

# Economic Information Provided in Regulatory Actions



**April 8, 2024**

# OUTLINE

Economic data and estimated economic effects

Example: IFQ species amendment including changes in commercial and recreational sectors' ACL, in recreational season length

Commercial Sector

Recreational Sector

Private anglers

For-Hire Operators



# Commercial Sector

Changes in IFQ shares and allocation (e.g., gag) and changes in values

Changes in commercial landings and in ex-vessel revenues

Changes in producer surplus to commercial fishermen (PS is the difference between revenues and variable costs)

Changes in the quantity of product available to seafood consumers, changes in product price and in consumer surplus

Changes in dealer revenues



# Recreational Sector

## Private anglers

Changes in number of fish harvested

Changes in consumer surplus to anglers (CS is the satisfaction anglers enjoy over and above their costs of fishing)



# Recreational Sector

## For-hire Operators

Changes in number of fish harvested

Changes in consumer surplus to anglers (CS is the satisfaction anglers enjoy over and above their costs of fishing)

Changes in charter for-hire trips targeting the species (target trips)

Changes in producer surplus to for-hire operators



# For-hire Producer Surplus

Producer surplus to for-hire operators: PS is the amount of money a vessel owner earns in excess of the costs of providing the trip (variable costs)

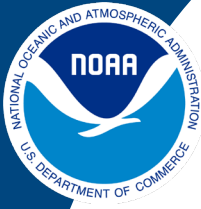
**PS** = Revenues – Variable Costs

**Revenues:** Trip Fee (Price of the trip)

**Trip Costs:** Fuel, Labor...

**PS per angler trip:** Net Revenue per trip/ # of Anglers





**NOAA**  
**FISHERIES**

# Collecting Economic Data in the For-Hire Sector

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April 8, 2024

# What I am going to try to convince you of:

- If you want **science-based management**, economic data is not secondary to or independent of biological or other fishery data
- The single most important economic variable is the price of the good or service being studied: **The charter fee**
- A **logbook is the right place** to collect the charter fee
- A good **statistical sample** can be enough





# Outline

- Overview of economic data and results based on commercial logbooks for reef fish and mackerels
- Overview of economic data and results we have been collecting and using in the for-hire fishery
- Examples of the type of economic results that are possible with a for-hire logbook (using 2022 SEFHIER data)
- Conclusion



# Econ Data and Result in SE Commercial Fisheries



**NOAA**  
**FISHERIES**

# Trip Logbooks (since 1993)

- SE Coastal Fisheries Vessels Logbook for:

- Gulf of Mexico Reef Fish
- South Atlantic Snapper-Grouper
- King and Spanish Mackerel
- Shark
- Atlantic Dolphin/Wahoo

- Many of the for-hire species

- Fish price on trip tickets/dealer reports

Signature: _____	Phone No.: ( ) -	Schedule No. <i>NMFS Use Only</i>
Vessel Name: _____	Trip Start Date: [ ] [ ] [ ] [ ] [ ] [ ] MM DD YY	County or Parish: _____ State: [ ] [ ]
Vessel No.: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]	Trip Unload Date: [ ] [ ] [ ] [ ] [ ] [ ] MM DD YY	Dealer Name: _____
Operator Name: _____	Days at Sea: [ ] [ ]	SE Federal Dealer Number: [ ] [ ] [ ] [ ] [ ] [ ]
Operator Number: _____ <i>(if known)</i>	No. of Crew: [ ] [ ]	State Trip Ticket No.: _____
		Check box if landings sold to multiple dealers: <input type="checkbox"/> Yes

<b>GEAR SECTION: See Instructions on Page 2.</b>										Check gear box and fill in all the boxes below.									
Traps (T) <input type="checkbox"/> Fish <input type="checkbox"/> Other		Longline(L) <input type="checkbox"/> Bottom <input type="checkbox"/> Other		PLL <input type="checkbox"/> Other		Gill Net (GN) <input type="checkbox"/> Strike <input type="checkbox"/> Other		Drift <input type="checkbox"/> Anchor		Hook & Line <input type="checkbox"/> Hand <input type="checkbox"/> Bandit		<input type="checkbox"/> (H) <input type="checkbox"/> (E) <input type="checkbox"/> (TR) <input type="checkbox"/> (B)		Divers <input type="checkbox"/> (S) <input type="checkbox"/> (P)		Other Gear (O)		Spear Power	
Total # Trap Hauls	# Sets	# Sets	# Sets	# Lines	# Hooks per Line	Total Hrs Fished	SE VTR #: <b>R</b>		Date Received: <i>NMFS use only</i>										
# Traps Used	# Hooks per Line	Length (yards)	Depth (yards)	Total Hrs Fished															
Trap Soak Time (hrs)	Set Soak Time (hrs)	Depth (yards)	Total Soak Time (hrs)	Total Soak Time (hrs)															
Mesh: [ ] [ ] [ ] [ ] [ ] [ ]	Length (miles)	Mesh:																	

<b>CATCH SECTION:</b>										Weight- Record POUNDS kept gutted or whole (DO NOT include fractions of pounds).									
See Instructions on Page 3.										Gear- Record gear used for MAJORITY of catch as T, L, GN, H, E, TR, B, S, P or O. (Do not use multiple gears).									
										Area- Areas can be found on maps in logbook (page 6). Do not use state area codes.									
										Depth- Record bottom depth where the MAJORITY of fish were caught in FEET.									
Species Name	Code	Gutted-lbs	Whole-lbs	Gear	Area	Depth	Species Name	Code	Gutted-lbs	Whole-lbs	Gear	Area	Depth						
Amberjack-Great	1812	#	#				P	Jolthead	3312	#	#								
Amberjack-Lesser	1815	#	#				O	Knobbed	3308	#	#								
Almaco	1810	#	#				R	Red	3302	#	#								
Banded Rudder	1817	#	#				G	Whitebone	3306	#	#								



# Sample Trip-level Economics (since 2002/5)

- Stratified sample of permitted **vessels** at start of year
- Selected vessel supposed to report econ data for ALL logbook trips across the year

TRIP EXPENSE SECTION:		MANDATORY FOR SELECTED VESSELS.				See Instructions on Pages 3-4.					
Owner Operated?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Gallons of Fuel Used on This Trip	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Price per Gallon \$	<input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	Bait Expense \$	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	.00	Ice Expense \$	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	.00
Grocery Expense	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	.00	Misc. Trip Expenses	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	.00	IFQ Allocation Purchased for This Trip	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	.00			
Has the payment for your catch been determined?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If Yes	Total Trip Revenue	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	.00	Total Payment to HIRED Crew and Captain	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	.00			

# Supplemental Annual Cost Survey

OMB Control No. 0548-0016

Expiration Date: 09/30/2019

## 2016 Survey of Annual Expenses for Snapper-Grouper, Reef Fish, Dolphin-Wahoo, Shark and Mackerel Permit Holders

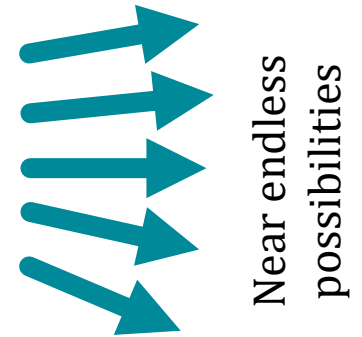
Vessel Name: <VESSEL>		Vessel ID: <VESSEL_ID>	
Please report <b>financial expenses</b> (actual dollar payments) paid in 2016 for this vessel across all fisheries and activities. Enter "0" if you did not have any expenses in a category. <b>PLEASE DO NOT LEAVE BLANK!</b>			
<b>ACTIVITY REPORT FOR THIS VESSEL IN 2016</b>			
1. Vessel <b>INACTIVE</b> all year: <input type="checkbox"/> No <input type="checkbox"/> Yes (if Vessel was inactive all year, you can skip to Q9)			
Please enter the number of days spent away from port and the total gross revenues generated by this vessel for the following activities in 2016:			
2. Commercial fishing/seafood sales:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	days	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
3. Chartering/for-hire fishing:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	days	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
4. Vessel active but <b>NOT</b> fishing:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	days	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
<b>TOTAL TRIP-RELATED EXPENSES FOR THIS VESSEL IN 2016</b>			
5. Total paid for fuel:	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
6. Total paid for other trip-related expenses: (bait, ice, groceries, oil, lubricants, tackle, etc.)	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
7. Total paid for IFQ allocation transferred <b>FROM</b> another IFQ account:	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
8. (a) Did the vessel employ <b>HIRED</b> crew and/or <b>HIRED</b> captains?	<input type="checkbox"/> Yes <input type="checkbox"/> No (go to Q9)		
(b) Total paid to <b>HIRED</b> crew and <b>HIRED</b> captain(s) of this vessel: (Not to Owner! For example: from IRS Form(s) 1099-MISC or equivalent)	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
<b>TOTAL ANNUAL EXPENSES FOR THIS VESSEL IN 2016</b>			
9. (a) Total paid for any vessel maintenance, repair, replacement, new purchase or upgrade (include hull, engine, gear, electronics, etc.)	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
(b) Does the amount in Question 10. (a) include a haul-out?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
10. (a) Vessel insurance in 2016 (please check all that apply):	<input type="checkbox"/> None <input type="checkbox"/> Hull <input type="checkbox"/> P&I		
(b) Total paid for vessel insurance in 2016 (insurance premium):	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
11. Total loan payments for this vessel in 2016:	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
12. Overhead applicable to this vessel such as dockage, professional services, licenses, (share of) rent, utilities, office and vehicle expenses, etc. (Please exclude: insurance and loan payments, depreciation and income taxes.)	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		
13. Please estimate the <u>current market value</u> of this vessel and its associated gear and equipment (do <u>NOT</u> include IFQ quota share):	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>		

- Same sample of vessels
- Sent after the year is over
- Fixed costs
- Many activities:
  - Logbook fisheries
  - Other seafood
  - Charter fishing
  - Other business
- All-encompassing/holistic at vessel-level

# Census vs. Post-stratified SOI vs. Econ Sample

Overall logbooks (census) and econ sample

	Vessels	Trips
All Logbooks	1,770	36,962
Econ-Sample	373	8,312



SOI – Gulf Red Snapper

	Vessels	Trips
All Logbooks	402	3,783
Econ-Sample	92	751

SOI – SE Lionfish

	Vessels	Trips
All Logbooks	49	310
Econ-Sample	10	81

**Final Product – 6 standardized pages for any SOI**

## SOI: 2016 GOM Reef Fish 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 GOM Reef Fish FMP was landed in 2016 using any gear type. Species managed include multiple species of snapper, grouper, tilefish, and jacks as well as triggerfish and hogfish. For a complete list of the species, please refer to Appendix 1. For important disclaimer, see page 14.

