

# Marine Angler Expenditures in the Southeast Region, 1999

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In 1999, a recreational fishing expenditure survey was conducted in the Southeast region as an add-on to the National Marine Fisheries Service's Marine Recreational Fisheries Statistics Survey (MRFSS). This report summarizes the results of the expenditure survey, and provides state-level estimates of direct sales resulting from anglers' expenditures in 1999.

## Executive Summary

Anglers' daily trip expenditures are reported for each state and fishing mode by resident type (i.e., state resident or non-resident). Expenditures on fishing equipment and other semi-durable and durable items used primarily for saltwater recreational fishing are provided at the state-level. Sample descriptive statistics (means, weighted means, and standard errors) are presented by state for all expenditure estimates and confidence intervals calculated for the total expenditure statistics. Total resident expenditures were considerably larger than that of non-residents. Recreational participants in Louisiana, North Carolina, and Florida incurred the highest total recreational fishing expenditures in the Southeast region. Anglers fishing in these states spent between \$1.2 and \$8.4 billion on marine recreational fishing in 1999. Across all Southeast states, recreational fishing expenditures in 1999 totaled \$12.5 billion.





# Introduction

Nearly 3.7 million saltwater anglers fished 30.3 million days in the Southeast region of the U.S. (North Carolina through Louisiana) in 1999 (NMFS 2001). In addition to the leisure benefits these anglers received from participating in saltwater fishing, their expenditures generated monetary benefits in the form of sales, income, and employment throughout the Southeast. A variety of goods and services were purchased from sporting goods stores, specialty stores, bait and tackle shops, guide services, marinas, grocery stores, automobile service stations, and restaurants. The economic impacts of these purchases rippled throughout the Southeast's economy and provided incomes and jobs in manufacturing, transportation industries, and service sectors.

With the passage of the Sustainable Fisheries Act (P.L. 104-297) in 1996, which amended the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Congress mandated the analysis of economic impacts of management policies on fishing participants and coastal communities. A similar appraisal is also required under the National Environmental Policy Act (NEPA) and Executive Order 12866. As a result, in 1999/2000 the National Marine Fisheries Service (NMFS) conducted an economic expenditure survey in the Southeast (SE) United States to evaluate recreational fishing expenditures and the economic impacts generated from these expen-

ditures in this region. The expenditure survey was conducted as part of the 1999/2000 Marine Recreational Fishery Statistics Survey (MRFSS) in the SE and was a follow-up to a comprehensive SE marine recreational economic survey conducted in 1997 (Gentner and Lowther, forthcoming).

The purpose of this report is to summarize the results of the 1999/2000 economic expenditure survey and to provide state-level estimates of direct sales resulting from anglers' expenditures in the SE in 1999/2000. Summary statistics presented in this document will be used in the future to assess total sales, income, and employment generated from angler expenditures. The report begins with a brief description of the base MRFSS and the economic data collection methods used to date. Survey response rates are then discussed followed by a review of the procedures used to estimate expenditures. Sample statistics (means, weighted means, and standard errors) are provided by state for all expenditure estimates and confidence intervals are shown for the total expenditure statistics. The report concludes with a review of major findings, a description of data collection efforts in other regions of the U.S., and a discussion of future research.

### **The Marine Recreational Fisheries Statistics Survey**

#### **The Base Surveys**

Since 1979, the MRFSS has collected data to estimate the total bimonthly fishing effort (number of days fished), participation, and finfish catch by marine recreational anglers in the Southeast. The MRFSS consists of two independent yet complementary surveys: an intercept survey of marine anglers at fishing access sites and a random digit dial (RDD) telephone survey of coastal county households.

The intercept survey was designed to provide a random sample of all marine recreational fishing trips. Data from the intercept survey are primarily used to estimate mean catch-per-trip by species.<sup>1</sup> Participation and effort are estimated using data acquired through the RDD survey of coastal households. Coastal county households are sampled randomly using the random digit dialing technique described by Groves et al. (1988).

All anglers in a contacted household are identified, and each is asked about his fishing activity during the previous two-month period. The RDD survey therefore provides data to estimate effort and participation by coastal residents living in households with telephones. Ratios from the intercept survey are used to correct these effort estimates to account for non-coastal residents and coastal residents who do

not have telephones, as those groups are not covered in the household sampling frame. Readers unfamiliar with the MRFSS sampling procedures are encouraged to review Gray et. al (1999) for further details.

#### **Expenditure Surveys**

To take advantage of sampling, survey design, and quality control procedures already in place, the economic survey was designed as an add-on to the MRFSS. The economic expenditure survey involved three phases. The first phase added a series of questions to the MRFSS intercept survey, linking basic economic information to trip-specific catch information and behavior. Intercepted anglers were then asked to participate in the second phase of the survey, the telephone follow-up. The telephone follow-up solicited detailed expenditure data. The third phase added several of the expenditure questions asked on the follow-up survey to the RDD survey of coastal household residents.

The intercept survey collected information from both day-trip anglers and multi-day (overnight) anglers (Appendix 1). Information collected from multi-day anglers included; number of days away from residence, number of days spent fishing, and whether or not the primary purpose of the trip was for fishing. All anglers were asked how many days they fished in the last two months and whether they owned a boat used primarily for saltwater fishing. Additionally, anglers were asked about

their household income, the number of hours worked per week and whether they took time off work without pay to make their trip.

