$225	\$259	\$262	\$256
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		7.6	7.5	6.6	7.7	7.6	7
Landings/Labor Use (lbs/crew-day)		123	126	110	131	131	124

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT FMP SWGCS Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

**Annual, Vessel-Level Summary**

	2014	2015	2016	2017	2018***	Average
<b>Effort</b>						
Vessels	315	292	284	270	269	286
Trips - Total	11,752	10,029	10,478	10,036	9,799	10,419
SOI Trips	2,145	1,930	1,778	1,806	1,539	1,840
Non-SOI Trips	9,607	8,099	8,700	8,230	8,260	8,579
Days at Sea	19,998	17,811	17,268	16,413	15,877	17,473
<b>Landings (gutted lbs)</b>						
Total	6,022,176	5,710,187	5,386,287	5,232,165	4,964,754	5,463,114
SOI	159,117	153,751	107,189	114,978	89,437	124,894
Non-SOI	5,863,059	5,556,436	5,279,097	5,117,187	4,875,317	5,338,219
% SOI	3%	3%	2%	2%	2%	2%
<b>Revenue</b>						
Total	\$20,049,177	\$18,473,169	\$17,943,931	\$17,146,662	\$15,888,826	\$17,900,353
SOI	\$788,684	\$791,130	\$557,558	\$617,788	\$499,607	\$650,953
Non-SOI	\$19,260,493	\$17,682,039	\$17,386,373	\$16,528,874	\$15,389,219	\$17,249,400
% SOI	4%	4%	3%	4%	3%	4%
<b>Vessel Characteristics</b>						
Length	32	33	33	32	33	33
Year Built	1989	1990	1990	1990	1991	1990
For-Hire Fishing Permit	26%	25%	26%	29%	31%	27%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT FMP SWGCS Fishery: All Gears**  
**Annual, Vessel-Level Time Series**

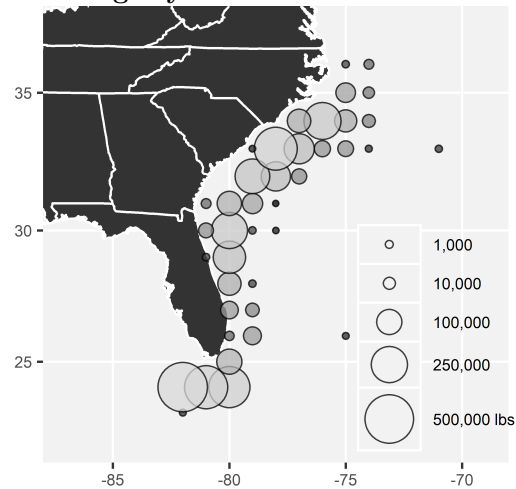
Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		48	62	54	63	63	
Response Rate (%)		54%	78%	76%	73%	82%	
<b>SOI Vessel</b>							
Owner-Operated		83%	90%	89%	81%	84%	85%
For-Hire Active		16%	20%	8%	18%	6%	14%
Vessel Value		\$78,754	\$87,992	\$102,744	\$98,806	\$90,954	\$91,850
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		13.3%	11.1%	10.1%	10%	12.9%	11.5%
Other Supplies		12%	14.9%	16.7%	12.3%	12.8%	13.7%
Hired Crew		32%	23.5%	31.4%	27.2%	21.6%	27.1%
Vessel Repair & Maintenance		13.6%	15.2%	15.1%	9.8%	16.1%	14%
Insurance		1.2%	1.5%	1.8%	1.2%	1.8%	1.5%
Overhead		5.4%	8.4%	8.5%	5.3%	7.4%	7%
Loan Payment		1.9%	2.3%	3.1%	1.7%	1.8%	2.2%
IFQ Purchase		0%	0%	0%	0.2%	0%	0%
OC Owner-Captain Time		11%	13.3%	14.1%	8.9%	12%	11.9%
<b>Net Cash Flow</b>		20.7%	23.1%	13.1%	32.2%	25.6%	22.9%
<b>Net Revenue for Operations**</b>							
Depreciation		7.2%	6.2%	-3.7%	21.3%	10%	8.2%
Vessel R&M, Insur, Overh		4.4%	5.9%	5.9%	3.9%	5.3%	5.1%
Labor - Hired & Owner		20.1%	25.1%	25.4%	16.3%	25.4%	22.5%
Fuel & Supplies		43%	36.8%	45.5%	36.2%	33.6%	39%
<b>Economic Return** (on asset value)</b>		8.1%	5.3%	-3.1%	27.6%	9.4%	9.5%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of fish managed by the SAT Snapper-Grouper FMP was landed in 2018 with vertical line gear. Species managed include multiple species of snapper, grouper, tilefish, etc. (please refer to Appendix 1). For important **disclaimer**, see page 15.

### SOI Landings by Area Fished



### Trip-Level Summary

#### Effort

Trips	8,962
Vessels	423
Days at Sea	15,151
Crew Days	31,974

#### Landings (gutted lbs)

<u>Total</u>	4,123,452
SOI	3,616,256
Non-SOI	507,196
% SOI	88%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	97%	100%
Longline	0%	0%
Diver	1%	0%
Traps/Pots	0.1%	0%
Other	1%	0%

#### Price (mean)

<u>Total</u>	\$3.44
SOI	\$3.55
Non-SOI	\$2.62

#### Revenue

<u>Total</u>	\$14,177,992
SOI	\$12,848,225
Non-SOI	\$1,329,767
% SOI	91%

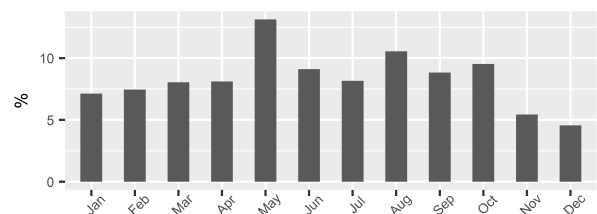
#### Percent of Revenue by Species Group

Shallow Water Groupers	14%
Shallow Water Snappers	28%
Mid-Shelf Snappers	25%
Deep Water Groupers/Tilefish	9%
Grunt/Porgy/Sea Bass/Trigger	10%
Mackerels/Dolphinfish/Jacks	11%
Other Species	2%