### Trip-Level Summary

Effort	
Trips	6,918
Vessels	512
Days at Sea	30,550
Crew Days	89,035

Landings (guttled lbs)	
<b>Total</b>	<b>15,645,434</b>
SOI	14,950,969
Non-SOI	694,465
% SOI	96%

Percent by Gear		
Trips	SOI lbs	
Vertical Line	82%	65%
Longline	12%	34%
Diver	5%	1%
Other	1%	0.7%

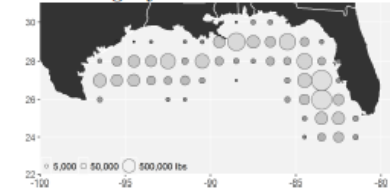
Price (mean)	
<b>Total</b>	<b>\$3.96</b>
SOI	\$4.07
Non-SOI	\$1.69

Revenue	
<b>Total</b>	<b>\$62,020,750</b>
SOI	\$60,844,287
Non-SOI	\$1,176,463
% SOI	98%

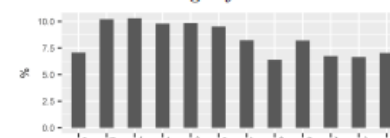
Percent of Revenue by Species Group	
Shallow Water Groupers	37%
Shallow Water Snappers	3%
Mid-Shelf Snappers	48%
Deep Water Groupers/Tilefish	8%
Grunts/Porgies/Triggerfish	1%
Mackerels/Dolphinfish/Jacks	2%
Other Species	0.4%

Revenue for Top 5 Species	
Red Snapper	\$25,617,136
Red Grouper	\$16,727,197
Gag Grouper	\$4,485,711
Vermilion Snapper	\$4,107,852
Yellowedge Grouper	\$3,270,940

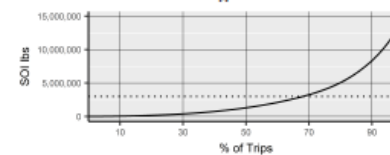
SOI Landings by Area Fished



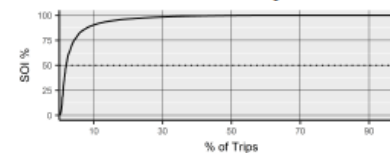
Share of SOI Landings by Month



Cumulative SOI Landings



SOI Share of Revenue Per Trip



Trip Descriptive Statistics (N=6,918)

	Mean	Min	Median	Max
Days at Sea	4.4	1	3	23
Crew Size	2.8	1	3	10
Landings	2,262	2	1,070	23,770
Revenue	\$8,965	\$6	\$3,630	\$97,814
SOI	\$8,795	\$3	\$3,436	\$95,972
% SOI	96%	0.1%	99.8%	100%

## SOI: 2016 GOM Reef Fish FMP Fishery: All Gears

### Trip-Level Economics

#### Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	6,918	-	-	-
Selected	2,065	30%	-	-
Responded	2,048	30%	99%	-
Used	1,948	28%	94%	95%

#### Economic Results (n=1,948)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	68%	3.5	63%	74%	-
Days at Sea	4.4	0.2	4.1	4.8	3
Crew Size	2.7	0.1	2.6	2.8	3
Fuel Used	179	11	160	198	125
Landings (guttled lbs)	2,043	169	1,763	2,322	943
<b>Total Revenue</b>	<b>8,406</b>	<b>757</b>	<b>7,153</b>	<b>9,660</b>	<b>3,180</b>
<b>Cost</b>					
Fuel	365	21	330	401	258
Bait	303	31	252	353	110
Ice	143	14	120	165	84
Groceries	262	21	227	297	120
Miscellaneous	250	34	193	306	50
Hired Crew	2,277	247	1,868	2,686	750
IFQ Purchase	1,550	236	1,160	1,940	96
OC Owner-Captain Time	630	101	462	798	100
<b>Trip Net Cash Flow</b>	<b>3,257</b>	<b>402</b>	<b>2,592</b>	<b>3,922</b>	<b>970</b>
<b>Trip Net Revenue</b>	<b>4,177</b>	<b>442</b>	<b>3,446</b>	<b>4,909</b>	<b>955</b>

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

Revenue 100%	Trip Net Cash Flow 39%	Trip Net Revenue 50%
	IFQ Purchase 18%	Labor - Hired & Owner 35%
	Labor - Hired 27%	
	Fuel & Supplies 16%	Fuel & Supplies 16%

#### Input Prices

Fuel Price (average): \$2.04 per gallon      Hired Crew Wage (implicit): \$251 per crew-day

#### Productivity Measures

Landings/Fuel Use: 11.4 lbs/gallon      Landings/Labor Use: 169 lbs/crew-day



# Trip-Level Economics

## Response Rate for SOI Trips

	Trips	%SOI	%Selected	%Responded
SOI	5,863	-	-	-
Selected	1,538	26%	-	-
Responded	1,482	25%	96%	-
Used	1,448	25%	94%	98%

# Trip-Level Economics, cont.

Economic Results (n=1,448)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Trip</b>					
Owner-Operated	70%	3.6	64%	75%	-
Days at Sea	4.7	0.3	4.2	5.2	4
Crew Size	2.8	0.1	2.7	2.9	3
Fuel Used	219	17	191	247	150
Landings (guttled lbs)	2,308	193	1,988	2,627	1,233
<b>Total Revenue</b>	10,063	929	8,524	11,601	4,482
<b>Cost</b>					
Fuel	587	44	515	660	407
Bait	390	45	316	465	140
Ice	166	17	138	194	100
Groceries	276	28	229	323	150
Miscellaneous	252	39	188	316	50
Hired Crew	2,400	258	1,972	2,828	896
IFQ Purchase	2,019	307	1,511	2,528	119
OC Owner-Captain Time	714	108	536	893	196
<b>Trip Net Cash Flow*</b>	3,972	543	3,072	4,872	1,608
<b>Trip Net Revenue*</b>	5,277	623	4,245	6,309	1,772

# Trip-Level Economics, cont.

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

Revenue 100%	Trip Net Cash Flow* 39%	Trip Net Revenue* 52%
	IFQ Purchase 20%	Labor - Hired & Owner 31%
	Labor - Hired 24%	
	Fuel & Supplies 17%	Fuel & Supplies 17%

## Input Prices

Fuel Price (average): \$2.68 per gallon

Hired Crew Wage (implicit): \$244 per crew-day

## Productivity Measures

Landings/Fuel Use: 10.5 lbs/gallon

Landings/Labor Use: 176 lbs/crew-day

# Time Series – Trip-Level Economics (Page 5)

	2014	2015	2016	2017	2018	Average
Number of Observations	1,237	1,787	1,955	1,943	1,448	
Response Rate (%)	78%	85%	94%	95%	94%	
<b>SOI Trip</b>						
Owner-Operated	73%	65%	68%	61%	70%	67.4%
Fuel Used per Day at Sea (gallons/day)	46	46	40	49	46	45
<b>Total Revenue</b>	100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>						
Fuel	6.8%	4.9%	4.3%	5.1%	5.8%	5.4%
Bait	3.1%	3.4%	3.6%	4.1%	3.9%	3.6%
Ice	1.4%	1.5%	1.7%	1.6%	1.6%	1.6%
Groceries	2.4%	2.4%	3.1%	3.2%	2.7%	2.8%
Miscellaneous	2.5%	2.4%	3%	2.5%	2.5%	2.6%
Hired Crew	28.2%	25.9%	27%	27.6%	23.8%	26.5%
IFQ Purchase	14.6%	26.5%	18.5%	19.1%	20.1%	19.8%
OC Owner-Captain Time	6.5%	6.2%	7.4%	6.4%	7.1%	6.7%
<b>Trip Net Cash Flow*</b>	41%	33%	38.8%	36.8%	39%	37.7%
<b>Trip Net Revenue*</b>	49.2%	53.2%	49.8%	49.5%	52%	50.7%
Labor - Hired & Owner	34.7%	32.1%	34.4%	33.9%	31%	33.2%
Fuel & Supplies	16.1%	14.7%	15.7%	16.6%	17%	16%
<b>Input Prices</b>						
Fuel Price (per gallon)	\$3.67	\$2.64	\$2.13	\$2.34	\$2.68	\$2.69
Hire Crew Wage (per crew-day)	\$343	\$291	\$261	\$297	\$244	\$287
<b>Productivity Measures</b>						
Landings/Fuel Use (lbs/gallon)	13.3	12.6	11.4	10.7	10.5	12
Landings/Labor Use (lbs/crew-day)	221	204	169	196	176	193

## SOI: 2016 GOM Reef Fish FMP Fishery: All Gears

### Annual, Vessel-Level Summary

#### Effort

Vessels	512
Trips - Total	8,369
SOI Trips	6,918
Non-SOI Trips	1,451
Days at Sea	32,947
Crew Days	93,956

#### Landings (gutted lbs)

Total	16,957,132
SOI	14,950,969
Non-SOI	2,006,163
% SOI	88%

#### Percent by Gear

Trips	Total lbs
Vertical Line	79% 64%
Longline	10% 31%
Diver	6% 1%
Other	5% 4%

#### Price (mean)

Total	\$3.84
SOI	\$4.07
Non-SOI	\$2.14

#### Revenue

Total	\$65,138,736
SOI	\$60,844,287
Non-SOI	\$4,294,449
% SOI	93%

#### Percent of Revenue by Species Group

Shallow Water Groupers	35%
Shallow Water Snappers	4%
Mid-Shelf Snappers	46%
Deep Water Groupers/Tilefish	8%
Grunts/Porgies/Triggerfish	1%
Mackerels/Dolphinfish/Jacks	4%
Other Species	0.6%

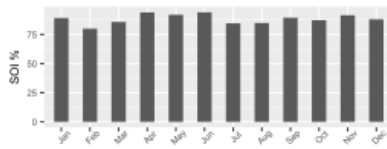
#### Revenue for Top 5 Species

Red Snapper	\$25,641,191
Red Grouper	\$16,767,027
Gag Grouper	\$4,509,635
Vermilion Snapper	\$4,129,328
Yellowedge Grouper	\$3,279,727

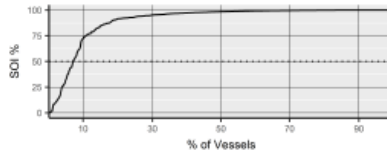
#### Annual, Vessel Descriptive Statistics (N=512)

	Mean	Min	Median	Max
Trips	16.3	1	13	117
Days at Sea	64.3	1	48	245
Crew Days	183.5	1	112	1,470
Landings	33,119	15	14,519	448,815
Revenue	\$127,224	\$64	\$55,152	\$2,182,950
SOI	\$118,836	\$25	\$39,598	\$2,152,496
% SOI	90.3%	0%	98.5%	100%