The telephone follow-up survey collected detailed expenditure data (Appendix 2). Expenditure data categories included trip-related goods (food, refreshments, lodging, travel costs, boat fuel, charter fees, access or boat launching fees, equipment rental, bait, and ice), fishing equipment and semi-durable items (rods, reels, lines, tackle, magazines, club dues, special fishing clothing, camping gear, binoculars, and taxidermy), and durable goods (motor boats and accessories, non-motorized boats, boating electronics, mooring, boat storage, boat insurance and vehicles or second homes used primarily for marine angling).

The RDD add-on survey was designed so that expenditure responses from a random sample of households could be compared to responses from a random sample of trips (i.e., to both the intercept and telephone follow-up surveys). As such, it collects a similar set of expenditure elements (Appendix 3). The RDD provides data that could be used to test for an avidity bias associated with collecting expenditure data from intercepted anglers.

### **Response Rates**

A total of 71,967 economic intercepts were attempted and 64,470 (90%) were completed. Approximately 32% (20,493) of the respondents that com-

pleted the economic intercept survey agreed to participate in the economic follow-up survey. However, only 15,510 of these anglers (76%) completed the entire economic follow-up questionnaire. Anglers that could not be reached in six calls comprised the majority of the non-respondents, followed by wrong numbers and a small number of refusals. For the RDD survey, a total of 155,980 households were contacted; 11,559 of these were identified as saltwater fishing households. Of the fishing households, 9,271 (80%) successfully completed the RDD survey.

### Average Expenditures

**A**verage daily trip expenditures were estimated for each state and fishing mode (charter boat; private/rental boat; and shore) by resident type (resident or non-resident). Anglers reported making two types of trips: day trips and multi-day (overnight) trips. Overnight anglers were asked to report trip length, number of days fished, and total trip cost.

For overnight anglers, average daily costs for expenditures directly related to fishing, such as boat fuel, guide or package fees, access and/or boat launching fees, equipment rental (boat, fishing or camping equipment), bait, ice, and public transportation were calculated by dividing the total amount spent by the number of days fished. For expenditures not directly associated with fishing (e.g., food/drink/refreshments and lodging at motels/cabins/lodges/campgrounds, etc.), average daily costs were derived by dividing total expenses on multi-day (overnight) trips by the length of these trips. This approach for estimating indirect average costs per day assumes constant daily food, beverage, and lodging expenditures for anglers on overnight trips.

Additional procedures were required to estimate private transportation costs. Round-trip mileage traveled in each state where fishing trips occurred was estimated using PCMILER software (ALK Associates, Inc. 1995) and

multiplied by 12.2 cents per mile (American Automobile Association estimate of the average per mile variable cost of operating a car in 2000) to calculate state-level private travel expenses. For overnight trips, daily expense estimates were determined by dividing total in-state expenses by the number of days fished on the trip. Finally, since anglers identified how many people shared trip expenses, each angler's total daily transportation expense was divided by the average number of contributors, by state and mode.

Apart from trip-related expenditures, anglers also purchase fishing equipment and other durable items used primarily for saltwater recreational fishing. Two-month estimates of average angler expenditures for fishing equipment and semi-durable items were calculated with data collected from the telephone follow-up survey.<sup>2</sup> Annual estimates of expenditures of durable items were also derived.

### Sample Variability

Prior to generating expenditure estimates, various statistical tests and adjustments were made to the data. One-way analyses of variance (ANOVA) tests revealed that intercepted anglers in the SE fished significantly more days per two-month period (7.80 days), on average, than those contacted randomly over the phone for the RDD survey (5.49 days).<sup>3</sup> The ANOVA results were not surprising considering the sample selection

# Methods

differences between the intercept and RDD surveys.

The RDD survey incorporated uniform selection probabilities with respect to contacting individuals. That is, avid anglers were just as likely to be interviewed as those that fished less frequently. In contrast, the probability of selection for the intercept survey was uniform across fishing trips, but higher for participants who fished more frequently. As a result, avid anglers were disproportionately represented in the intercept sample. This avidity bias does not effect the estimation of anglers' daily trip expenditures since the selection probability was uniform across fishing trips. However, the bias may effect the 2-month and annual expenditure estimates to the extent they are correlated with avidity.

Linear regression analysis of a similar data set for the Northeast Region (Maine through Virginia) indicated a positive relationship between expenditures and avidity (Steinback and Gentner, 2001). This relationship held for almost all categories of both 2-month and annual expenditures. This suggests that more avid anglers spend more money on bi-monthly and annual fishing expenses.

ANOVAs were also conducted to compare estimates of mean expenditures from the intercept data with those derived from the RDD survey. Average expenditures on durable goods, semi-durable goods, and fishing equipment were compared between the two surveys. In almost all cases, average expenditures estimated from the intercepted respondents were significantly higher ( $P < 0.05$ ) than the estimates obtained from the RDD survey (Table 1).<sup>4</sup>

In combination, the statistical evaluations indicate that the 2-month and annual data collected from intercepted anglers do not reflect the expenditure

**Table 1. Results of Analysis of Variance Tests to Compare RDD and Intercept Follow-up Survey Expenditure Means in the Southeast.**

Expenditures	Mean (\$)		F-value <sup>1</sup>
	Intercept	RDD	
Fishing Equipment (\$)			
Rods/Reels/Lines	101.16	63.26	96.51 *
Tackle/Gear	46.50	37.54	17.75 *
Semi-Durables (\$)			
Special Fishing Clothing	10.11	8.19	7.51 *
Magazines	5.01	4.09	7.63 *
Club Dues	9.71	6.23	2.29
License Fees	10.53	10.87	0.22
Durables (\$)			
Motor Boats and Accessories	2,145.58	1,580.51	30.97 *
Non-motorized Boats	32.03	23.08	0.54
Boating Electronics	631.16	75.57	49.29 *
Vehicles	966.69	1,137.90	4.87 *
Effort			
Number of Trips	7.80	5.49	943.83 *

<sup>1</sup>Tests the null hypothesis  $H_0: \mu_{\text{Follow-up}} = \mu_{\text{RDD}}$ , that the mean value from the follow-up survey is the same as the mean value from the RDD survey.