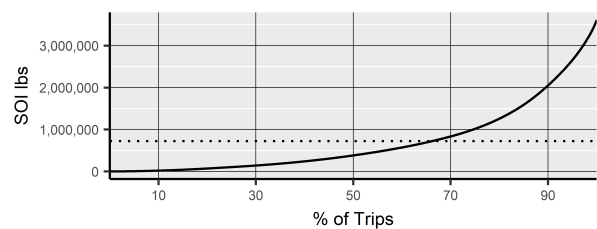
#### Revenue for Top 5 Species

Yellowtail Snapper	\$3,441,561
Vermilion Snapper	\$2,828,157
Gag Grouper	\$1,178,089
Greater Amberjack	\$972,032
Gray Triggerfish	\$762,831

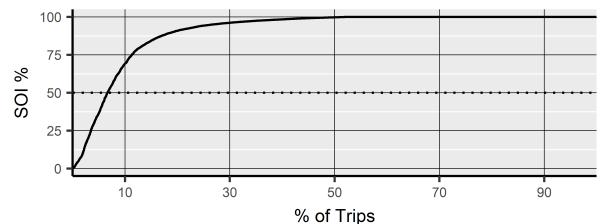
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=8,962)

	Mean	Min	Median	Max
Days at Sea	1.7	1	1	16
Crew Size	1.9	1	2	10
Landings	460	1	219	14,720
Revenue	\$1,582	\$4	\$782	\$19,419
SOI	\$1,434	\$1	\$689	\$19,419
% SOI	91%	0.1%	99.7%	100%

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	8,962	-	-	-
Selected	2,530	28%	-	-
Responded	2,492	28%	98%	-
Used	2,391	27%	95%	96%

#### Economic Results (n=2,391)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	72%	4.7	64%	80%	-
Days at Sea	1.7	0.2	1.4	1.9	1
Crew Size	1.9	0.1	1.8	2	2
Fuel Used	62	6	52	72	35
Landings (gutted lbs)	454	47	375	532	229
<b>Total Revenue</b>	1,621	185	1,315	1,928	853
<b>Cost</b>					
Fuel	180	17	151	209	105
Bait	125	19	93	157	55
Ice	31	4	23	38	18
Groceries	60	13	39	82	15
Miscellaneous	35	11	17	54	10
Hired Crew	473	77	346	601	150
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	240	35	182	298	128
<b>Trip Net Cash Flow*</b>	716	83	579	853	386
<b>Trip Net Revenue*</b>	476	67	365	586	196

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 44%	Trip Net Revenue* 29%
	Labor - Hired 29%	Labor - Hired & Owner 44%
	Fuel & Supplies 27%	Fuel & Supplies 27%

#### Input Prices

Fuel Price (average): \$2.90 per gallon

Hired Crew Wage (implicit): \$233 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7.3 lbs/gallon

Landings/Labor Use: 140 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line

## Annual, Vessel-Level Summary

### Effort

Vessels	423
<u>Trips - Total</u>	<u>12,708</u>
SOI Trips	8,962
Non-SOI Trips	3,746
Days at Sea	19,762
Crew Days	40,142

### Landings (guttled lbs)

<u>Total</u>	<u>6,278,484</u>
SOI	3,616,256
Non-SOI	2,662,227
% SOI	58%

### Percent by Gear

	Trips	Total lbs
Vertical Line	78%	72%
Longline	2%	6%
Diver	3%	3%
Traps/Pots	1%	2%
Other	16%	17%

### Price (mean)

<u>Total</u>	<u>\$3.07</u>
SOI	\$3.55
Non-SOI	\$2.42

### Revenue

<u>Total</u>	<u>\$19,290,648</u>
SOI	\$12,848,225
Non-SOI	\$6,442,423
% SOI	67%

### Percent of Revenue by Species Group

Shallow Water Groupers	12%
Shallow Water Snappers	23%
Mid-Shelf Snappers	19%
Deep Water Groupers/Tilefish	10%
Grunt/Porgy/Sea Bass/Trigger	9%
Mackerels/Dolphinfish/Jacks	21%
Other Species	6%

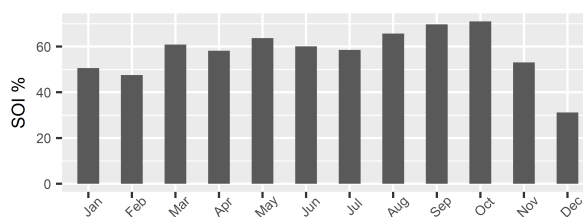
### Revenue for Top 5 Species

Yellowtail Snapper	\$3,771,412
Vermilion Snapper	\$2,894,315
King and Cero Mackerel	\$2,232,663
Gag Grouper	\$1,309,204
Greater Amberjack	\$1,032,361

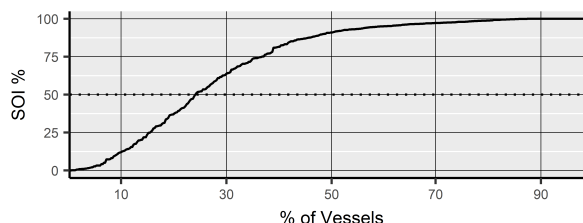
### Annual, Vessel Descriptive Statistics (N=423)

	Mean	Min	Median	Max
Trips	30	1	19	205
Days at Sea	46.7	1	31	218
Crew Days	94.9	1	57	480
Landings	14,843	14	7,347	163,037
Revenue	\$45,604	\$51	\$22,683	\$324,840
SOI	\$30,374	\$7	\$11,322	\$240,500
% SOI	72.8%	0%	90.9%	100%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	9%
SAT Snapper & Grouper - Unlimited	93%
SAT Snapper & Grouper - Limited	8%
King Mackerel	65%
Spanish Mackerel	72%
Dolphin-Wahoo	94%
Other Commercial Fishing	30%
For-Hire Fishing	32%