#### SOI Share of Monthly Landings



#### SOI Share of Revenue Per Vessel



#### Percent with Federal Permit

GOM Reef Fish	100%
SAT Snapper & Grouper - Unlimited	7%
SAT Snapper & Grouper - Limited	0.6%
King Mackerel	42%
Spanish Mackerel	46%
Dolphin-Wahoo	36%
Other Commercial Fishing	18%
For-Hire Fishing	23%

#### Vessel Characteristics (N=512)

	Mean	Min	Median	Max
Length	38	14	37	69
Year Built	1987	1961	1985	2016
Horsepower	422	12	350	2,000
Fiberglass Hull	93%	-	-	-
Diesel Engine	79%	-	-	-
Ice Refrigeration	97%	-	-	-

## SOI: 2016 GOM Reef Fish FMP Fishery: All Gears

### Annual, Vessel-Level Economics

#### Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	512	-	-	-
Selected	147	29%	-	-
Responded	130	25%	88%	-
Used	121	24%	82%	93%

#### Economic Results (n=121)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	78%	3.4	73%	84%	-
For-Hire Active	16%	3.1	11%	21%	-
Days - Commercial Fishing	74	3.8	68	81	55
Days - For-Hire Fishing	10	3	5	15	0
Days - Non-fishing	2	0.4	1	3	0
Vessel Value	85,688	6,327	75,199	96,177	70,000
Has Insurance	38%	4	31%	44%	-
<b>Total Revenue</b>					
Commercial Fishing	132,167	16,043	105,572	158,762	76,255
For-Hire Fishing	120,155	15,483	94,488	145,822	62,551
<b>Cost</b>					
Fuel	8,907	832	7,528	10,287	5,968
Other Supplies	14,263	1,152	12,354	16,172	7,410
Hired Crew	32,336	3,942	25,801	38,871	11,000
Vessel Repair & Maintenance	11,271	1,066	9,504	13,039	7,500
Insurance	1,347	200	1,015	1,679	0
Overhead	6,800	749	5,558	8,042	3,600
Loan Payment	1,689	495	869	2,509	0
IFQ Purchase	18,432	2,943	13,553	23,311	1,679
OC Owner-Captain Time	8,825	1,100	7,002	10,648	3,028
Depreciation	4,284	316	3,760	4,809	3,500
<b>Net Cash Flow</b>					
	37,121	11,023	18,849	55,394	12,292
<b>Net Revenue from Operations*</b>					
	44,133	11,340	25,333	62,932	9,197

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

Revenue 100%	Net Cash Flow 28%	Net Revenue - Operations 33%
	IFQ Purchase 14%	Depreciation 3%
	Loan Payment 1%	Fixed Costs 15%
	Fixed Costs 15%	
	Labor - Hired 24%	Labor - Hired & Owner 31%
	Fuel & Supplies 18%	Fuel & Supplies 18%

#### Economic Return\* (on Vessel Asset Value): 51.5%

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

# Annual, Vessel-Level Economics

## Response Rate for SOI Vessels

	Vessels	%SOI	%Selected	%Responded
SOI	525	-	-	-
Selected	139	26%	-	-
Responded	114	22%	82%	-
Used	110	21%	79%	96%

# Annual, Vessel-Level Economics, cont.

Economic Results (n=110)

	Mean	SE	90% L.B.	90% U.B.	Median
<b>SOI Vessel</b>					
Owner-Operated	70%	4	63%	76%	-
For-Hire Active	15%	3.1	10%	21%	-
Days - Commercial Fishing	61	3.8	54	67	41
Days - For-Hire Fishing	12	3.1	7	17	0
Days - Non-fishing	1	0.3	0	2	0
Vessel Value	107,356	9,578	91,465	123,246	80,000
Has Insurance	34%	4.1	28%	41%	-
<b>Total Revenue</b>					
Commercial Fishing	111,961	13,560	89,465	134,458	50,064
For-Hire Fishing	10,998	2,943	6,115	15,880	0
<b>Cost</b>					
Fuel	9,942	850	8,531	11,353	7,834
Other Supplies	14,465	1,762	11,543	17,388	6,911
Hired Crew	28,740	4,128	21,891	35,590	6,800
Vessel Repair & Maintenance	13,083	1,589	10,446	15,720	7,057
Insurance	1,367	230	985	1,749	0
Overhead	5,941	842	4,545	7,337	3,000
Loan Payment	1,686	365	1,080	2,292	0
IFQ Purchase	18,495	3,584	12,549	24,442	1,500
OC Owner-Captain Time	8,086	1,057	6,333	9,839	1,764
Depreciation	5,368	479	4,573	6,162	4,000
<b>Net Cash Flow</b>	<b>29,240</b>	<b>8,516</b>	<b>15,111</b>	<b>43,368</b>	<b>5,260</b>
<b>Net Revenue from Operations**</b>	<b>35,967</b>	<b>9,120</b>	<b>20,836</b>	<b>51,098</b>	<b>5,416</b>

# Annual, Vessel-Level Economics, cont.

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

Revenue 100%	Net Cash Flow 24%	Net Revenue - Operations 29%
	IFQ Purchase 15%	Depreciation 4%
	Loan Payment 1%	Vessel R&M, Insur, Overh 17%
	Vessel R&M, Insur, Overh 17%	Labor - Hired & Owner 30%
	Labor - Hired 23%	Fuel & Supplies 20%
	Fuel & Supplies 20%	

**Economic Return\*\* (on Vessel Asset Value): 33.5%**

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



# Time Series – Annual, Vessel-Level Econ (Page 6)

	2014	2015	2016	2017	2018	Average
Number of Observations	84	105	121	132	110	
Response Rate (%)	62%	75%	82%	78%	79%	
<b>SOI Vessel</b>						
Owner-Operated	78%	69%	78%	65%	70%	72%
For-Hire Active	9%	17%	16%	22%	15%	16%
Vessel Value	\$125,554	\$106,703	\$89,381	\$113,690	\$107,356	\$108,537
<b>Total Revenue</b>	100%	100%	100%	100%	100%	100%
<b>Costs (% of Revenue)</b>						
Fuel	8.4%	6.1%	6.7%	6.8%	8.1%	7.2%
Other Supplies	9.6%	9.4%	10.8%	11%	11.8%	10.5%
Hired Crew	26.9%	25.3%	24.5%	25.3%	23.4%	25.1%
Vessel Repair & Maintenance	7.7%	6.9%	8.5%	11.2%	10.6%	9%
Insurance	1.1%	0.8%	1%	1.2%	1.1%	1%
Overhead	5.6%	5.5%	5.1%	6.5%	4.8%	5.5%
Loan Payment	1%	1.4%	1.3%	1.3%	1.4%	1.3%
IFQ Purchase	11.1%	24.1%	14%	10.6%	15%	15%
OC Owner-Captain Time	5.6%	5.4%	6.6%	5.5%	6.6%	5.9%
<b>Net Cash Flow</b>	28.6%	20.6%	28.1%	26%	24%	25.5%
<b>Net Revenue for Operations**</b>	31.4%	37.6%	33.5%	28.4%	29%	32%
Depreciation	3.7%	3.1%	3.2%	4%	4.4%	3.7%
Vessel R&M, Insur, Overh	14.3%	13.2%	14.7%	18.9%	17%	15.6%
Labor - Hired & Owner	32.6%	30.7%	31.1%	30.9%	30%	31.1%
Fuel & Supplies	18%	15.4%	17.5%	17.9%	20%	17.8%
<b>Economic Return** (on asset value)</b>	42.1%	60.2%	51.8%	35.8%	33.5%	44.7%

# Annual Economic Reports



NOAA TECHNICAL MEMORANDUM

## ECONOMICS OF THE U.S. SOUTH ATLANTIC AND KING MACKEREL AND SPANISH MACKEREL

BY

ELIZABETH OVERSTREET, LARRY PERRUSO, AND



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



NOAA TECHNICAL MEMORANDUM NMFS-SEFSC-725

## ECONOMICS OF THE GULF OF MEXICO REEF FISH FISHERY - 2016

BY

ELIZABETH OVERSTREET AND CHRISTOPHER LIESE



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

June 2018

NOAA TECHNICAL MEMORANDUM NMFS-SEFSC-730

## U.S. SOUTH ATLANTIC SNAPPER-GROUPER FISHERY - 2016

BY

ELIZABETH OVERSTREET, LARRY PERRUSO, AND CHRISTOPHER LIESE



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

June 2018

# Econ in the GOM Shrimp Fishery

- Shrimp fishery does not have a logbook
- Conduct annual economic survey
- 2-page mail survey (required for permit renewal)
- 33% sample
- Provides good annual, vessel-level economic results
- No ability to “drill-down” past the annual, vessel-level economics
- Better than for-hire sector, but much more limited than logbook



**NOAA**  
**FISHERIES**

# Econ Data and Result in SE For-Hire Fisheries



**NOAA**  
**FISHERIES**

# Overview

1. MRIP (and previously MRFSS) only statistical estimates of trip counts (by State and Wave; Mode Charter)
2. Occasional “Socio-Economic” add-ons to MRIP, especially trip-level expenditure surveys
3. 2002/03 trip-level add-on to FHTS
4. 2009 in-person, comprehensive “decennial” survey
5. Website charter fee data collection (2011-2015)
6. Economics in the SE Region Headboat Survey
7. Most “recent”: 2017 mail-survey for trip level data



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**FISHERIES**

# “Socio-Economic” Add-ons to MRIP/MRFSS

Add-ons to intercept survey or mail/phone:

- Trip-level Expenditure Surveys (2022, 2016/17, 2011, 2006)
- Durable Goods Expenditures (2019, 2014, 2009)
- Valuation Surveys (revealed or stated preference)



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# Trip-level Expenditure Surveys

**2016 SOCIO-ECONOMIC ADD-ON SURVEY (SEAS)** OMB NO. 0648-0693 (EXP. 04/30/2017)

1. ASSIGNMENT NO.  Please indicate if this is your first or second assignment today by writing "1" or "2."

2. INTERVIEWER ID

3. YR/MO/DAY  2  0  1  6

4. INTERCEPT NO.

5. INTERVIEW TIME (use 2400 clock)     Time this interview was completed

6. STATE CODE  7. COUNTY CODE  8. SITE CODE

9. SEAS INTERVIEW STATUS  
 1  Fully Complete 3  Initial Ref. of SEAS  
 2  Partially Complete 4  Less than 16 Years

In order to qualify for this survey, respondent must be at least 16 years of age. If you are unable to determine respondent's age, please ask: Are you at least 16 years of age? If respondent is not at least 16 years of age, terminate interview.

