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FISHERIES

Southeast Conjoint Study: Preliminary Results from a Pilot Study

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Background and Outline

Management needs in the SE:
W.T.P. for recreational fishing / fish

- Research questions 1 - 4
- Attribute-based SPCE survey instruments
- Who was surveyed, how, and when?
- Preliminary results 1 - 4



Objective: Research Questions

- Update W.T.P. measures in our region
- Are charter anglers and charter anglers' preferences the same as other recreational anglers?
- Survey experiment design: “Keeping a fish” (ex-post) vs. “Option to keep a fish” (ex-ante)
- Does anglers' knowledge of regulations affect their preferences for saltwater charter fishing?
- Are anglers' preferences for keeping fish linear, decreasing, or do they exhibit thresholds?



Survey Method

- Mail Survey
- Stated Preference Attribute Based Choice Experiment, i.e., “conjoint study”
- W.T.P. for regulation, not for fish (kept)

2003 “Ex-Post” Experiment

B2 Please look at the table, compare all the features of each fishing trip, and then answer the question below.

Definitions

- **Target species:** The species of fish you expect to catch on the trip.
- **Total number of fish caught per trip:** Your expected total catch of the target species. Your total may be restricted by the bag limit and/or the minimum size limit.
- **Bag limit:** The number of the target species that you are legally allowed to keep per fishing trip.
- **Minimum size limit:** The minimum length of the target species that you may keep. You are not legally allowed to keep fish that measure less than this length.
- **Catch at or above minimum size:** Your expected catch of the target species that are equal to or longer than the minimum size limit.
- **Trip cost:** Includes your personal share of the costs associated with gas, wear and tear on your vehicle, tolls, ferries, parking, access fees, food, ice, bait, and fishing equipment used on this trip.
- **Other fish:** Any fish you might expect to catch on a fishing trip for the target species (not including the target species).

Features	Trip A	Trip B	No Trip
Target species	Red Snapper	Dolphin	Do something else, but not take a saltwater fishing trip.
Total number caught per trip	3 Red Snapper	3 Dolphin	
Bag limit	5 Red Snapper	10 Dolphin	
Minimum size limit	22 inches	18 inches	
Catch at or above the minimum size	3 Red Snapper	1 Dolphin	
Trip cost	\$105	\$45	
Catch of target species you are legally allowed to keep	3 Red Snapper	1 Dolphin	
Catch of other fish you are legally allowed to keep	6 fish	6 fish	



Which trip would you choose? Please select only one.

- Trip A
- Trip B
- No Trip



2009 “Ex-Ante” Experiment



C1 Please compare the features of South Atlantic offshore charter fishing trips A and B and answer the questions below. Please keep in mind that:

- You can take up to **6 passengers**
- **You might catch** various types of fish, but **catch is not guaranteed**
- Trips A and B are **exactly the same** except for differences shown

Trip Features		Trip A	Trip B
Length of trip		Full-day	Full-day
Vessel size		50 ft	40 ft
Captain's reputation		Unknown	Known
Charter fee (excluding tip)		\$1,000	\$1,200
Regulations in effect at the place and time of trip	Dolphin fish	10 bag	5 bag
	All snappers / Red snapper	10 bag / 2 bag	5 bag / 1 bag
	All groupers	6 bag	closed
	King mackerel	closed	3 bag
	Other regulations	As in 2009	As in 2009



C1 a) Which of these two trips do you **prefer**?

Trip A

Trip B

I don't know



Who was surveyed, how, and when?

- Who?
 - Anglers who have taken a saltwater fishing charter trip in the previous year *and* those who have not
 - MRFSS intercepted in the South Atlantic
- How?
 - Addresses collected via the MRIP intercept survey
 - Survey form mailed by contractor
- When?
 - Addresses collected in 2009 intercept: W2 - W6
 - Mail surveys sent from May 2009 through early 2010

Modeling

- Random Utility Framework
- Plain vanilla logit estimation (A or B; no none option)
- Same as used for experimental design

Data Specifics

- One time data collection (pilot study)
- Treat for-hire sector anglers independent
- Relationship between charter captains and MRIP interviewers
- [No regular charter FEE data collection]

Preliminary Results



Angler demographics and angling characteristics

	All Anglers	Mode of intercept	
		Charter	Private
Number of Observations	1,361	124	847
Male	91%	93%	91%
Age	51	50	51
Fishing Experience (years)	29	22	30
Household income	94,523	127,564	94,715
Owns a Boat	66%	31%	88%
Has a Fishing License	85%	48%	98%
Has multiple fishing license	8%	5%	9%
Knows State fisheries regulations	93%	79%	98%
Knows Federal fisheries regulations	44%	34%	48%



Willingness to Pay (per Fish)

Study	2003	2009	2009
Experiment	"ex-post"	ex-ante	ex-ante
Trip Type	Private	Private	Charter
Anglers	All	no recent charter	recent charter
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Dolphin (6th fish)	\$7.48	\$2.59	\$28
Snapper (Red) (6th fish)	\$21	\$1.64	\$18
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Grouper (2nd-6th fish)	\$46	\$3.34	\$54
King Mackerel (2nd to 3rd fish)	\$57	\$4.25	\$45

Knowledge of Federal Regulation

	coefficient	t-value	sign.
Fee	-0.0018	-3.5038	***
Full day	0.8864	2.6782	**
Large vessel	0.0031	0.0420	
Reputation (known)	0.9698	8.0096	***
Dophin	0.0458	3.2572	**
Snapper	0.0401	2.8442	**
Red Snapper	-0.0046	-0.1433	
Grouper	0.1034	6.4283	***
King Mackerel	0.0482	1.5213	
KnowFedReg x Dophin	0.0078	0.3755	
KnowFedReg x Snapper	-0.0145	-0.6989	
KnowFedReg x Red Snapper	0.0604	1.2773	
KnowFedReg x Grouper	-0.0130	-0.5486	
KnowFedReg x King Mackerel	0.0711	1.5181	



Threshold in WTP

Study	2003	2009	2009
Experiment	"ex-post"	ex-ante	ex-ante
Trip Type	Private	Private	Charter
Anglers	All	no recent charter	recent charter
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Dolphin (6th fish)	\$7.48	\$2.59	\$28
Snapper (Red) (6th fish)	\$21	\$1.64	\$18
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Grouper (2nd-6th fish)	\$46	\$3.34 \$24 for not closed	\$54
King Mackerel (2nd to 3rd fish)	\$57	\$4.25 \$12 for not closed	\$45

Summary

- Charter anglers differ from shore and recreational anglers, and this should be taken account of by valuation surveys
- Valuing “fish keep” vs. “regulation” leads to different results, especially for private boat anglers
- Tentatively, the knowledge of regulation does not matter much
- There is a strong valuation threshold among private boat anglers for “open season”---the specific bag limit does not seem to matter for Grouper and King Mackerel (tentative for charter anglers)



Future Studies

- Still evaluating
- Possibly expand to Gulf