\* indicates significance differences ( $P < 0.05$ )

patterns of the general fishing population - assuming the RDD survey captures the spending behavior of the general population. Estimates generated from the intercepted sample contain a higher proportion of responses from avid anglers. Because of the positive relationship between avidity and expenditures found in previous surveys and the apparent differences indicated here, the intercepted responses are upwardly biased. To correct for the avidity bias, weighted means were calculated as described below.

#### Procedure to Correct for Avidity Bias

Using a procedure adapted from Thomson (1991), estimates of means were computed as follows:

$$(1) \quad \hat{R} = \frac{\sum_s \frac{Y_k}{X_k}}{\sum_s \frac{1}{X_k}},$$

where  $\hat{R}$  is the weighted mean (the “hat” notation denotes estimated quantities);  $Y_k$  is the expenditure of angler  $k$ ;  $X_k$  is the avidity of angler  $k$ ; and  $s$  represents the population sample. Equation (1) corrects for the unequal selection probabilities of intercepted anglers due to the avidity bias and produces consistent estimates of mean expenditures with relatively high precision.<sup>5</sup> The associated variance,  $\hat{V}(\hat{R})$ , developed by Thomson (1991), was estimated by

$$(2) \quad \hat{V}(\hat{R}) = \left[ \frac{\sum_s \frac{Y_k}{X_k}}{\sum_s \frac{1}{X_k}} \right]^2 \frac{1}{m} \left[ \frac{S_{\frac{Y}{X}}^2}{\hat{R}^2} + \frac{S_{\frac{1}{X}}^2}{1} - \frac{2S_{\left(\frac{Y}{X}\right)\left(\frac{1}{X}\right)}}{\hat{R}} \right];$$

where

$$S_{\frac{Y}{X}}^2 = \frac{1}{m-1} \left[ \sum_s \left( \frac{Y_k}{X_k} \right)^2 - m \left( \overline{\frac{Y_k}{X_k}} \right)^2 \right],$$

$$S_{\frac{1}{X}}^2 = \frac{1}{m-1} \left[ \sum_s \left( \frac{1}{X_k} \right)^2 - m \left( \overline{\frac{1}{X_k}} \right)^2 \right],$$

and

$$S_{\left(\frac{Y}{X}\right)\left(\frac{1}{X}\right)} = \frac{1}{m-1} \left[ \sum_s \frac{Y_k}{X_k^2} - m \overline{\frac{Y_k}{X_k}} \overline{\frac{1}{X_k}} \right].$$

$m$  is the number of observations in the sample,  $\overline{\frac{Y_k}{X_k}}$  is the sample mean of  $Y_k$  times the inverse of  $X_k$ , and  $\overline{\frac{1}{X_k}}$  is the sample mean of the inverse of avidity for each angler  $k$ .

Angler expenditure estimates were further adjusted to account for the amount spent in SE coastal states. In the RDD survey, anglers were asked to estimate the proportion of trip and equipment expenditures spent in the fishing state, and the proportion of durable and semi-durable expenditures spent in their resident state. These proportions were used to adjust the expenditure estimates from the intercept survey prior to calculating arithmetic means for the trip-level items and

weighted means for the 2-month and annual items. However, no adjustments were made to the semi-durable and durable items for intercepted respondents living outside the SE coastal states, as anglers were only asked to estimate the proportion of these expenditures spent in their resident state. Therefore, rather than making untenable assumptions about the actual location of non-resident anglers' durable and semi-durable expenditures, the estimates only apply to purchases made by SE coastal state residents.

### Total Expenditures

Arithmetic mean daily trip expenditures were multiplied by MRFSS estimates of total fishing effort (i.e., days fished in 1998; Table 2) to derive total expense estimates. Estimates were calculated by state, mode, and resident status. The variances of the total expenditure estimates were calculated according to Gray (1999) as follows:

(3)

$$\hat{V}(\hat{T}\hat{R}) = \hat{T}^2\hat{V}(\hat{R}) + \hat{V}(\hat{T})\hat{R}^2 - \hat{V}(\hat{T})\hat{V}(\hat{R}),$$

where  $\hat{T}$  is the estimate of angler effort and  $\hat{R}$  is the arithmetic expenditure mean of the sample. Goodman (1960) showed that Equation (3) produces an unbiased variance estimate when  $\hat{R}$  and  $\hat{T}$  are independent random

**Table 2. Estimated Number of Days Fished by State, Mode, and Resident Status, 1999 and 2000.<sup>1</sup>**

State	Mode <sup>2</sup>	Resident	Non-Resident	Total
Alabama	ch	33,350	41,799	75,150
	pr	506,130	69,259	575,388
	sh	382,500	109,744	492,244
	Total	921,980	220,802	1,142,782
Florida (all)	ch	261,669	722,754	984,422
	pr	9,243,064	1,144,691	10,387,755
	sh	6,575,571	2,163,532	8,739,103
	Total	16,080,304	4,030,977	20,111,281
Georgia	ch	5,908	1,822	7,730
	pr	296,576	8,025	304,601
	sh	184,095	24,650	208,745
	Total	486,579	34,497	521,076
Louisiana	ch	31,036	25,665	56,701
	pr	2,048,652	142,657	2,191,309
	sh	651,975	22,027	674,002
	Total	2,731,663	190,349	2,922,012
Mississippi	ch	12,962	24,430	37,392
	pr	447,262	28,684	475,946
	sh	350,814	34,293	385,107
	Total	811,038	87,407	898,445
North Carolina	ch	46,768	162,329	209,097
	pr	1,262,471	582,641	1,845,112
	sh	1,113,776	1,432,404	2,546,180
	Total	2,423,015	2,177,374	4,600,389
South Carolina	ch	15,965	41,556	57,522
	pr	518,197	60,223	578,420
	sh	338,934	232,011	570,945
	Total	873,097	333,790	1,206,886

<sup>1</sup>Estimates will vary slightly from NMFS (2001) due to rounding and because the survey period spanned 1999 and 2000.