10. Is this fishing trip part of a longer trip in which you will spend at least one night away from your permanent or seasonal residence, or is this a one-day fishing trip?  
 1  One day- code q.11-q.13 as "98"  
 2  Longer  
 8  Don't Know - code q.11-q.13 as "98"  
 9  Refused - code q.11-q.13 as "98"

11. How many nights will you be away from your residence on this trip?  
  Number of Nights  
 98  Don't Know/ Not applicable  
 99  Refused

12. As of this morning, how many nights have you already been away from your residence on this trip?  
  Number of Nights  
 98  Don't Know/ Not applicable  
 99  Refused

13. For how many days of this trip will you go saltwater fishing?  
  Number of Days  
 98  Don't Know/ Not applicable  
 99  Refused

14. What was the primary purpose of this entire trip away from home?  
 1  Fishing  
 2  Vacation or other personal trip  
 3  Business  
 8  Don't Know/ Not applicable  
 9  Refused

15a. Including yourself, how many people traveled together on this entire trip?  
   Number of People

15b. Of the people who traveled with you today, how many people were fishing, including yourself?  
   Number of People

16. Now I would like to ask you about the amount of money that you personally have spent and will spend for your entire trip away from home, not just the time spent fishing. For each category, please estimate your personal expenses. (Show expenses card and record dollar amounts in each category. Leave blank any categories with no expenses. If angler refuses to provide any expenditures or does not know any expenditures, record 998 in the "Other" row).

Type of expense	Your Personal Expenses
Auto, truck, or RV fuel	\$ .00
Auto, truck, or RV rental	\$ .00
Airfare or other public transportation	\$ .00
Lodging	\$ .00
Food and drink from grocery or convenience stores	\$ .00
Food and drink from restaurants or bars	\$ .00
Bait	\$ .00
Ice	\$ .00
Parking or site access fees	\$ .00
Boat fuel and oil	\$ .00
Boat rental	\$ .00
Party, charter or guide fees	\$ .00
Fish filleting fee or tips paid to charter crew	\$ .00
Processing, freezing, or shipping paid to processing company	\$ .00
Tournament fees	\$ .00
Gifts or souvenirs	\$ .00
Other _____	\$ .00

17. What percentage of the expenses you just described were spent in (state of intercept)?  
   Percentage (0-100%)  
 998  Don't Know/ Not applicable 999  Refused

# MRIP For-hire Telephone Survey

- Basic MRIP not good for “rare” mode charter
- Additional survey “FHTS” of charter captains
- All saltwater for-hire, incl. inshore/“guide boats”
- Conducted weekly by telephone
- Akin to a logbook without catch for ~5% sample

In 2002/2003:

- “Cost and Earnings” Add-on to FHTS



**NOAA**  
**FISHERIES**



# 2002/03 trip-level fee and cost survey

- Best ever done in SE charter sector! (by Rita Curtis at HQ)
- Weekly, together with FHTS (~5% sample)
- Over one year
- For-hire fee and variable cost questions
- Learned lessons for future (that hasn't yet come)

## Collecting Economic Data from the For-Hire Fishing Sector: Lessons from a Cost and Earnings Survey of the Southeast U.S. Charter Boat Industry<sup>1</sup>

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*Abstract.*—This chapter examines the methodological challenges associated with collecting economic data from the for-hire fishing sector. A cost and earnings survey of charter boat operators in the Southeast United States serves as a case study. In the case study, a telephone survey was used to collect information about individual trips and a mail survey was used to collect complementary data about annual expenses. The results of the case study are used in the discussion of economic data requirements and survey methodology most applicable to the charter boat industry. Recommendations are provided for improving the design of surveys to collect economic data from the for-hire sector.

### Introduction

The for-hire fishing sector is a large and growing recreational service industry. This industry, together with recreational and commercial fishing sectors, relies on healthy and productive fisheries. Effective resource management is vital to maintain healthy fisheries, especially in light of steadily increasing population. Good data, including economic information, is a necessary prerequisite for successful resource management. Managers require economic data in order to understand the importance of the for-hire sector and to evaluate the extent to which the sector will be affected by future fishery regulations.

Historically, the for-hire fishing sector has been treated as part of the recreational fishing sector, especially from a data collection perspective. Recently, the National Research Council (NRC 2006) reviewed recreational fisheries data collections in the United States and concluded that the for-hire sector be treated as a commercial sector. Treating the for-hire sector as its own commercial sector for fishery management purposes, independent of the rest of

recreational angling, implies a paradigm shift for economic analysis and associated data collections. The focus is shifted from consumers—recreational charter anglers—to producers—the charter operations as productive enterprises. The study of recreational angling is a study of the consumption side of the economy, involving the consumer, demand, and the implicit values placed on goods and services. By contrast, as a commercial sector, the charter industry is part of the production side of the economy. In this way, charter captains and their vessels are profit-maximizing firms that combine inputs to produce a service—the charter trip and experience—that is sold to the consumer. The economic models and methods used to assess and understand each side differ substantially and so do the data requirements.

As a result, economic surveys need to be designed specifically for the for-hire fishing sector, raising the questions of “what data are needed” and “how best to collect it.” This chapter examines the methodological challenges associated with collecting economic data from the for-hire fishing sector. We begin by reporting on an economic survey of charter boat operations in the Southeast United States. This survey is an informative case study on how to collect data from the for-hire sector because it

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<sup>1</sup> The views expressed herein are those of the authors and do not necessarily reflect the views of NOAA or any of its subdivisions.

Table 2.—Summary statistics for the charter trips in the economic data set ( $n = 1,205$ ).

	Mean	SD	95% confidence interval		Median
			Lower	Upper	
Vessel length (feet)	32.0	12.0	31.3	32.6	30.0
Vessel year built	1988	12	1987	1989	1990
Federal charter permit (%)	37%	–	35%	40%	–
Federal commercial permit (%)	12%	–	10%	13%	–
Crew size	1.5	0.5	1.5	1.5	1.0
Passenger number	4.2	2.6	4.1	4.4	4.0
Trip length (hours)	7.0	2.4	6.8	7.1	7.0
Time fished (hours)	4.8	1.7	4.7	4.9	4.5
Fuel used (gallons)	53	64	49	56	30
Fuel price (per gallon)	\$1.44	\$0.32	\$1.42	\$1.45	\$1.43
Revenue—charter fee	\$565	\$355	\$544	\$585	\$450
Revenue—tip	\$43	\$74	\$39	\$47	\$0
Revenue—other	\$4	\$40	\$2	\$6	\$0
Cost—fuel	\$68	\$76	\$64	\$72	\$45
Cost—bait	\$19	\$19	\$18	\$20	\$15
Cost—ice	\$6	\$8	\$6	\$7	\$4
Cost—food and drink	\$2	\$8	\$2	\$2	\$0
Cost—crew (paid on trip basis)	\$55	\$102	\$50	\$61	\$0
Owner's net revenue	\$418	\$255	\$403	\$432	\$352
Income of hired labor	\$99	\$142	\$91	\$107	\$50
Total cash flow	\$516	\$342	\$497	\$535	\$407

# Estimated Annual, Vessel-level Perspective

- A mail survey was sent to trip-level respondent
- Focused on annual fixed costs

Table 3.—Annual financial results and characteristics for the average vessel (n = 220)

	Mean	% of costs	SD	95% confidence interval		Median
				Lower	Upper	
Vessel length (feet)	32		12	31	34	29
Vessel inboard engine	48%		—	41%	54%	—
Vessel year built	1989		11	1987	1990	1990
Vessel purchase price	\$105,534		\$221,932	\$76,044	\$135,023	\$45,000
Federal charter permit	42%		—	36%	48%	—
Federal comm. permit	11%		—	7%	15%	—
Owner-operated	87%		—	83%	92%	—
Crew size	1.5		0.6	1.5	1.6	1.3
Trips per week	3.0		1.7	2.8	3.2	2.5
Trip length (hours)	7.1		2.1	6.8	7.4	7.0
Annual fuel use (gallons) <sup>a</sup>	6,723					
Annual—total revenue	\$66,959		\$62,759	\$58,620	\$75,298	\$45,000
Charter fee per trip	\$635		\$450	\$575	\$695	\$499
Number of trips (calculated)	105					
Annual cost—fuel <sup>a</sup>	\$8,237	12.7%				
Annual cost—bait <sup>a</sup>	\$2,188	3.4%				
Annual cost—ice <sup>a</sup>	\$797	1.2%				
Annual cost—food and drink <sup>a</sup>	\$317	0.5%				
Annual cost—crew (trip-based) <sup>a</sup>	\$6,898	10.6%				
Annual cost—wages and salaries	\$13,056	20.1%	\$18,944	\$10,539	\$15,574	\$2,500
Annual cost—tackle and supplies	\$4,608	7.1%	\$5,590	\$3,865	\$5,351	\$3,000
Annual cost—repair and maintain	\$7,817	12.0%	\$13,640	\$6,005	\$9,630	\$3,000
Annual cost—capital equipment	\$8,690	13.4%	\$19,167	\$6,143	\$11,236	\$2,000
Annual cost—insurance	\$2,709	4.2%	\$2,783	\$2,339	\$3,079	\$1,800
Annual cost—overhead	\$9,587	14.8%	\$13,099	\$7,847	\$11,327	\$4,735
Annual—total costs	\$64,904	100.0%				
Annual—net revenue	\$2,055					
Labor income (from above)	\$19,954					
Annual tip amount <sup>a</sup>	\$6,843					
Annual—total labor income	\$26,797					

<sup>a</sup> Annual values extrapolated from trip level results using average number of trips. Comm = commercial.

# Lessons learned:

1. Fee information is vital data that should be collected regularly in a standardized and statistically valid way on a per trip basis. [...]
2. We recommend that variable-cost and fixed-cost data be intermittently collected on a single survey instrument [...]
3. [additional variables to include on 2.]

method. This method would allow charter boat captains or owners to consult their (tax) records or involve their accountants. The impersonality of a mail survey might also mitigate the intrusiveness of questions concerning income and (implicitly) financial well-being. Making such a survey a requirement for charter permit renewal raises the response rate and hence the quality and representativeness of the results. This should be considered, especially for a fishery with limited entry, since linking a data reporting responsibility to a fishing privilege will usually generate less resistance. A mandatory mail survey has not been tried in the for-hire sector to our knowledge, but has shown promising results, for example, in the federally permitted Southeast U.S. fin-fish fisheries and the shrimp fisheries (Liese and Travis 2010).

Telephone surveys are simple and inexpensive. Yet they are limited by the reasonable maximum call length and by respondents' recall abilities. As a result, they are not good for annual level economic data collections. As the case-study demonstrated, telephone surveys can be appropriate for regularly collecting fee information and intermittently collecting limited trip-level cost data.

### Conclusion

This chapter examined the methodological challenges associated with collecting economic data from the for-hire fishing sector. We reviewed data elements and survey methods in the context of a case-study survey that collected cost and earnings information from the charter boat industry in the Southeast United States. The following recommendations summarize the lessons learned from this review that could improve economic surveys of the for-hire fishing industry in the future:

1. Fee information is vital data that should be collected regularly in a standardized and statistically valid way on a per trip basis. For example, adding a fee question to the weekly MRIP EHS telephone fishing effort survey would achieve this at minimal extra cost and effort. By collecting fee information at the trip level (i.e., by linking the fee data to individual trip characteristics), a range of economic analyses become possible that otherwise could not be conducted

with aggregate or average fee information alone. Fees measure the value of the product sold by the for-hire industry, and their collection allows estimates of the overall size and economic importance of the industry. Many economic analyses start with this variable, yet no continuous data collection of for-hire fees exists in the United States.