### Vessel Characteristics (N=423)

	Mean	Min	Median	Max
Length	33	19	32	70
Year Built	1991	1954	1988	2018
Horsepower	411	50	365	1,400
Fiberglass Hull	99%	-	-	-
Diesel Engine	64%	-	-	-
Ice Refrigeration	91%	-	-	-

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	423	-	-	-
Selected	110	26%	-	-
Responded	91	22%	83%	-
Used	87	21%	79%	96%

#### Economic Results (n=87)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	84%	4.1	78%	91%	-
For-Hire Active	12%	3.7	6%	18%	-
Days - Commercial Fishing	73	5.9	63	83	45
Days - For-Hire Fishing	5	2	1	8	0
Days - Non-fishing	2	0.6	1	3	0
Vessel Value	95,615	9,588	79,669	111,562	70,000
Has Insurance	45%	5.7	36%	55%	-
<b>Total Revenue</b>	72,550	9,290	57,099	88,001	46,766
Commercial Fishing	69,511	9,374	53,921	85,101	37,984
For-Hire Fishing	3,039	1,142	1,140	4,938	0
<b>Cost</b>					
Fuel	7,472	682	6,337	8,607	5,600
Other Supplies	8,737	1,061	6,972	10,502	3,800
Hired Crew	19,532	4,213	12,525	26,540	4,200
Vessel Repair & Maintenance	11,943	1,766	9,006	14,880	5,500
Insurance	1,557	244	1,151	1,963	0
Overhead	5,419	592	4,435	6,404	3,300
Loan Payment	1,304	369	691	1,917	0
IFQ Purchase	72	64	-34	177	0
OC Owner-Captain Time	7,915	959	6,320	9,510	2,548
Depreciation	4,781	479	3,983	5,578	3,500
<b>Net Cash Flow</b>	16,513	4,989	8,216	24,811	7,683
<b>Net Revenue from Operations**</b>	5,193	4,821	-2,825	13,211	-1,624

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 23%	Net Revenue - Operations 7%
		Depreciation 7%
	Loan Payment 2%	Vessel R&M, Insur, Overh 26%
	Vessel R&M, Insur, Overh 26%	Labor - Hired & Owner 38%
	Labor - Hired Crew 27%	
	Fuel & Supplies 22%	Fuel & Supplies 22%

**Economic Return\*\* (on Vessel Asset Value): 5.4%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		10,510	9,407	9,891	9,931	8,962	9,740
Vessels		472	455	455	446	423	450
Days at Sea		18,351	17,036	16,621	16,550	15,151	16,742
<b>Landings (guttled lbs)</b>							
Total		5,061,532	4,802,898	4,802,010	5,172,948	4,123,452	4,792,568
SOI		4,492,582	4,383,630	4,292,301	4,507,579	3,616,256	4,258,470
Non-SOI		568,950	419,267	509,709	665,369	507,196	534,098
% SOI		89%	91%	89%	87%	88%	89%
<b>Price (mean)</b>							
Total		\$3.25	\$3.30	\$3.33	\$3.31	\$3.44	\$3.33
SOI		\$3.32	\$3.38	\$3.42	\$3.42	\$3.55	\$3.42
Non-SOI		\$2.62	\$2.41	\$2.56	\$2.55	\$2.62	\$2.55
<b>Revenue</b>							
Total		\$16,408,093	\$15,831,055	\$15,992,196	\$17,126,196	\$14,177,992	\$15,907,106
SOI		\$14,916,183	\$14,820,655	\$14,688,655	\$15,432,264	\$12,848,225	\$14,541,196
Non-SOI		\$1,491,911	\$1,010,400	\$1,303,541	\$1,693,932	\$1,329,767	\$1,365,910
% SOI		91%	94%	92%	90%	91%	92%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line  
Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		2,482	2,252	2,156	3,105	2,391	
Response Rate (%)		83%	84%	95%	91%	95%	
<b>SOI Trip</b>							
Owner-Operated		81%	86%	82%	81%	72%	80.4%
Fuel Used per Day at Sea (gallons/day)		33	37	38	38	37	37
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		13.8%	12%	10.2%	9%	11.1%	11.2%
Bait		7.3%	8%	8.1%	9.1%	7.7%	8%
Ice		1.9%	1.9%	2.4%	2.3%	1.9%	2.1%
Groceries		3.4%	3.2%	4.2%	3.2%	3.7%	3.5%
Miscellaneous		2.5%	2.4%	2.8%	2.4%	2.2%	2.5%
Hired Crew		32%	32.5%	31.7%	29.8%	29.2%	31%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		19.3%	16.4%	18%	18%	14.8%	17.3%
<b>Trip Net Cash Flow*</b>		39.1%	40%	40.7%	44.4%	44.2%	41.7%
<b>Trip Net Revenue*</b>		19.8%	23.7%	22.6%	26.4%	29.4%	24.4%
Labor - Hired & Owner		51.3%	48.9%	49.7%	47.8%	44%	48.3%
Fuel & Supplies		28.9%	27.5%	27.7%	25.9%	26.6%	27.3%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.79	\$3.01	\$2.33	\$2.53	\$2.90	\$2.91
Hire Crew Wage (per crew-day)		\$256	\$272	\$237	\$272	\$233	\$254
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		8.5	7.7	6.9	8.8	7.3	8
Landings/Labor Use (lbs/crew-day)		143	145	133	169	140	146

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line  
Annual, Vessel-Level Time Series**

Annual, Vessel-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Vessels		472	455	455	446	423	450
Trips - Total		15,274	13,599	14,005	13,773	12,708	13,872
SOI Trips		10,510	9,407	9,891	9,931	8,962	9,740
Non-SOI Trips		4,764	4,192	4,114	3,842	3,746	4,132
Days at Sea		24,569	22,471	21,950	21,600	19,762	22,070
<b>Landings (gutted lbs)</b>							
Total		8,238,536	7,312,347	7,428,610	7,533,909	6,278,484	7,358,377
SOI		4,492,582	4,383,630	4,292,301	4,507,579	3,616,256	4,258,470
Non-SOI		3,745,954	2,928,716	3,136,309	3,026,330	2,662,227	3,099,907
% SOI		55%	60%	58%	60%	58%	58%
<b>Revenue</b>							
Total		\$24,467,102	\$22,272,548	\$22,230,535	\$23,289,316	\$19,290,648	\$22,310,030
SOI		\$14,916,183	\$14,820,655	\$14,688,655	\$15,432,264	\$12,848,225	\$14,541,196
Non-SOI		\$9,550,920	\$7,451,893	\$7,541,880	\$7,857,052	\$6,442,423	\$7,768,834
% SOI		61%	67%	66%	66%	67%	65%
<b>Vessel Characteristics</b>							
Length		33	33	33	33	33	33
Year Built		1989	1989	1990	1990	1991	1990
For-Hire Fishing Permit		28%	26%	29%	30%	32%	29%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Vertical Line**  
**Annual, Vessel-Level Time Series**