<sup>2</sup>ch = charter; pr = private/rental; sh = shore

variables. Because trip-related items were collected randomly and estimates of  $R$  and  $T$  were calculated from different surveys, the variables were considered to be random and independent. Standard errors, derived from equation (3), were used to generate confidence intervals for trip-related expenditures at the 95 percent level.

Total estimated fishing equipment and semi-durable expenditures were calculated by multiplying the 2-month

weighted mean expenditures per participant by MRFSS estimates of total fishing participation by wave (each wave corresponds to a 2-month period; Table 3).<sup>5</sup> Since these items are

not linked to a particular trip, estimates were computed by state and resident status. The resultant variance was calculated by substituting the MRFSS estimates of participation and variance in each strata for  $\hat{T}$  and  $\hat{V}(\hat{T})$  in equation (3), and the weighted mean expenditures and variances estimated from equations (1) and (2) for  $\hat{R}$  and  $\hat{V}(\hat{R})$ . Standard errors were calculated from the resulting variance estimates for each expenditure item and confidence intervals were generated at the 95% level.

Finally, total estimated expenditures for durable items were calculated from the product of the annual weighted means and MRFSS estimates of annual resident fishing participation (Table 4).<sup>6</sup> Total resident expense estimates were generated for each coastal state in the SE. Non-resident durable expenditure estimates were not calculated. Variances and confidence intervals were determined using the procedures outlined above for fishing equipment and semi-durable expenditures.

**Table 3. Estimated Number of Participants by State, Resident Status, and Wave, 1999 and 2000.<sup>1</sup>**

State	Year	Wave	Resident	Non-Resident	Total
Alabama	1999	3	133,834	46,110	179,944
	1999	4	71,241	32,347	103,588
	1999	5	89,009	30,587	119,596
	1999	6	25,868	12,845	38,713
	2000	1	27,555	13,767	41,322
	2000	2	61,469	24,238	85,707
Florida (all)	1999	3	1,088,934	552,887	1,641,821
	1999	4	877,879	567,316	1,445,195
	1999	5	709,754	300,196	1,009,950
	1999	6	700,012	337,156	1,037,168
	2000	1	881,708	462,153	1,343,861
	2000	2	1,149,958	637,175	1,787,133
Georgia <sup>2</sup>	1999	3	59,328	7,256	66,584
	1999	4	37,531	3,138	40,669
	1999	5	47,112	4,487	51,599
	1999	6	33,935	5,553	39,488
	2000	2	67,311	8,464	75,775
	Louisiana	1999	3	251,442	30,330
1999		4	208,135	23,545	231,680
1999		5	135,554	18,080	153,634
1999		6	134,298	12,928	147,226
2000		1	176,251	20,422	196,673
2000		2	237,679	21,311	258,990
Mississippi	1999	3	79,799	21,412	101,211
	1999	4	37,038	13,831	50,869
	1999	5	46,981	17,082	64,063
	1999	6	18,115	12,172	30,287
	2000	1	27,377	4,471	31,848
	2000	2	55,460	3,843	59,303
North Carolina <sup>2</sup>	1999	3	264,414	300,162	564,576
	1999	4	236,686	479,709	716,395
	1999	5	177,625	159,806	337,431
	1999	6	105,028	62,189	167,217
	2000	2	111,805	109,806	221,611
	South Carolina <sup>2</sup>	1999	3	103,228	63,365
1999		4	97,590	103,839	201,429
1999		5	68,310	37,597	105,907
1999		6	44,267	27,963	72,230
2000		2	57,392	33,342	90,734

<sup>1</sup>Estimates may vary slightly from NMFS (2001) due to rounding. The participation estimates contained in Table 2 are not additive across waves. A participant could have fished in more than one wave. Addition of the estimates across waves results in substantially greater number of annual participants than that shown in Table 3.

<sup>2</sup>No sampling is conducted in Georgia, North Carolina, or South Carolina during wave 1.



**Table 4. Total Estimated Number of Participants by State and Resident Status, 1999 and 2000.<sup>1</sup>**

<b>State</b>	<b>Resident</b>	<b>Non-Resident</b>	<b>Total</b>
Alabama	223,255	143,374	366,629
Florida (all)	2,153,620	2,282,298	4,435,918
Georgia	91,050	20,142	111,192
Louisiana	442,290	90,648	532,938
Mississippi	101,748	74,891	176,639
North Carolina	488,489	804,561	1,293,050
South Carolina	192,912	220,908	413,820

<sup>1</sup>These participation estimates are not additive across states. A participant could have fished in more than one state. See NMFS (2001) for total Southeast region participation estimates.