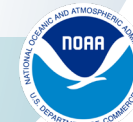
2. We recommend that variable-cost and fixed-cost data be intermittently collected on a single survey instrument to generate an annual financial and economic overview of cost structure and performance in the for-hire fishing industry. Furthermore, the survey design and types of data to be collected depend on the economic scale of the predominant for-hire operation. In the case of smaller operations, in-person interview that elicit cost categories at the average or representative trip would improve recall. For larger operations, mail surveys that request accounting-based annual data might be most convenient.
3. Finally, many past economic surveys have missed some critical cost questions. The questions we recommend including in future surveys fall into three categories: (1) balance sheet-related asset value and outstanding loan questions; (2) questions to separately identify financial flows that do not represent economic costs, such as principal payments and new investment; and (3) questions that allow the valuation of economic costs that do not give rise to financial flows, such as the value of an owner-operator's labor and depreciation).

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# 2009 Economic Survey of the Recreational For-Hire Fishing Sector in the U.S. Gulf of Mexico

- 3rd “decennial survey” (previously in 1998, 1987/88)
- 13 page survey; in-person and by mail; \$100 or \$200 incentive.
- Contracted with Rex Caffey at LSU
- Report: Savolainen et al. 2012
- Content covered: General info, vessel level (primary vessel), trip level (typical half and full day trips), firm level, hurricane impacts, policy and management (attitudes), and demographics
- 2305 sent out, received 689, 195 unreachable, 33% adj-response rate.

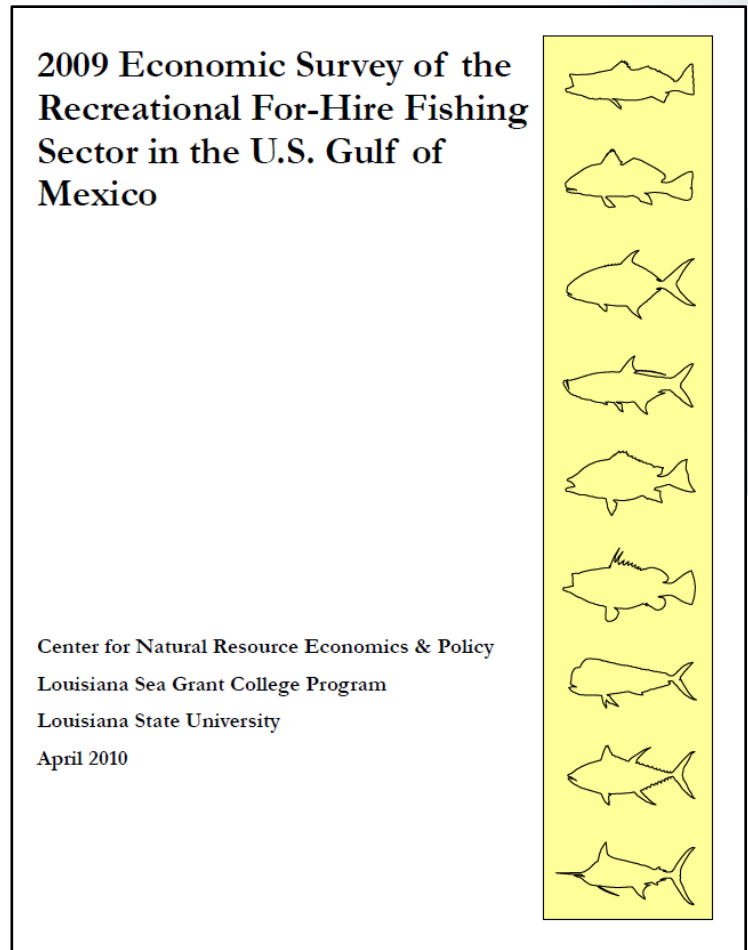




Table 2.3 Greatest Number of Categorized Sample Responses by State and Operating Class (n=600)

SAMPLE	Head	Charter	Guide	Total
Texas	3	20	142	165
Louisiana	2	31	179	212
Mississippi	1	10	5	16
Alabama	14	16	26	56
West Florida	13	52	86	151
Gulf-wide	33	129	438	600

Table 3.5 Overview of Costs and Earnings of an Average Gulf Firm by Operating Class in 2009

	Head n=20	Charter n=87	Guide n=292
<b>Balance Sheet</b>			
Assets – Vessel market value	315,150	67,341	23,166
Vessel purchase price	342,641	91,912	30,166
Liabilities – Outstanding loan on vessel	215,519	51,606	19,690
Percent of vessels with loan	59%	46%	41%
Equity – Equity in vessel	205,243	49,247	16,637
Percent of vessels with insurance	90%	91%	92%
Percent insurance coverage	96%	102%	112%
<b>Vessel Operation</b>			
<b>Full day trip</b>	<b>n=20</b>	<b>n=85</b>	<b>n=271</b>
Trip fee	1,871	979	518
Tips	250	93	61
Crew labor (if used)	131	93	58
Fuel and oil	431	240	68
Bait	52	44	33
Tackle	32	22	13
Ice	22	19	8
Net operating income to owner per trip	1,452	689	455

	Head		Charter			
	TX, LA, MS, AL n=11	WFL n=9	TX n=12	LA n=11	MS, AL n=22	WFL n=42
<b>Annual Cash Flow</b>						
Inflow - Trip revenue (fees, tips)	240,052	225,758	52,086	107,581	58,125	78,777
Outflow - Total	169,542	160,030	32,561	67,335	43,626	57,826
Crew labor cost	10,289	14,444	1,818	6,408	3,545	4,351
Fuel and oil	51,031	42,338	9,339	24,884	14,885	15,837
Cost of other supplies (bait, ice, tackle)	10,578	11,097	2,517	9,442	3,369	6,650
Insurance	7,853	7,072	2,134	2,927	2,995	2,921
Regular maintenance	14,952	6,889	3,246	3,091	3,535	3,099
Overhead	47,445	54,366	8,350	10,068	11,053	18,428
Loan payments	22,515	20,748	3,677	4,431	2,458	4,430
Annualized investments since vessel acquired	4,879	3,077	1,480	6,085	1,786	2,111
Net income to owner (annual) <sup>1</sup>	70,510	65,728	19,524	40,246	14,499	20,951
Net income to owner (per average trip) <sup>1</sup>	792	572	375	537	302	214
Net income to owner (annual) <sup>2</sup>	168,154	157,880	38,411	66,848	36,326	51,939
Net income to owner (per average trip) <sup>2</sup>	1,765	1,362	751	855	621	553

<sup>1</sup>Accounts for variable and fixed costs

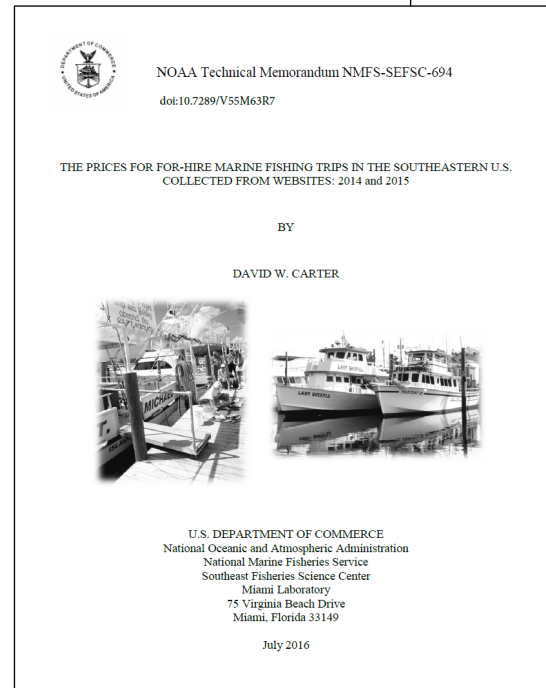
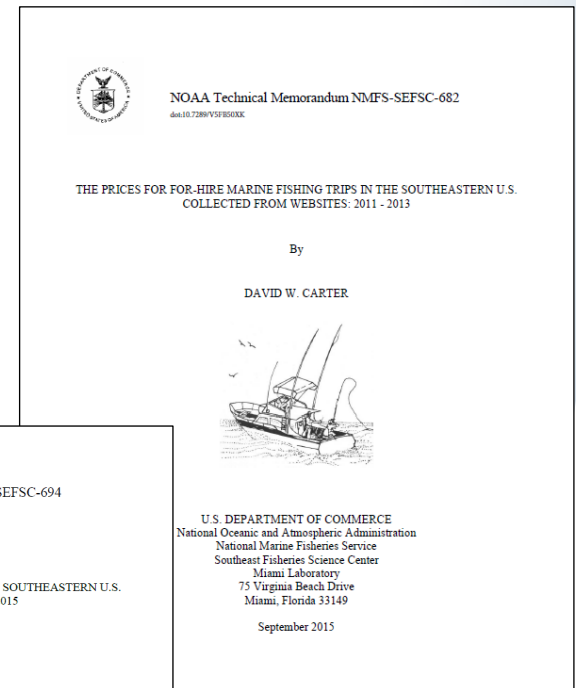
<sup>2</sup>Accounts for only variable costs



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# Website charter fee data collection

- Without regular fee data collection, David Carter got inventive
- Searched for, then scrapped data off charter websites (using Amazon Turk)
- Trip characteristics linked to advertised fee
- 2011-2015



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# Example 2012 GOM Charter Price Data Collection

- Starting with 1187 permitted vessels
- Found 558 websites
- Of which 386 had prices
- Of which 264 had prices for “6-pack” (trips “up to 6 anglers”)
- Multiple trips per website

Table 1: 2012 6-Passenger Charter Prices by Trip Duration in the Gulf of Mexico

Duration (Hours)	N	Mean	St. Dev.	Min	Median	Max
4 (1/2 day)	172	614	110	350	600	1,000
6 (3/4 day)	190	854	173	450	800	1,450
8 (full day)	201	1,114	245	550	1,100	2,000
10 (full + 2)	64	1,471	474	900	1,350	4,500
12 (full + 4)	34	1,964	808	1,000	1,800	5,500

- Used data to explore charter price functions

Table 5: Hedonic Regressions with 2014 6-Passenger Charter Prices in the Gulf of Mexico and South Atlantic

	Gulf of Mexico	South Atlantic
Intercept	1130.47 (25.65)***	871.08 (24.00)***
Hours	139.49 (4.88)***	101.68 (4.94)***
AL	120.74 (27.34)***	
LA	197.64 (59.40)***	
MS	-74.74 (78.87)	
TX	220.43 (31.18)***	
GA		17.82 (47.00)
NC		-69.16 (20.30)***
SC		188.38 (23.27)***
Length(2ft)	27.03 (5.34)***	8.64 (3.09)**
Horsepower(10hp)	1.92 (0.56)***	2.43 (0.41)***
Age	9.28 (4.54)*	3.06 (3.37)
CMP	-14.04 (38.98)	-49.60 (22.92)*
HMP	30.47 (29.76)	167.90 (32.41)***
DW	83.04 (31.42)**	-8.74 (33.00)
Reef	-60.15 (43.70)	-26.79 (22.61)
Hours:AL	24.10 (9.06)**	
Hours:LA	20.28 (21.97)	
Hours:MS	6.12 (27.42)	
Hours:TX	36.40 (11.41)**	
Hours:GA		13.97 (16.86)
Hours:NC		31.70 (7.43)***
Hours:SC		42.06 (9.05)***
Length(2ft):Horsepower(10hp)	-0.01 (0.07)	0.01 (0.04)
Length(2ft):Age	-5.53 (2.05)**	-1.75 (1.28)
Horsepower(10hp):Age	0.41 (0.20)*	0.02 (0.13)
R <sup>2</sup>	0.81	0.77
Adj. R <sup>2</sup>	0.80	0.76
Num. obs.	582	683
RMSE	235.60	199.03

\*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05. Blanks appear where there was not enough variation to identify a parameter.