Annual, Vessel-Level Economics		2014	2015	2016	2017	2018	Average
Number of Observations		66	91	87	88	87	
Response Rate (%)		50%	75%	72%	68%	79%	
<b>SOI Vessel</b>							
Owner-Operated		83%	90%	88%	85%	84%	86%
For-Hire Active		22%	20%	12%	22%	12%	18%
Vessel Value		\$83,397	\$83,361	\$100,254	\$94,145	\$95,615	\$91,354
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		14.5%	11.5%	10.1%	10.4%	10.3%	11.4%
Other Supplies		11.4%	13%	14.6%	13.4%	12%	12.9%
Hired Crew		29%	24.4%	28.1%	27.6%	26.9%	27.2%
Vessel Repair & Maintenance		15.1%	15.2%	15.1%	12.7%	16.5%	14.9%
Insurance		1.4%	1.6%	2.1%	1.9%	2.1%	1.8%
Overhead		7%	8.1%	10%	7.2%	7.5%	8%
Loan Payment		2.1%	3.5%	4.8%	1.9%	1.8%	2.8%
IFQ Purchase		0%	0.1%	0%	0.2%	0.1%	0.1%
OC Owner-Captain Time		10.8%	12.2%	13.7%	11.6%	10.9%	11.8%
<b>Net Cash Flow</b>		19.6%	22.6%	15.2%	24.5%	22.8%	20.9%
<b>Net Revenue for Operations**</b>							
Depreciation		5.6%	8.9%	-0.5%	10.1%	7.2%	6.3%
Vessel R&M, Insur, Overh		5.2%	5.1%	6.8%	5%	6.6%	5.7%
Labor - Hired & Owner		23.5%	24.9%	27.2%	21.9%	26.1%	24.7%
Fuel & Supplies		39.8%	36.6%	41.8%	39.2%	37.8%	39%
<b>Economic Return** (on asset value)</b>		5.4%	8.8%	-0.3%	10.2%	5.4%	5.9%

\*\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver

**Description:** This SOI consists of all logbook trips by permitted vessels where at least one pound of fish managed by the SAT Snapper-Grouper FMP was landed in 2018 with diving gear. Species managed include multiple species of snapper, grouper, tilefish, etc. (please refer to Appendix 1). For important **disclaimer**, see page 15.

### Trip-Level Summary

#### Effort

Trips	676
Vessels	52
Days at Sea	1,055
Crew Days	2,504

#### Landings (gutted lbs)

<u>Total</u>	299,401
SOI	224,301
Non-SOI	75,101
% SOI	75%

#### Percent by Gear

	Trips	SOI lbs
Vertical Line	4%	0%
Longline	0%	0%
Diver	96%	100%
Traps/Pots	0%	0%
Other	0.4%	0%

#### Price (mean)

<u>Total</u>	\$4.19
SOI	\$4.47
Non-SOI	\$3.34

#### Revenue

<u>Total</u>	\$1,254,042
SOI	\$1,002,965
Non-SOI	\$251,076
% SOI	80%

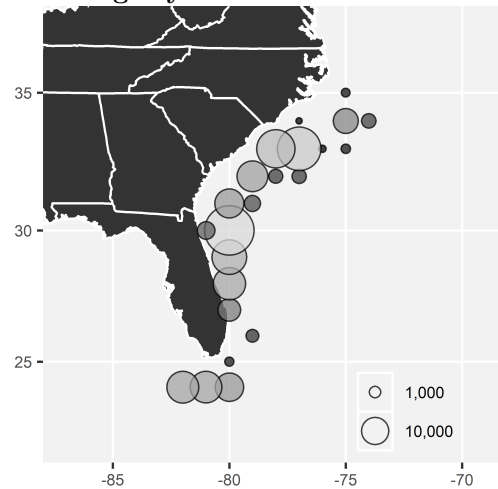
#### Percent of Revenue by Species Group

Shallow Water Groupers	51%
Shallow Water Snappers	8%
Mid-Shelf Snappers	9%
Deep Water Groupers/Tilefish	0.9%
Grunt/Porgy/Sea Bass/Trigger	11%
Mackerels/Dolphinfish/Jacks	10%
Other Species	11%

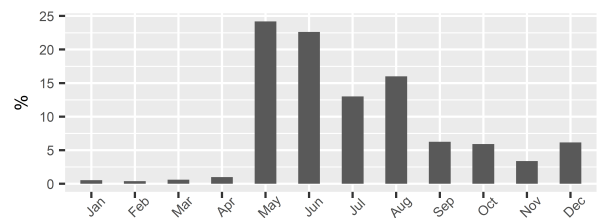
#### Revenue for Top 5 Species

Gag Grouper	\$324,054
Black Grouper	\$145,612
Scamp	\$129,418
Hogfish	\$90,470
Greater Amberjack	\$89,114