### Average Expenditures

Summary statistics (arithmetic means or weighted means, and standard errors) by state are presented for two nonexclusive groups of anglers: all respondents and spenders (odd-numbered Tables 5-9 and even-numbered Tables 12-20). The 'spenders' estimates include only responses of individuals who reported an expense, while both spenders and non-spenders are included in the 'all' category. Statistics are reported by state, resident category, and mode for the daily trip expenditures and only by state and residence status for the fishing equipment, semi-durable, and durable items.

Average daily trip expenditures for non-residents were generally higher than for residents in all of the coastal states in the SE. Non-residents tended to travel further within the fishing state and tended to make multi-day trips that required overnight lodging. In Eastern Florida, for example, non-residents fishing from private or rental boats spent \$10.86, on average, for private transportation and \$41.08 for lodging (Table 7). Expenditures by resident anglers fishing aboard private or rental boats, on the other hand, averaged \$2.91 for private transportation and \$23.52 for lodging.<sup>7</sup>

Although the direction of the differences varied for many of the trip-related items, overall, non-residents tended to spend more than their resident counterparts for most purchases. This anomaly is not easily explained.

Non-resident anglers may lack the time or local knowledge that residents have to compare prices for trip items such as charter guide fees, equipment rental, food, bait, and ice. Non-residents may also be less experienced and may simply overspend to ensure they will have adequate supplies for the trip. The largest daily trip expenditures across most of the states were for food/drink/refreshments, boat fuel, lodging, and charter guide fees.

The weighted mean 2-month fishing equipment purchases (i.e., wave expenditures) on rods/reels and other tackle were considerably higher for residents than for non-residents in all of the states. Also, the weighted mean 2-month expenditures on rods and reels were at least triple the tackle and gear (other tackle) estimates across all states.

For the semi-durable and durable items, expenditure estimates could only be generated for residents of southeast coastal states. Residents' highest wave expenditures were for license fees, which were closely followed, and in some states surpassed, by clothing purchases. Residents also made considerable annual expenditures on powerboat purchases and the purchase of vehicles used primarily for saltwater angling. In addition, average durable expenditures by resident 'spenders' were substantially higher than estimates generated from all residents. In North Carolina, for example, the average weighted annual power boat expense for spenders was \$6,667.98 and only \$882.32 across all anglers (Table 18).

## Total Expenditures

Total expenses and 95 percent confidence intervals are shown for all expenditure items by state and residence strata (even-numbered Tables 6-10 and odd-numbered Tables 11-21). The precision of the expenditure estimates can be evaluated by examining the difference between the estimate and the upper and lower bounds.

Total resident trip-related expenditures for the private/rental modes generally exceeded non-residents' expenditures across all states due to higher resident participation and fishing effort. For example, in Western Florida even though non-residents' average expenditures in the private/rental mode were more than twice the average expenditures of residents, total resident expenditures were almost three times higher than non-residents.

Total resident trip-related expenditures for the shore mode exceeded non-residents' expenditures across all states except North and South Carolina. North Carolina non-resident totals were larger because non-residents fished more days from the shore. In contrast, South Carolina non-residents expenditures were larger because the average trip-related expenditures were considerably higher than the average expenditures of residents.

For the charter mode, total non-resident trip expenditures exceeded resident expenditures across all states except for Louisiana and Georgia, because, in

general, both average expenditures and fishing effort were higher for non-residents.

Georgia resident totals were higher because residents fished more days aboard charter boats than non-residents while average expenditures were only slightly less for residents. The opposite was true for Louisiana: average expenditures were higher for residents that fished aboard charter boats, but residents fished fewer days aboard charter boats.

In total, resident and non-resident anglers in Louisiana, North Carolina, and Florida exhibited the highest recreational fishing expenditures in the SE region. Anglers fishing in these states spent between \$1.2 and \$8.4 billion on marine recreational fishing in 1999/2000. Across all SE states, total recreational fishing expenditures totaled \$12.5 billion (Table 22).

Table 5. Alabama Average Expenditures by Mode and Resident Status, 1999 and 2000.