Further use limited by:

- MSRP =?= market prices
- Limited trip characteristics (no angler count, date, target, ...)
- Not random sample of vessels
- Frequency of advertised trips in no relationship to actual trips taken

➔ Averages don't mean much



# Did/do use it for Headboats

2012 GOM Headboats:

- 75 GOM permitted headboats (in Beaufort's headboat survey)
- 62 with websites
- 50 with price info

Table 6: 2012 Headboat Prices by Trip Duration in the Gulf of Mexico

Duration (Hours)	N	Mean	St. Dev.	Min	Median	Max
3-5 hours (1/2 day)	34	51	12	25	54	79
6-7.5 hours (3/4 day)	18	69	13	60	65	110
8-9 hours (full day)	28	79	15	60	74	125
10-12 hours (full+)	20	91	16	70	85	120

# Econ in the Southeast Region Headboat Survey

- In 2014, added 4 “econ-inspired” questions to new electronic logbook app:
  - Number of crew
  - Number of non-fishing passengers
  - Gallons of fuel used
  - Price paid per gallon of fuel
- Asked on every trip
- Linked to all other logbook data

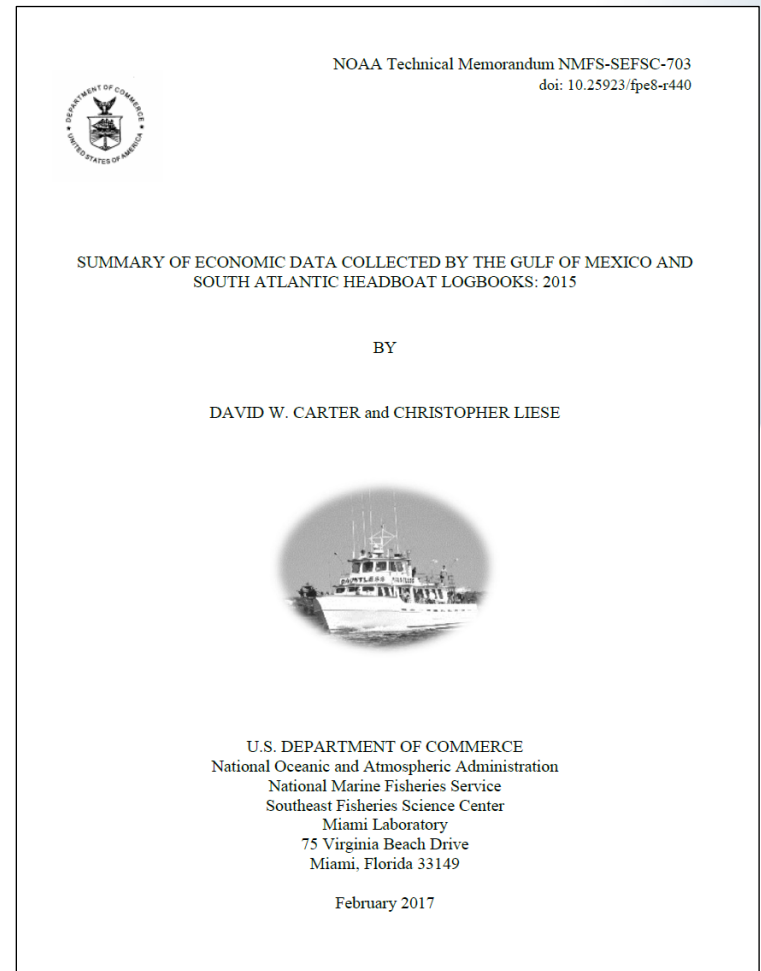


Table 7: Gulf of Mexico Headboat Trip Characteristics (N=8,854)

Statistic	Mean	St. Dev.	Min	Median	Max
Gallons	108.77	99.58	8	90	900
Price per Gallon	2.66	0.55	1.54	2.53	4.90
Anglers	34.24	18.30	7	31	115
Passengers	34.82	18.85	7	32	127
Crew	2.39	1.01	1	2	8

Table 8: Gulf of Mexico Headboat Trip Characteristics by Trip Duration

Duration	Gallons	Price per Gallon	Anglers	Passengers	Crew
1/2 day (3-5.99 hours)	58.74	2.66	34.01	34.66	2.32
3/4 day (6-7.99 hours)	115.94	2.84	35.36	36.43	2.49
Full day (8-9.99 hours)	115.00	2.62	31.54	31.70	2.21
Full day plus (10-12 hours)	265.26	2.35	40.42	40.80	3.00



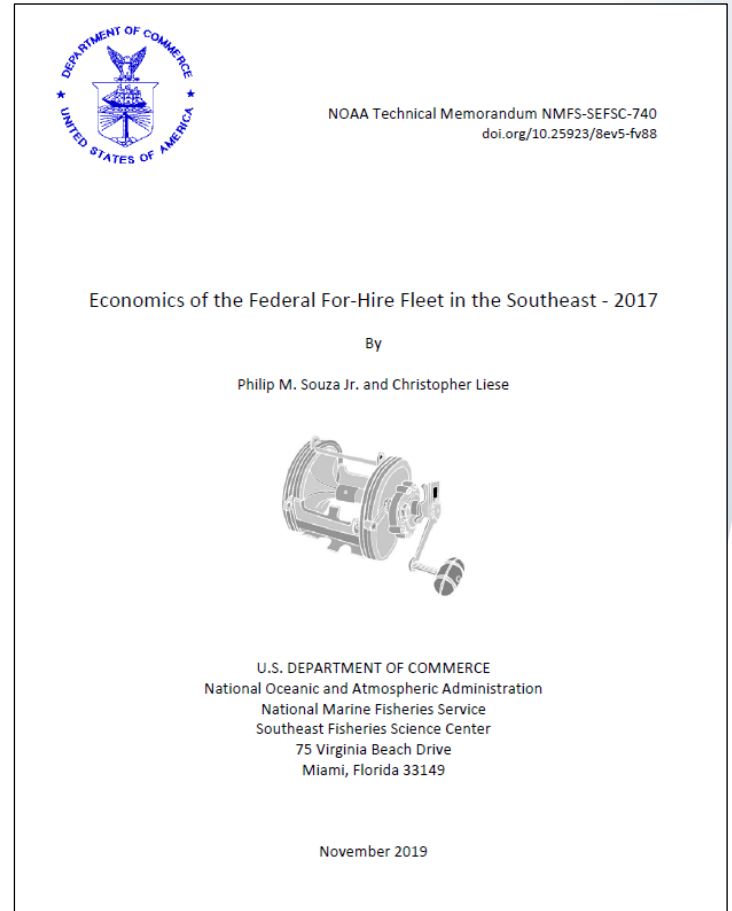
# Econ in the Southeast Headboat Survey, cont.

- But NO fee or trip revenue is collected!
- Instead use website prices as:
  - Product is very standardized, e.g., runs on schedule
  - Price pretty fixed
  - (...and didn't have much choice)
- But such analysis have been limited, as it involved bringing together two dataset
- NOTE: Charter trips are NOT nearly as standardized and charter fees vary more!



# Most “recent” econ data collection – 2017

- Voluntary, ‘pilot study’ survey
- 2 page mail survey
- Conducted over one year, in 6 waves (for seasonality)
- Sampled half the eligible population
- Response rate by wave from [37% to 53%]; overall 45%
- Page 1: 8 questions for eligibility and characterize business
- Page 2: 15 questions about last trip





# Last trip questions:

Before I can ask 8 econ questions at bottom, have to characterize trip:

## Page 1:

- Trip in last 12 months?
- Off-shore trip?
- In the Southeast?

## Page 2:

- Very much logbook questions
  - Month
  - Trip length
  - # of passengers
  - EEZ
  - # of crew

Survey Instrument, Page 2:

OMB Control # 0648-0730 Expires 03/31/2019

Please answer the questions about the **most recent offshore for-hire fishing trip** by «Vessel Name» in the Southeast:

9: What month did this trip take place (circle one)?  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

10: What was the length of this trip in hours (circle one)?  
<4 4 5 6 7 8 9 10 11 12+ multi-day

11: How many paying passengers were on this trip?      \_ \_ \_ passengers

12: Did this trip fish in Federal Waters/Exclusive Economic Zone?       Yes       No  
(Exclusive Economic Zone starts 3 miles out (or 9 miles for west FL & TX))

13: How many mates/crew members, EXCLUDING the captain, were on this trip?  
 0       1       2       more, please write in \_\_\_\_\_ crew members

14: How many gallons of fuel were used on this trip?      \_ \_ \_ \_ gallons

15: How much did the fuel and oil used on this trip cost?      \$ \_ \_ \_ \_ .00

For Questions 16-21, please write the actual dollar amounts for this trip. Enter "0" if you had none. Please do not leave Blanks.