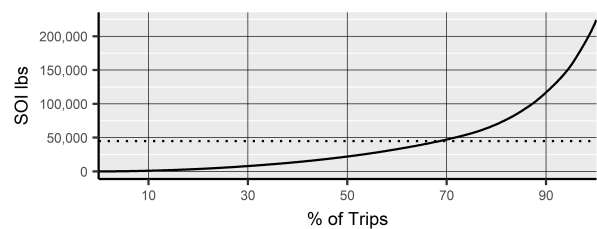
### SOI Landings by Area Fished



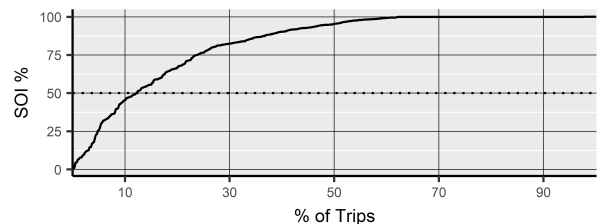
### Share of SOI Landings by Month



### Cumulative SOI Landings



### SOI Share of Revenue Per Trip



### Trip Descriptive Statistics (N=676)

	Mean	Min	Median	Max
Days at Sea	1.6	1	1	7
Crew Size	2.2	1	2	5
Landings	443	5	190	3,658
Revenue	\$1,855	\$29	\$777	\$14,759
SOI	\$1,484	\$1	\$654	\$14,519
% SOI	83%	0.7%	95.5%	100%

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	676	-	-	-
Selected	179	26%	-	-
Responded	179	26%	100%	-
Used	178	26%	99%	99%

#### Economic Results (n=178)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	94%	6.6	82%	105%	-
Days at Sea	2	0.3	1.6	2.5	1
Crew Size	2.6	0.2	2.3	2.9	2
Fuel Used	99	9	83	116	90
Landings (gutted lbs)	720	130	491	950	298
<b>Total Revenue</b>	<b>3,455</b>	<b>591</b>	<b>2,414</b>	<b>4,495</b>	<b>1,291</b>
<b>Cost</b>					
Fuel	297	24	255	340	260
Bait	31	12	11	52	0
Ice	54	8	39	68	40
Groceries	78	17	48	108	30
Miscellaneous	100	21	63	137	30
Hired Crew	1,130	216	750	1,510	500
IFQ Purchase	0	0	0	0	0
OC Owner-Captain Time	818	137	577	1,060	440
<b>Trip Net Cash Flow*</b>	<b>1,764</b>	<b>370</b>	<b>1,112</b>	<b>2,415</b>	<b>308</b>
<b>Trip Net Revenue*</b>	<b>945</b>	<b>268</b>	<b>473</b>	<b>1,417</b>	<b>15</b>

#### Trip Net Cash Flow\* and Trip Net Revenue\* as Proportion of Trip Revenue (Margins)

Revenue 100%	Trip Net Cash Flow* 51%	Trip Net Revenue* 27%
	Labor - Hired 33%	Labor - Hired & Owner 56%
	Fuel & Supplies 16%	Fuel & Supplies 16%

#### Input Prices

Fuel Price (average): \$3.00 per gallon

Hired Crew Wage (implicit): \$342 per crew-day

#### Productivity Measures

Landings/Fuel Use: 7.3 lbs/gallon

Landings/Labor Use: 138 lbs/crew-day

\* See Definitions in Methods Section or Glossary.

# SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver

## Annual, Vessel-Level Summary

### Effort

Vessels	52
<u>Trips - Total</u>	<u>1,441</u>
SOI Trips	676
Non-SOI Trips	765
Days at Sea	2,007
Crew Days	4,376

### Landings (guttled lbs)

<u>Total</u>	<u>563,367</u>
SOI	224,301
Non-SOI	339,067
% SOI	40%

### Percent by Gear

	Trips	Total lbs
Vertical Line	47%	48%
Longline	0%	0%
Diver	50%	49%
Traps/Pots	0%	0%
Other	3%	3%

### Price (mean)

<u>Total</u>	<u>\$3.78</u>
SOI	\$4.47
Non-SOI	\$3.32

### Revenue

<u>Total</u>	<u>\$2,127,142</u>
SOI	\$1,002,965
Non-SOI	\$1,124,176
% SOI	47%

### Percent of Revenue by Species Group

Shallow Water Groupers	32%
Shallow Water Snappers	18%
Mid-Shelf Snappers	11%
Deep Water Groupers/Tilefish	5%
Grunt/Porgy/Sea Bass/Trigger	8%
Mackerels/Dolphinfish/Jacks	16%
Other Species	9%

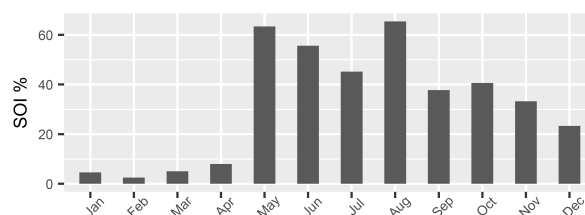
### Revenue for Top 5 Species

Gag Grouper	\$340,647
Yellowtail Snapper	\$241,097
Black Snapper	\$162,040
King and Cero Mackerel	\$151,772
Scamp	\$136,948

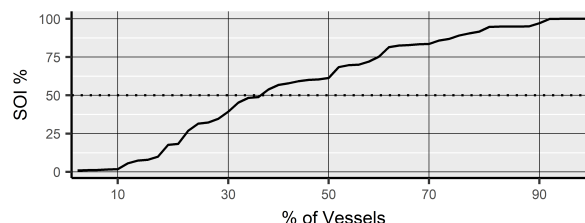
### Annual, Vessel Descriptive Statistics (N=52)

	Mean	Min	Median	Max
Trips	27.7	1	19	145
Days at Sea	38.6	1	27	147
Crew Days	84.2	2	60	438
Landings	10,834	14	4,729	68,814
Revenue	\$40,907	\$60	\$20,763	\$212,966
SOI	\$19,288	\$60	\$6,167	\$121,931
% SOI	59.1%	0.9%	65%	100%

### SOI Share of Monthly Landings



### SOI Share of Revenue Per Vessel



### Percent with Federal Permit

GOM Reef Fish	10%
SAT Snapper & Grouper - Unlimited	85%
SAT Snapper & Grouper - Limited	17%
King Mackerel	44%
Spanish Mackerel	71%
Dolphin-Wahoo	90%
Other Commercial Fishing	48%
For-Hire Fishing	46%

### Vessel Characteristics (N=52)

	Mean	Min	Median	Max
Length	30	17	30	46
Year Built	1997	1972	1999.5	2018
Horsepower	368	115	300	800
Fiberglass Hull	98%	-	-	-
Diesel Engine	37%	-	-	-
Ice Refrigeration	94%	-	-	-

## SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	52	-	-	-
Selected	16	31%	-	-
Responded	15	29%	94%	-
Used	15	29%	94%	100%

#### Economic Results (n=15)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	100%	0	100%	100%	-
For-Hire Active	28%	12.4	6%	50%	-
Days - Commercial Fishing	70	15.8	42	98	45
Days - For-Hire Fishing	17	13.3	-6	40	0
Days - Non-fishing	1	0.8	0	3	0
Vessel Value	96,908	16,235	68,157	125,659	85,000
Has Insurance	52%	13.8	28%	77%	-
<b>Total Revenue</b>	67,888	11,015	48,381	87,395	37,000
Commercial Fishing	58,393	10,078	40,546	76,240	22,000
For-Hire Fishing	9,495	7,081	-3,046	22,036	0
<b>Cost</b>					
Fuel	7,824	1,146	5,795	9,854	5,230
Other Supplies	6,534	1,166	4,470	8,598	3,000
Hired Crew	15,279	4,181	7,875	22,684	12,000
Vessel Repair & Maintenance	12,774	3,920	5,832	19,716	8,000
Insurance	1,508	556	524	2,492	650
Overhead	4,918	957	3,223	6,613	4,500
Loan Payment	1,238	826	-225	2,701	0
IFQ Purchase	173	158	-107	453	0
OC Owner-Captain Time	12,174	3,030	6,809	17,539	5,219
Depreciation	4,845	812	3,408	6,283	4,250
<b>Net Cash Flow</b>	17,639	5,204	8,423	26,856	9,700
<b>Net Revenue from Operations**</b>	2,030	5,802	-8,245	12,306	-1,726

#### Net Cash Flow and Net Revenue from Operations\*\* as Proportion of Vessel Revenue (Margins)

Revenue 100%	Net Cash Flow 26%	Net Revenue - Operations 3%
		Depreciation 7%
	Loan Payment 2%	Vessel R&M, Insur, Overh 28%
	Vessel R&M, Insur, Overh 28%	Labor - Hired & Owner 40%
	Labor - Hired Crew 23%	
	Fuel & Supplies 21%	Fuel & Supplies 21%

**Economic Return\*\* (on Vessel Asset Value): 2.1%**

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver**  
**Trip-Level Time Series**

Trip-Level Summary		2014	2015	2016	2017	2018***	Average
<b>Effort</b>							
Trips		912	991	763	797	676	828
Vessels		92	83	77	70	52	75
Days at Sea		1,470	1,387	1,097	1,253	1,055	1,252
<b>Landings (gutted lbs)</b>							
Total		390,164	350,650	290,017	342,133	299,401	334,473
SOI		281,726	245,365	206,211	234,254	224,301	238,371
Non-SOI		108,438	105,285	83,806	107,879	75,101	96,102
% SOI		72%	70%	71%	68%	75%	71%
<b>Price (mean)</b>							
Total		\$3.77	\$3.97	\$4.30	\$4.19	\$4.19	\$4.08
SOI		\$3.83	\$4.08	\$4.40	\$4.46	\$4.47	\$4.25
Non-SOI		\$3.61	\$3.72	\$4.07	\$3.58	\$3.34	\$3.66
<b>Revenue</b>							
Total		\$1,471,113	\$1,392,108	\$1,247,910	\$1,431,748	\$1,254,042	\$1,359,384
SOI		\$1,079,879	\$1,000,606	\$907,094	\$1,045,637	\$1,002,965	\$1,007,236
Non-SOI		\$391,234	\$391,502	\$340,816	\$386,111	\$251,076	\$352,148
% SOI		73%	72%	73%	73%	80%	74%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver  
Trip-Level Time Series**

<b>Trip-Level Economics</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
Number of Observations		347	248	175	207	178	
Response Rate (%)		84%	80%	89%	97%	99%	
<b>SOI Trip</b>							
Owner-Operated		82%	76%	90%	88%	94%	86%
Fuel Used per Day at Sea (gallons/day)		29	39	35	33	49	37
<b>Total Revenue</b>		100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>							
Fuel		12.1%	12.9%	6.4%	8.9%	8.6%	9.8%
Bait		1.5%	0.8%	1.4%	1.1%	0.9%	1.1%
Ice		2.1%	1.8%	1.1%	2.7%	1.6%	1.9%
Groceries		2.6%	1.5%	2.6%	3.7%	2.3%	2.5%
Miscellaneous		5%	2.2%	3.8%	3.5%	2.9%	3.5%
Hired Crew		41%	37%	32.7%	38.9%	32.7%	36.5%
IFQ Purchase		0%	0%	0%	0%	0%	0%
OC Owner-Captain Time		28.1%	23.3%	23.9%	15.6%	23.7%	22.9%
<b>Trip Net Cash Flow*</b>		35.6%	43.9%	52%	41.3%	51.1%	44.8%
<b>Trip Net Revenue*</b>							
Labor - Hired & Owner		7.5%	20.6%	28.1%	25.7%	27.4%	21.9%
Fuel & Supplies		69.1%	60.4%	56.6%	54.5%	56.4%	59.4%
		23.4%	19.1%	15.3%	19.8%	16.2%	18.8%
<b>Input Prices</b>							
Fuel Price (per gallon)		\$3.96	\$3.07	\$2.31	\$2.81	\$3.00	\$3.03
Hire Crew Wage (per crew-day)		\$291	\$233	\$295	\$271	\$342	\$286
<b>Productivity Measures</b>							
Landings/Fuel Use (lbs/gallon)		8.1	4.9	7.7	8.7	7.3	7
Landings/Labor Use (lbs/crew-day)		110	85	117	121	138	114

\* See Definitions in Methods Section or Glossary.