ALABAMA		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	10.92	0.40	10.92	0.40	3.39	0.08	3.39	0.08
	Private/Rental	5.07	0.37	5.07	0.37	5.03	0.80	5.03	0.80
	Shore	8.11	0.88	8.11	0.88	6.48	1.38	6.48	1.38
Food	Charter	19.50	2.29	21.78	2.50	23.60	1.72	29.05	1.95
	Private/Rental	16.22	1.09	17.34	1.12	21.97	12.25	25.63	13.83
	Shore	14.06	2.06	16.75	2.32	23.69	5.37	25.84	5.38
Lodging	Charter	20.66	3.06	31.12	4.15	25.39	2.18	39.78	2.90
	Private/Rental	33.97	12.30	60.10	18.97	.	.	.	.
	Shore	3.68	2.82	12.88	7.00	12.92	12.92	64.58	.
Public Transportation	Charter	0.98	0.59	23.13	11.42	8.25	3.27	97.15	34.44
	Private/Rental	11.13	7.47	92.76	42.30	.	.	.	.
	Shore	0.95	0.95	6.63	*	.	.	.	.
Boat Fuel	Private/Rental	18.17	1.31	20.05	1.38	17.88	8.98	20.43	9.94
Charter Fees	Charter	73.53	7.48	104.17	9.26	74.94	5.45	117.65	6.80
Access/Boat Launching	Charter	0.05	0.02	1.42	0.36	0.16	0.09	12.38	4.45
	Private/Rental	0.52	0.08	2.96	0.23	0.90	0.66	2.41	1.51
	Shore	1.40	0.24	4.42	0.30	2.21	0.67	3.60	0.73
Equipment Rental	Charter	0.66	0.47	32.02	18.49	.	.	.	.
	Private/Rental	0.02	0.02	2.48	0.50	.	.	.	.
	Shore	.	.	.	.	.	.	.	.
Bait	Charter	0.60	0.25	9.56	3.12	0.14	0.07	5.71	2.13
	Private/Rental	7.29	0.57	10.39	0.67	8.55	3.75	11.97	4.40
	Shore	4.28	0.48	6.28	0.54	4.46	1.15	6.44	1.12
Ice	Charter	0.61	0.14	3.68	0.63	0.14	0.03	1.82	0.29
	Private/Rental	2.62	0.26	4.12	0.36	3.88	1.36	4.44	1.44
	Shore	1.05	0.13	1.86	0.14	1.01	0.41	2.20	0.59
Total	Charter	127.50	8.45	237.80	24.33	136.02	6.94	306.94	35.62
	Private/Rental	95.01	14.51	215.27	46.40	58.21	15.74	69.90	17.73
	Shore	33.53	3.77	56.93	7.45	50.78	14.12	109.14	5.75
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		74.33	14.43	182.29	33.35	25.56	4.38	78.04	12.87
Other Tackle		33.92	3.80	33.92	3.80	17.63	2.93	17.63	2.93
Camping Equipment		3.64	1.18	102.75	21.67	.	.	.	.
Binoculars		2.20	0.63	100.38	*	.	.	.	.
Clothing		4.69	1.02	65.40	7.48	.	.	.	.
Processing/Taxidermy		1.17	0.56	151.17	22.96	.	.	.	.
Magazines		3.21	0.41	20.59	0.27	.	.	.	.
Club Dues		4.13	1.21	54.19	11.70	.	.	.	.
License Fees		10.22	1.42	25.74	3.13	.	.	.	.
Miscellaneous		6.60	1.92	93.59	22.33	.	.	.	.
Total		144.12	15.27	830.01	53.15	43.19	5.27	95.67	13.20
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		155.15	23.00	631.20	11.38				
Power Boat Purchase		455.62	89.34	3,909.94	368.83				
Non-Power Boat Purchase		6.86	4.62	451.86	158.38				
Electronics		29.41	7.03	459.37	38.63				
Fishing Vehicle		392.36	180.44	10,864.49	2,256.33				
Vacation Home		183.02	170.01	32,619.33	26,737.20				
Total		1,222.43	264.66	48,936.20	26,835.27				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.

\*\* average expenditure across the previous 2 month wave of data collection.



# Alabama

**Table 6. Alabama Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

ALABAMA		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
Trip Expenditures	Mode	Residents			Non-Residents		
Private Transportation	Charter	364	439	289	142	182	102
	Private/Rental	2,566	3,095	2,036	348	488	209
	Shore	3,104	3,992	2,216	712	1,077	346
Food	Charter	650	845	455	987	1,295	678
	Private/Rental	8,210	9,847	6,574	1,521	3,214	0
	Shore	5,377	7,230	3,523	2,600	3,995	1,204
Lodging	Charter	689	929	449	1,061	1,406	717
	Private/Rental	17,193	29,628	4,758	0	0	0
	Shore	1,408	3,532	0	1,417	4,196	0
Public Transportation	Charter	33	72	0	345	627	63
	Private/Rental	5,634	13,068	0	0	0	0
	Shore	362	1,072	0	0	0	0
Boat Fuel	Private/Rental	9,198	11,096	7,301	1,238	2,487	0
	Charter Fees	2,452	3,131	1,773	3,132	4,111	2,154
Access/Boat Launching	Charter	2	3	0	7	14	0
	Private/Rental	263	356	171	63	153	0
	Shore	536	746	327	243	403	82
Equipment Rental	Charter	22	53	0	0	0	0
	Private/Rental	11	26	0	0	0	0
	Shore	0	0	0	0	0	0
Bait	Charter	20	37	3	6	12	0
	Private/Rental	3,687	4,474	2,900	592	1,119	65
	Shore	1,639	2,119	1,159	490	777	202
Ice	Charter	20	30	10	6	9	3
	Private/Rental	1,327	1,656	998	269	465	73
	Shore	400	523	277	111	205	18
Total	Charter	4,252	4,575	3,501	5,686	6,804	4,567
	Private/Rental	48,090	62,827	34,173	4,032	6,215	1,985
	Shore	12,826	15,913	10,251	5,572	8,721	3,521
<b>Equipment and Durable Expenditures</b>		<b>Residents</b>			<b>Non-Residents</b>		
Rods and Reels		30,467	36,936	23,997	4,214	3,201	5,228
Other Tackle		13,903	16,083	11,722	2,907	3,599	2,215
Camping Equipment		1,493	1,964	1,022			
Binoculars		904	1,161	647			
Clothing		1,923	2,366	1,480			
Processing/Taxidermy		480	695	266			
Magazines		1,317	1,537	1,098			
Club Dues		1,694	2,186	1,202			
License Fees		4,189	4,915	3,463			
Miscellaneous		2,707	3,488	1,926			
Boat Expenses		34,638	46,453	22,822			
Power Boat Purchase		101,720	144,770	58,671			
Non-Power Boat Purchase		1,531	3,561	0			
Electronics		6,567	9,852	3,282			
Fishing Vehicle		87,597	167,794	7,400			
Vacation Home		40,861	115,304	0			
<b>All Sub-Totals</b>		<b>397,158</b>	<b>516,558</b>	<b>277,866</b>	<b>22,411</b>	<b>26,588</b>	<b>19,072</b>
<b>State Total</b>		<b>419,569</b>	<b>539,042</b>	<b>300,231</b>			

Table 7. East Florida Expenditures by Mode and Resident Status, 1999 and 2000.