16: Ice expense:      \$ \_ \_ \_ \_ .00

17: Bait expense:      \$ \_ \_ \_ \_ .00

18: Tackle expense:      \$ \_ \_ \_ \_ .00

19: Expenses for all **HIRED** mates/crew (excluding share of tip): \$ \_ \_ \_ \_ .00

20: a) Total for-hire fees collected from all passengers for this trip:      \$ \_ \_ \_ \_ .00  
b) Credit card processing fees or other transaction costs:      \$ \_ \_ \_ .00 OR \_\_\_\_\_ %  
c) Commission paid (for booking service, referrals, etc.):      \$ \_ \_ \_ .00 OR \_\_\_\_\_ %

21: Total tip received on this trip?      \$ \_ \_ \_ .00 OR \_\_\_\_\_ % OR  Don't know

**Thank You! Please return this completed form in the enclosed prepaid envelope!**



# GOM Charter Vessels

Table 15: Activity Status of GOM Charter Vessels

	Count	% of Responses	% of Active
Responses	209	100%	
- Not Active (no trip last year)	50	24%	
- Active	159	76%	100%
- No SE offshore trips	21	10%	13%
- SE offshore trips	138	66%	87%

Table 16: Vessel Operations of Active GOM Charter Vessels with Off-shore Trips

	Mean	St. Dev.	Min.	Max.	Median
Count	138	-	-	-	-
Vessel Operations					
Trips	90	72	1	325	75.0
Days At Sea	88	69	1	280	75.0
Offshore Trips	87%	25%	0%	100%	100%
Charge Per Angler	22%	-	-	-	-
Repeat Customers	62%	21%	0%	100%	60%
Captain is Owner	70%	-	-	-	-
Vessel Market Value	\$147,373	\$202,010	\$10,000	\$1,800,000	\$92,500



Table 17: Trip Characteristics and Economics of SE Off-shore Trips by GOM Charter Vessels

	Mean	St. Dev.	Min.	Max.	Median
Count	138	-	-	-	-
<b>Trip Characteristics</b>					
Length of Trip (Hours)	10.0	6.8	2.0	36.0	8.0
Passengers	5.5	2.3	2.0	24.0	6.0
Crew	1.8	0.6	1.0	4.0	2.0
Into EEZ Waters	91%	-	-	-	-
Fuel Used (Gallons)	122	110	10	625	95
Fuel Price	\$3.00	\$0.71	\$1.40	\$5.00	\$2.96
<b>Revenue (\$)</b>					
Total	1,775	1,469	300	9,600	1,345
Passenger Fees	1,579	1,289	280	8,600	1,200
Tip	195	221	0	1,625	140
<b>Transaction Fees (\$)</b>					
Processing Fees	21	34	0	195	0
Commission Paid	30	77	0	500	0
<b>Supply Costs (\$)</b>					
Fuel	355	315	35	1,815	276
Ice	27	26	0	200	20
Bait	56	51	0	300	40
Tackle	50	58	0	300	28
<b>Labor Costs (\$)</b>					
Hired Crew	180	224	0	1,200	100
Tip Going to Hired Crew	124	177	0	1,219	75
OC Owner Time as Captain	184	201	0	1,100	172
<b>Trip Net Revenue (\$)</b>					
TNR Excl. Labor	1,236	1,165	147	8,316	972
TNR Incl. Labor	749	850	-68	5,500	553



Table 19: Trip Economics in Percentage of Revenue Terms by Trip Length of Off-shore Trips by GOM Charter Vessels

GOM Charter		Half Day (2-6 hours)	Full Day (7-10 hours)	Extended Day (11-14 hours)	Multi-day (>24 hours)
Count	138	43	59	29	7
<b>Average Trip Economics (% of Revenue)</b>					
Revenue	100%	100%	100%	100%	100%
Transaction Fees	3%	4%	3%	3%	1%
Supply Costs	27%	26%	26%	31%	27%
Labor Costs	27%	29%	27%	27%	28%
TNR Excl. Labor	70%	70%	71%	67%	73%
TNR Incl. Labor	42%	41%	44%	39%	44%



# Producer Surplus = Cash Flow per Angler (CFpA)

Table 26: Comparison of Cash Flow per Angler (CFpA) Derived from Current and Previous Research Efforts

For-Hire Mode	Region	Source	Data Year	Sample Size	Trip Types	TNR excl. Labor	CFpA (in \$year of data)	CFpA (in \$2017*)
Charter	Gulf of Mexico	6	2017	138	Last off-shore trip of representative vessel	1,236	225	225
Charter	Gulf of Mexico	5	2009	87	Typical trip of representative vessel	659	139	159
Charter	- west Florida	5	2009	42	Typical trip of representative vessel	574	122	139
Charter	- AL, MS	5	2009	22	Typical trip of representative vessel	831	164	187
Charter	- Louisiana	5	2009	11	Typical trip of representative vessel	977	192	219
Charter	- Texas	5	2009	12	Typical trip of representative vessel	774	167	190
Charter	LA to east Florida	3	2002/03	1,205	Representative trip (FHS sample)	516	123	166



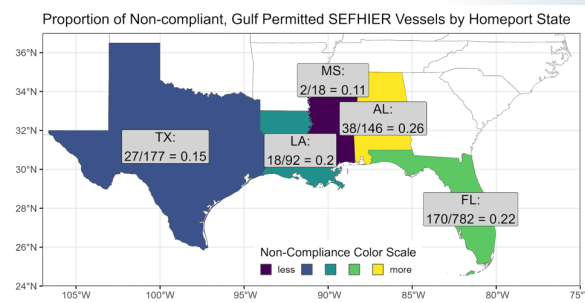
# Examples of Econ Results Using For-Hire Logbook data (2022 SEFHIER)



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# SEFHIER Data Analysis Caveats

- ❖ All very quick EXPLORATORY analysis and result! For illustration purposes of POSSIBLE TYPE of result
- ❖ Analyses are using raw SEFHIER data– no accounting of missed or non-reported trips
- ❖ SEFHIER data has not been calibrated to, or validated against, MRIP
- ❖ SEFHIER data only includes federal data, whereas MRIP includes all for-hire data (including state-only permitted charter trips)
- ❖ The following SEFHIER effort data is provided in units of “vessel-trips”, whereas MRIP effort is given in units of “angler-trips” – therefore these analyses are not directly comparable to MRIP



# EXPLORATORY RESULTS ONLY

## Trip Averages (n=44,254)

	FL	AL	MS	LA	TX	Total
Obs. (# of Trips)	31,140	7,113	696	1,497	3,808	44,254
Anglers	5.0	6.1	4.9	5.0	4.8	5.2
Hours	4.8	5.1	4.7	7.2	5.8	5.0
Catch	23.2	21.1	14.2	12.1	10.9	21.3
Charter Fee	\$1,354	\$1,537	\$1,047	\$1,945	\$1,535	\$1,414
Crew	1.7	2.0	1.9	2.0	1.8	1.8
Fuel, gallons	69.7	79.2	66.1	202.5	91.5	77.6
Fuel, price	\$5.22	\$5.57	\$5.18	\$5.17	\$4.78	\$5.23
Cost_Fuel	\$368	\$435	\$335	\$1,045	\$436	\$407
Cost_Labor	\$341	\$401	\$388	\$391	\$352	\$354
Trip Cash Flow	\$645	\$701	\$325	\$508	\$747	\$653
CFpA	\$157	\$146	\$115	\$167	\$178	\$157



# EXPLORATORY RESULTS ONLY

## Trip Averages by Target Species

	Red Snapper	Snapper, Other	King Mackerel	Tuna	Billfish
Obs. (# of Trips)	15,162	7,911	978	1,599	293
Anglers	5.9	5.2	4.7	5.2	3.9
Hours	5.3	4.4	4.3	8.6	8.8
Catch	20.1	29.1	11.5	15.6	9.3
Charter Fee	\$1,715	\$1,255	\$1,065	\$2,453	\$2,468
Crew	1.9	1.7	1.8	2.1	1.9
Fuel, gallons	94.6	62.4	50.6	211.2	154.1
Fuel, price	\$5.49	\$5.17	\$5.25	\$5.10	\$5.19
Cost_Fuel	\$515	\$321	\$257	\$1,080	\$783
Cost_Labor	\$379	\$343	\$361	\$428	\$387
Trip Cash Flow	\$821	\$591	\$447	\$946	\$1,298
CFpA	\$173	\$150	\$129	\$241	\$423





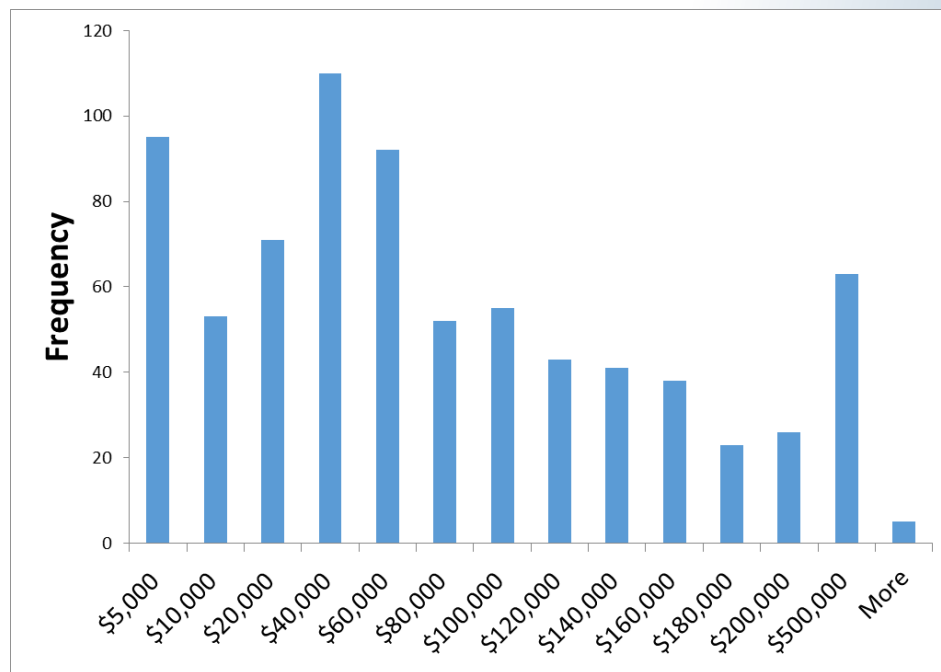
# EXPLORATORY RESULTS ONLY

## Vessel-level Aggregation

### Vessel Averages (n=767)

Number of trips	58
Total fuel gallons	4,478
Revenue - Charter fees	\$ 81,586
Fuel cost	\$ 23,498
Labor cost	\$ 20,409
Total trip cash flow	\$ 37,680

### Histogram of Vessel Revenue



# Additional benefit: Valuation studies

- Valuation surveys/studies provide the value of sportfish harvest, e.g., angler willingness to pay to keep an extra fish.
- Often stated preference surveys---fancy way of saying we ask anglers to answer hypothetical questions. Without market prices, this type of non-market valuation is often the best you can do.
- BUT: Charter trips are sold, fees are market prices, and those prices implicitly contain some element that is due to the expected catch.
- Hedonic modeling can extract the share of the price applicable to expected catch, thereby valuing catch.