**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver  
Annual, Vessel-Level Time Series**

<b>Annual, Vessel-Level Summary</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018***</b>	<b>Average</b>
<b>Effort</b>							
Vessels		92	83	77	70	52	75
Trips - Total		2,444	2,387	2,100	1,958	1,441	2,066
SOI Trips		<u>912</u>	<u>991</u>	<u>763</u>	<u>797</u>	<u>676</u>	<u>828</u>
Non-SOI Trips		1,532	1,396	1,337	1,161	765	1,238
Days at Sea		3,525	3,320	2,895	2,689	2,007	2,887
<b>Landings (gutted lbs)</b>							
Total		1,080,921	945,085	906,710	830,582	563,367	865,333
SOI		<u>281,726</u>	<u>245,365</u>	<u>206,211</u>	<u>234,254</u>	<u>224,301</u>	<u>238,371</u>
Non-SOI		799,195	699,720	700,499	596,327	339,067	626,962
% SOI		26%	26%	23%	28%	40%	29%
<b>Revenue</b>							
Total		\$3,417,381	\$3,099,272	\$2,960,992	\$2,865,139	\$2,127,142	\$2,893,985
SOI		<u>\$1,079,879</u>	<u>\$1,000,606</u>	<u>\$907,094</u>	<u>\$1,045,637</u>	<u>\$1,002,965</u>	<u>\$1,007,236</u>
Non-SOI		\$2,337,502	\$2,098,666	\$2,053,898	\$1,819,501	\$1,124,176	\$1,886,749
% SOI		32%	32%	31%	36%	47%	36%
<b>Vessel Characteristics</b>							
Length		31	30	30	30	30	30
Year Built		1992	1994	1993	1993	1997	1994
For-Hire Fishing Permit		40%	41%	39%	40%	46%	41%

\*\*\* NMFS is aware of egregious underreporting of logbooks that occurred in the Florida Keys from 2018 to 2020, which will impact most of the summary context data provided in this report. The 2018 trip-level economic results should be minimally affected, as only a single vessel selected for economic reporting was involved. The annual economics results are not affected, as the survey is run separately.



**SOI: 2018 SAT Snapper-Grouper FMP Fishery: Diver  
Annual, Vessel-Level Time Series**

Annual, Vessel-Level Economics						
	2014	2015	2016	2017	2018	Average
Number of Observations	12	15	15	19	15	
Response Rate (%)	52%	62%	71%	83%	94%	
<b>SOI Vessel</b>						
Owner-Operated	94%	95%	100%	93%	100%	96%
For-Hire Active	25%	48%	13%	14%	28%	26%
Vessel Value	\$56,758	\$115,277	\$87,190	\$113,115	\$96,908	\$93,850
<b>Total Revenue</b>	100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>						
Fuel	16%	9.9%	10.6%	10.1%	11.5%	11.6%
Other Supplies	10.3%	15.1%	14.6%	10.7%	9.6%	12.1%
Hired Crew	35%	22.9%	31.8%	22%	22.5%	26.8%
Vessel Repair & Maintenance	15.6%	15.7%	17.1%	10.4%	18.8%	15.5%
Insurance	1.7%	1.9%	1.7%	1.5%	2.2%	1.8%
Overhead	7.1%	5.4%	6.1%	4.9%	7.2%	6.1%
Loan Payment	7.4%	3.1%	3%	1.4%	1.8%	3.3%
IFQ Purchase	0%	0%	0.3%	1%	0.3%	0.3%
OC Owner-Captain Time	17.8%	15.5%	17.5%	7.5%	17.9%	15.2%
<b>Net Cash Flow</b>	6.9%	26.2%	14.8%	38%	26%	22.4%
<b>Net Revenue for Operations**</b>						
Depreciation	-8.6%	5.5%	-5.7%	27.4%	3%	4.3%
Vessel R&M, Insur, Overh	5.1%	8.2%	6.2%	5.5%	7.1%	6.4%
Labor - Hired & Owner	24.4%	23%	24.9%	16.8%	28.3%	23.5%
Fuel & Supplies	52.7%	38.4%	49.3%	29.5%	40.4%	42.1%
<b>Economic Return** (on asset value)</b>	-8.4%	3.3%	-4.6%	25%	2.1%	3.5%

\*\* Accruing to vessel owner AND IFQ shareholder. See Definitions.

## Appendices

### Appendix 1 - List of Species in the SAT Snapper-Grouper FMP and Species Group SOIs

Species	FMP Deepwater Fishery	FMP Jacks Fishery	FMP SWGCS Fishery	Species	FMP Deepwater Fishery	FMP Jacks Fishery	FMP SWGCS Fishery
Almaco Jack		X		Mutton Snapper			
Atlantic Spadefish				Nassau Grouper			
Banded Rudderfish		X		Ocean Triggerfish*			
Bank Sea Bass*				Queen Snapper	X		
Bar Jack		X		Red Grouper			X
Blackfin Snapper	X			Red Hind			X
Black Grouper			X	Red Porgy			
Black Sea Bass				Red Snapper			
Blueline Tilefish	X			Rock Hind			X
Coney			X	Rock Sea Bass*			
Cottonwick Grunt*				Sailor's Choice Grunt			
Cubera Snapper				Sand Tilefish	X		
Gag Grouper				Saucereye Porgy			
Golden Tilefish	X			Scamp			
Goliath Grouper				Scup			
Graysby			X	Silk Snapper	X		
Gray Snapper				Snowy Grouper	X		
Gray Triggerfish				Speckled Hind			
Greater Amberjack		X		Tomtate Grunt			
Hogfish				Vermilion Snapper			
Jolthead Porgy				Warsaw Grouper			
Knobbed Porgy				Whitebone Porgy			
Lane Snapper				White Grunt			
Lesser Amberjack		X		Yellowedge Grouper	X		
Longspine Porgy*				Yellowfin Grouper			X
Margate				Yellowmouth Grouper			X
Misty Grouper	X			Yellowtail Snapper			

\* Indicates Ecosystem Components Species which do not have specific annual catch limits, accountability measures, or management measures in place.

NOTE: Wreckfish are also managed under the SAT Snapper-Grouper FMP. However, landings are not reported to the Southeast Coastal Fisheries Trip Logbook program as wreckfish is an ITQ fishery and has its own data collection processes. Each year, only a handful of vessels participated in the wreckfish fishery and the data is often confidential.