EASTERN FLORIDA		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	2.64	0.27	2.64	0.27	11.76	0.65	11.76	0.65
	Private/Rental	2.91	0.13	2.91	0.13	10.86	0.96	10.86	0.96
	Shore	3.37	0.23	3.37	0.23	11.81	2.18	11.81	2.18
Food	Charter	17.73	4.22	22.40	5.08	18.87	2.68	22.59	3.03
	Private/Rental	14.18	0.53	15.65	0.56	20.02	2.14	20.71	2.17
	Shore	10.20	0.81	12.93	0.95	17.92	3.78	20.31	4.10
Lodging	Charter	.	.	.	.	35.00	7.51	64.17	10.59
	Private/Rental	23.52	6.94	49.66	8.17	41.08	15.13	52.82	17.00
	Shore	18.34	9.95	36.68	16.66	81.90	22.42	81.90	22.42
Public Transportation	Charter	.	.	.	.	25.94	8.87	150.43	28.43
	Private/Rental	0.99	0.99	19.88	.	1.40	1.40	14.03	.
	Shore	.	.	.	.	23.38	23.38	93.53	.
Boat Fuel	Private/Rental	15.83	0.60	17.48	0.63	12.77	1.47	14.76	1.59
Charter Fees	Charter	71.37	15.39	107.06	19.94	100.79	12.29	130.05	13.79
Access/Boat Launching	Charter	.	.	.	.	1.95	1.26	22.94	13.38
	Private/Rental	0.74	0.15	5.92	1.03	1.39	0.46	5.43	1.56
	Shore	0.89	0.22	4.27	0.96	0.56	0.26	2.74	0.86
Equipment Rental	Charter	4.30	3.01	111.81	.	0.34	0.19	7.73	2.21
	Private/Rental	0.20	0.11	23.86	10.03	.	.	.	.
	Shore	0.03	0.02	3.98	0.99	0.41	0.41	14.03	.
Bait	Charter	.	.	.	.	0.73	0.38	11.26	4.18
	Private/Rental	6.17	0.32	9.93	0.43	4.70	0.55	7.05	0.65
	Shore	3.37	0.23	5.44	0.27	3.90	0.78	5.76	0.94
Ice	Charter	0.06	0.04	1.66	.	0.78	0.24	3.26	0.80
	Private/Rental	2.02	0.14	3.51	0.21	1.93	0.26	2.79	0.32
	Shore	0.71	0.07	1.81	0.11	1.42	0.61	3.23	1.26
Total	Charter	96.11	16.24	245.57	20.58	196.16	17.20	424.19	36.36
	Private/Rental	66.59	7.07	148.80	13.02	94.15	15.46	128.45	17.32
	Shore	36.90	9.99	68.48	16.75	141.30	32.70	233.30	22.96
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		82.28	5.51	149.03	8.01	32.01	6.48	77.78	11.93
Other Tackle		33.00	1.95	33.00	1.95	20.11	5.07	20.11	5.06
Camping Equipment		6.75	1.73	140.39	24.90				
Binoculars		3.44	0.80	83.47	8.04				
Clothing		5.68	1.04	66.61	6.73				
Processing/Taxidermy		1.20	0.52	165.65	61.84				
Magazines		4.47	0.37	20.95	.				
Club Dues		3.93	0.71	45.60	5.45				
License Fees		8.78	0.50	20.67	0.49				
Miscellaneous		10.36	2.00	133.61	17.52				
Total		159.90	6.64	858.99	70.42	52.12	8.23	97.89	12.96
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		247.69	12.66	672.85	72.45				
Power Boat Purchase		2,043.01	543.79	7,218.63	1,512.81				
Non-Power Boat Purchase		14.21	7.89	441.42	55.10				
Electronics		49.82	12.83	430.56	36.52				
Fishing Vehicle		736.25	230.37	9,649.72	965.12				
Vacation Home		32.13	30.42	2,938.76	2,857.45				
Total		3,123.11	591.69	21,351.94	3,375.60				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.  
 \*\* average expenditure across the previous 2 month wave of data collection.