Trip Features	
Length of trip	
Vessel size	
Captain's reputation	
Charter fee for boat (excluding tip)	
Regulations in effect at the place and time of trip	Dolphin fish
	All snappers / Red snapper
	All groupers
	King mackerel
	Other regulations

Trip A
Full-day
50 ft
Known
\$1,200
10 bag
5 bag / closed
2 bag
closed
As in 2013

Trip B
Half-day
40 ft
Unknown
\$400

Trip Features	
Hours on the water	
Cloud cover	
Bottom type of area(s) fished	
Trip cost (your share of boat fuel, bait, and ice)	
Regulations in effect at the place and time of trip	Dolphin fish
	Snappers / Red snapper
	Groupers
	King mackerel
	Other regulations

Trip A
8 hours
Sunny
Natural
\$70
10 bag
10 bag / 2 bag
6 bag
closed
As in 2013

Trip B
8 hours
Cloudy
Artificial
\$85
5 bag
5 bag / 1 bag
closed
3 bag
As in 2013

## Charter

## Private

# 2013 Stated Preference Choice Experiment (SPCE) Survey in the Gulf of Mexico (GOM)

- Study using 2002/03 FHTS and econ add-on data
- Catch rate by county from MRIP
- Estimate value of one additional fish kept
- Method should be replicable with for-hire logbook data with fees
- More sample size might allow values for individual species or species groups

## Hedonic Valuation of Sportfishing Harvest

DAVID W. CARTER  
 CHRISTOPHER LIESE

National Oceanic and Atmospheric Administration

**Abstract** A hedonic valuation strategy is introduced to estimate the marginal value of sportfishing harvest. The strategy uses market prices, thereby avoiding some of the measurement problems associated with the constructed or proxy prices used in common valuation methods. A charter fee hedonic equation is estimated using data from the market for offshore charter fishing in the Gulf of Mexico. The marginal value of sportfishing harvest is identified using spatial variation in harvest rates and fish sizes. A two-stage minimum distance estimator is used to address potential omitted variables and cluster-sampling issues. Our results demonstrate that valid estimates of the marginal value of sportfishing harvest can be derived directly using market prices. The estimated marginal value per fish is consistent with published estimates using alternative methods. Thus, the hedonic approach suggested in this article offers promise as an independent validation of the typical methods used to value sportfishing harvest.

**Key words** Sportfishing, charter boats, hedonic, revealed preference, valuation.

JEL Classification Codes Q22, Q26, Q51.

### Introduction

There is a considerable amount of research on the value of sportfishing harvest (Johnston *et al.* 2006). The dominant methodologies estimate anglers' willingness-to-pay (WTP) either by direct elicitation with contingent valuation or by linking the opportunity cost of access to different harvest characteristics using travel cost models. In either case, the valuation measure is not derived from actual market prices. Rather, stated preference methods use a hypothetical, constructed-market price, while travel cost models use an estimated proxy price that is assumed to vary directly with WTP. For example, sportfishing applications of the travel cost model infer harvest values based on distance and travel time to fishing sites, with an assumed cost per mile and estimates of the opportunity cost of time as proxies for the price of fishing trips. Hence, estimated values are only as accurate as these calculated proxy prices. The problems in measuring accurate "travel prices" are well-known (Englin and Shonkwiler 1995; Landry and McConnell 2007; Lew and Larson 2005; Randall 1994). Randall (1994) goes as far as concluding that "travel cost methods cannot stand alone" and that validation is required using fundamentally different valuation methods. Similarly, the hypothetical nature of stated preference methods has been questioned, especially for the lack of a true budget constraint (Harrison 2006; Murphy *et al.* 2005).

This article reports on a third strategy to estimate the value of sportfishing harvest with data on markets for fishing services offered by charter operations. The approach uses actual market prices—charter fees—thereby avoiding many of the aforementioned

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The views expressed herein are those of the authors and do not necessarily reflect the views of NOAA or any of its subdivisions.

And many more methods and analysis...



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... in Conclusion



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# For-hire Sector Compared to Other Fisheries

	<u>Revenue in 2021</u>	<u>Econ Data Collection</u>		
	(millions)	Trip-level	Annual	Ad Hoc
GOM:				
Shrimp	437		X	
Red Snapper	32	X	X	
Groupers	25	X	X	
King Mackerel	5	X	X	
USVI overall	maybe 5-7			X
SAT Golden Crab	0.5			X
-----				
GOM For-Hire Sector	???			X
Fed-permitted in 2022	> 62.5	X		



# Pros and Cons of Data Collection Options

Options	Sample Size	Statistical Estimates	Annual Updates	Species Resolution	Temporal Resolution	Spatial Resolution	Data/Result Quality
Fee on every logbook	Huge (Census)	No, facts	Yes	Yes	Yes	Yes	Best
Fee on random sample of logs	Large	Yes, smaller C.I.s	Yes	Yes	Yes	Yes	Good
Annual econ on annual survey	OK	Yes, medium C.I.s	Yes	No	No	by State	Worse
Ad hoc, voluntary surveys	Small	Yes, large C.I.s	No	No	No	No	Not Good

Options	Data/Result Quality	Respondent Burden	Respondent Risk (of IRS or other gov seeing data)	Cost to NMFS
Fee on every logbook	Best	Every trip, a few seconds	0.0%*	minimal additional
Fee on random sample of logs	Good	[maybe 20% of above]	0.0%*	minimal additional
Annual econ on annual survey	Worse	One hour per year	0.0%*	maybe \$50k per year
Ad hoc, voluntary surveys	Not Good	[Variable]	0.0%*	\$100k-200k whenever funds are available

\* Based on presenter's 18 years experience with econ surveys in fisheries. Data would be releasable if subpoenaed by a judge



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# I hope I convinced you that:

- If you want **science-based management**, economic data is not secondary to or independent of biological or other fishery data
- The single most important economic variable is the price of the good or service being studied: **The charter fee**
- A **logbook is the right place** to collect charter fee data
- A good **statistical sample** can be enough
- If you only ask a sample of respondents, then its very efficient to add fuel gallons and fuel price as a proxy for input prices and quantities (costs)



Questions?



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Tab F, No. 4(a3)



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Office**

# The Importance of Revenue Data in Fisheries Disaster Determinations and Allocations

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# Past Practices – Commercial Fishery Failures

- In the past, disaster determinations were only for commercial fisheries or the commercial sector of a fishery
- States typically allocated their awarded disaster funds based on losses to each commercial harvester
- States could allocate funds to other sectors if had good justification, but losses in other sectors not considered in the determination

# Past Practices – Commercial Fishery Failures

- For determinations where the Secretary did not use her authority to determine a commercial fishery failure/disaster had occurred prior to an analysis being conducted, NOAA Disaster Policy indicated:
  - A positive determination should be made in cases where the % loss in revenue during the disaster “year” relative to the previous 5 year baseline  $> 80\%$
  - If revenue loss was between 35% and 80%, additional info needed to demonstrate that impacts were “severe” in order to make a positive determination
  - If revenue loss  $< 35\%$ , then determination should be that no disaster occurred

# Important changes to the MSA under the Fisheries Resource Disaster Improvement Act (FRDIA)

- Eliminated Section 315 that covered “regional” disasters (e.g., Bonnet Carre Spillway 2018)
- Added for-hire and other sectors (e.g., processors) to those that could be considered in the determination
- Revenue loss thresholds now laid out in statute, the same as before for commercial, and for for-hire the same as commercial
- One sector of a fishery may experience a disaster while others do not - depends on % revenue loss

# Why Do These Changes Matter? Scenarios

- Revenue losses from an eligible event are to be estimated by fishery and State
- Assume an eligible event occurred that caused revenue losses of \$15 million in the commercial sector and \$10 million in the for-hire sector of a particular fishery in a given State (\$25 million in total losses for that fishery in that State)
- Assume the State demonstrated that losses at least met the 35% revenue threshold in each sector and the impacts were “severe”
- Pre-FRDIA, the State could only submit analyses supporting the \$15 million loss to the commercial sector
- Post-FRDIA, the State will be allowed to submit analyses supporting the total loss to the commercial and for-hire sectors (\$25 million)

# Importance of For-Hire Revenue data

- Also assume that disasters occurred in other fisheries and states and their combined revenue losses=\$75 million, but Congress only allocates \$50 million for all disasters
- Under the old rules OR if the State does NOT have adequate data to demonstrate that the revenue loss in the for-hire sector was in fact \$10 mil AND that loss at least exceeded the 35% reduction threshold, then it could only submit the \$15 million in commercial revenue losses
- In that case, total revenue losses for all disasters would be \$90 mil, the state's percentage of those losses would be 16.67%, and they would only receive \$8.33 mil if funding for each disaster is proportionately allocated, which is typical
- If the state wants to allocate some funds to the for-hire sector, then the amount of funds allocated to the commercial sector would have to decrease



# Importance of For-Hire Revenue data

- Under the new rules AND assuming state DOES have adequate data to demonstrate that the revenue loss in the for-hire sector was in fact \$10 mil AND that loss at least exceeded the 35% reduction threshold, then it could submit a request showing total losses of \$25 million for the eligible event
- In that case, the total losses across all disasters would increase to \$100 million, the State's percentage of those losses would increase to 25%, and the State would receive \$12.5 million in disaster funds (an increase of about \$4.167 million) if funding for each disaster is proportionately allocated
- In this scenario, both the for-hire sector AND the commercial sector are BETTER OFF. State will also have documented revenue losses if it wants to allocate for hire sector's disaster funds based on revenue losses to each for-hire harvester as has been typically done in the commercial sector

## Comparison of Outcomes (assuming 60/40 commercial/for-hire allocation of disaster funds based on actual revenue losses)

	Old Approach/No For-Hire Revenue data	With For-Hire Revenue data
Commercial revenue loss for State	\$15 million	\$15 million
For-hire revenue loss for State	\$0	\$10 million
Total revenue loss for State	\$15 million	\$25 million
Revenue losses for ALL disasters	\$90 million	\$100 million
State's % of ALL losses	16.67%	25%
Total Disaster Funds	\$50 million	\$50 million
Disaster funds to State	\$8.33 million	\$12.5 million
Commercial disaster funds	\$5 million	\$7.5 million
For-hire disaster funds	\$3.33 million	\$5 million

# Implications for Data Collection

- With respect to disaster determinations and the allocation of disaster funds, it is in everyone's best interest to have estimates of for-hire revenue in hand, i.e., we need FEE data (just like we need ex-vessel price data in the commercial sector)
- SEFHIER is a cost-effective choice to collect that data, particularly by "fishery," and states do not collect it
- After the fact surveys are less credible since submitters can behave strategically to increase sector level and harvester level payouts
- Whether census level fee data is needed (i.e., for every trip) or a sample is sufficient to generate revenue estimates will be covered in the next presentation
- There are potential administrative burden implications for NMFS if Gulf data collection differs from the SA, and potential complications for FL since it is split between Gulf and SA. SA currently collects fee data for every trip