## Appendix 2 - Species Groups for the Tables: "Percent of Revenue by Species Group"

NOTE: These groups are used in the "Percent of Revenue by Species Group" table in both the Trip-Level Summary and the Annual, Vessel-Level Summary sections.

### Shallow Water Groupers

Black Grouper  
Broomtail Grouper  
Coney  
Creole-Fish  
Gag Grouper  
Goliath Grouper  
Graysby  
Marbled Grouper  
Nassau Grouper  
Red Grouper  
Red Hind  
Rock Hind  
Scamp  
Tiger Grouper  
Yellowfin Grouper  
Yellowmouth Grouper

### Shallow Water Snappers

Cubera Snapper  
Dog Snapper  
Gray Snapper  
Lane Snapper  
Mahogany Snapper  
Mutton Snapper  
Schoolmaster  
Wenchman  
Yellowtail Snapper

### Mid-Shelf Snappers

Black Snapper  
Blackfin Snapper  
Queen Snapper  
Red Snapper  
Silk Snapper  
Vermilion Snapper

### Deep Water Groupers/Tilefish

Anchor Tilefish  
Blackline Tilefish  
Blueline Tilefish  
Golden Tilefish  
Goldface Tilefish  
Misty Grouper  
Snowy Grouper  
Speckled Hind  
Warsaw Grouper  
Yellowedge Grouper

### Grunt/Porgy/Sea Bass/Triggerfish

Atlantic Spadefish  
Black Margate  
Black Sea Bass  
Bluestriped Grunt  
Cottonwick Grunt  
French Grunt  
Grass Porgy  
Gray Triggerfish  
Hogfish  
Jolthead Porgy  
Knobbed Porgy  
Littlehead Porgy  
Longspine Porgy  
Margate  
Ocean Triggerfish  
Porkfish  
Puddingwife  
Queen Triggerfish  
Red Porgy  
Sailors Choice Grunt  
Saucereye Porgy  
Scup  
Sheepshead  
Smallmouth Grunt  
Spanish Grunt  
Tomtate Grunt  
White Grunt  
Whitebone Porgy

### Mackerels/Dolphinfish/Jacks

Almaco Jack  
Banded Rudderfish  
Bar Jack  
Black Jack  
Blue Runner  
Cero Mackerel  
Crevalle Jack  
Dolphinfish  
Greater Amberjack  
Horse-Eye Jack  
King Mackerel  
Lesser Amberjack  
Spanish Mackerel  
Yellow Jack

### Other Species

All other species not listed above

### Appendix 3 - Glossary/Abbreviations

- **Deep Water Groupers/Tilefish** - See Appendix 2 for particular species included.
- **Diver** - A gear type which includes spear guns.
- **Economic Return (on Asset Value)** - The economic return is calculated by dividing the mean Net Revenue from Operations by the mean Vessel Value. For Gulf of Mexico fisheries, it is critical to note that, practically, this return is shared between owners of vessel capital AND IFQ shares. By purposefully ignoring the IFQ shareholder distribution, the focus is on the real productive capacity of the commercial fishery. All IFQ transactions are zero-sum in that they transfer wealth. The catch share management structure of the fishery allows for the realization of resource rents that will, in all likelihood, accrue to the IFQ shareholders.
- **FMP** - Fishery Management Plan
- **FMP Deepwater** - A SOI consisting of 9 species of deepwater species. See Appendix 1.
- **FMP Jacks** - A SOI consisting of 5 species of jacks. See Appendix 1.
- **FMP SWGCS** - A SOI consisting of 8 species of shallow water groupers or similar. See Appendix 1.
- **GOM** - Gulf of Mexico
- **Grunt/Porgy/Sea Bass/Triggerfish** - See Appendix 2 for particular species included.
- **IFQ** - Individual fishing quota
- **Mackerels/Dolphinfish/Jacks** - See Appendix 2 for particular species included.
- **Mid-Shelf Snappers** - See Appendix 2 for particular species included.
- **Net Cash Flow** - Revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, loan payments, and IFQ purchase. The focus is on actual cash transactions, i.e. money flows. In-kind contributions to the production process, i.e., the opportunity cost of owner-captain time and depreciation, are ignored. The sale of IFQ allocation or shares is also not accounted for, as these transactions cannot be associated with a vessel.
- **Net Revenue from Operations** - Revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, and the opportunity cost of an owner's time as captain as well as the vessel's depreciation. By including in-kind contributions to the production process (opportunity cost of an owner's time and depreciation) and excluding transfer payments (loan payments and IFQ purchase), net revenue from operations is a measure of the inherent productivity, i.e., economic performance, of the commercial fishery. Note that IFQ share ownership is ignored here.
- **NMFS** - National Marine Fisheries Service
- **OC Owner-Captain Time** - Opportunity Cost (OC) is an economic concept referring to the value of a good or service in its next best productive use. Here, the estimated opportunity cost of an owner's labor used on the trip.
- **SAT** - South Atlantic
- **SEFSC** - Southeast Fisheries Science Center
- **SERO** - Southeast Regional Office
- **SG** - Snapper-Grouper
- **Shallow Water Groupers** - See Appendix 2 for particular species included.
- **Shallow Water Snappers** - See Appendix 2 for particular species included.
- **SOI** - Segment of Interest - A subset of commercial fishing trips we provide results for. A particular SOI consists of all trips where at least one pound of fish, which matches the criteria of the SOI, was landed.
- **SWGCS** - Shallow Water Groupers Spawning Closure Species. See Appendix 1 for species included.
- **Trip Net Cash Flow** - Revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, hired crew, and IFQ purchase. Cash Flow represents an estimate of the money (cash) generated by the typical SOI trip over and above the cash cost of taking the trip (marginal or variable costs of trip). This implies a short term perspective.
- **Trip Net Revenue** - Revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, hired crew, and the opportunity cost of owner's time as captain. By including opportunity cost of owner's time (an in-kind, variable factor to production) and excluding IFQ purchase payments, trip net revenue is a measure of the inherent short-term productivity of the commercial fishing process.
- **Vertical Line** - A gear type which includes hand lines, rod and reels, electrical reels and bandit gear.