# East Florida

**Table 8. East Florida Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

EASTERN FLORIDA		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
<b>Trip Expenditures</b>	<b>Mode</b>	<b>Residents</b>			<b>Non-Residents</b>		
Private Transportation	Charter	372	464	281	2,373	2,865	1,882
	Private/Rental	11,701	13,143	10,258	2,823	3,421	2,224
	Shore	10,458	12,224	8,692	8,395	11,620	5,171
Food	Charter	2,504	3,720	1,287	3,808	5,062	2,555
	Private/Rental	57,017	63,521	50,513	5,205	6,468	3,942
	Shore	31,651	37,547	25,755	12,739	18,257	7,221
Lodging	Charter	0	0	0	7,066	10,278	3,853
	Private/Rental	94,572	149,851	39,292	10,679	18,481	2,876
	Shore	56,940	117,706	0	58,225	90,321	26,130
Public Transportation	Charter	0	0	0	5,235	8,850	1,621
	Private/Rental	3,996	11,827	0	365	1,079	0
	Shore	0	0	0	16,624	49,207	0
Boat Fuel	Private/Rental	63,632	70,890	56,375	3,319	4,173	2,465
Charter Fees	Charter	10,076	14,549	5,604	20,345	26,377	14,314
Access/Boat Launching	Charter	0	0	0	394	895	0
	Private/Rental	2,993	4,176	1,809	361	600	122
	Shore	2,768	4,148	1,388	401	760	42
Equipment Rental	Charter	607	1,442	0	68	142	0
	Private/Rental	820	1,692	0	0	0	0
	Shore	78	190	0	293	868	0
Bait	Charter	0	0	0	148	302	0
	Private/Rental	24,823	28,127	21,518	1,221	1,540	903
	Shore	10,458	12,209	8,707	2,772	3,921	1,622
Ice	Charter	9	21	0	157	255	60
	Private/Rental	8,140	9,434	6,847	501	647	355
	Shore	2,206	2,666	1,745	1,012	1,875	149
Total	Charter	13,569	18,279	8,859	39,596	47,461	31,730
	Private/Rental	267,693	324,517	210,869	24,473	32,489	16,457
	Shore	114,558	175,678	53,439	100,462	146,670	54,254
<b>Equipment and Durable Expenditures</b>		<b>Residents</b>			<b>Non-Residents</b>		
Rods and Reels		192,660	209,401	175,919	24,732	29,455	20,009
Other Tackle		77,274	83,693	70,855	15,535	19,070	12,001
Camping Equipment		15,807	19,250	12,365			
Binoculars		8,063	9,660	6,466			
Clothing		13,309	15,467	11,150			
Processing/Taxidermy		2,815	3,817	1,812			
Magazines		10,458	11,452	9,463			
Club Dues		9,200	10,674	7,725			
License Fees		20,560	22,250	18,870			
Miscellaneous		24,261	28,383	20,140			
Boat Expenses		231,838	260,498	203,177			
Power Boat Purchase		1,912,244	2,918,775	905,713			
Non-Power Boat Purchase		13,301	27,794	0			
Electronics		46,634	70,406	22,863			
Fishing Vehicle		689,125	1,114,403	263,847			
Vacation Home		30,075	85,890	0			
<b>All Sub-Totals</b>		<b>3,693,442</b>	<b>4,791,636</b>	<b>2,595,249</b>	<b>204,798</b>	<b>252,716</b>	<b>156,881</b>
<b>State Total</b>		<b>3,898,240</b>	<b>4,997,479</b>	<b>2,799,002</b>			

**Table 9. West Florida Average Expenditures by Mode and Resident Status, 1999 and 2000.**

WESTERN FLORIDA		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	3.81	0.24	3.81	0.24	2.23	0.71	2.23	0.71
	Private/Rental	2.43	0.09	2.43	0.09	5.90	0.61	5.90	0.61
	Shore	2.73	0.19	2.73	0.19	5.66	0.99	5.66	0.99
Food	Charter	15.07	1.03	18.22	1.18	13.82	3.58	23.03	4.20
	Private/Rental	11.53	0.35	13.14	0.37	14.89	1.29	16.04	1.34
	Shore	8.28	0.47	11.36	0.56	10.66	1.38	15.14	1.70
Lodging	Charter	23.97	5.28	47.05	9.36	.	.	.	*
	Private/Rental	17.82	6.07	62.36	10.00	24.37	8.95	33.51	10.66
	Shore	0.99	0.99	6.96	*	9.80	*	9.80	*
Public Transportation	Charter	6.27	2.38	54.07	16.56	85.74	54.22	257.21	0.00
	Private/Rental	.	.	.	.	31.63	23.83	173.97	80.44
	Shore	1.63	1.40	5.71	4.22	.	.	.	.
Boat Fuel	Private/Rental	12.70	0.40	14.35	0.43	13.64	1.41	16.41	1.60
Charter Fees	Charter	80.64	4.31	113.58	4.86	72.53	21.09	130.55	25.89
Access/Boat Launching	Charter	0.43	0.30	50.03	27.93	.	.	.	.
	Private/Rental	0.72	0.08	4.29	0.37	0.84	0.16	3.94	0.50
	Shore	0.97	0.17	5.09	0.78	0.95	0.37	5.30	1.73*
Equipment Rental	Charter	0.70	0.35	54.12	18.18	.	.	.	.
	Private/Rental	0.21	0.12	25.99	14.17	0.07	0.07	11.68	*
	Shore	0.08	0.07	13.91	10.53	0.03	0.03	2.81	*
Bait	Charter	0.29	0.09	6.69	1.52	0.00	0.00	.	.
	Private/Rental	4.09	0.16	7.08	0.22	4.12	0.54	7.91	0.85
	Shore	3.53	0.19	5.57	0.24	3.66	0.56	5.80	0.77
Ice	Charter	0.30	0.08	2.79	0.62	.	.	.	.
	Private/Rental	1.40	0.07	2.59	0.11	1.52	0.21	3.18	0.36
	Shore	0.60	0.06	2.08	0.15	0.75	0.12	1.86	0.20
Total	Charter	131.48	7.31	350.34	38.73	174.32	58.30	416.96	26.24
	Private/Rental	50.90	6.08	132.23	17.35	96.99	25.50	273.89	81.16
	Shore	18.81	1.81	53.41	11.40	31.51	1.83	41.07	2.73
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		72.94	4.48	140.34	7.31	26.60	6.96	56.45	12.75
Other Tackle		28.77	1.31	28.77	1.31	16.66	5.72	16.66	5.72
Camping Equipment		4.44	0.76	101.47	10.11				
Binoculars		4.65	0.81	93.47	10.50				
Clothing		6.45	0.72	67.89	3.96				
Processing/Taxidermy		1.23	0.61	176.08	53.18				
Magazines		4.09	0.30	24.60	0.42				
Club Dues		3.92	0.64	47.05	5.97				
License Fees		9.20	0.63	24.23	1.34				
Miscellaneous		7.95	1.22	105.51	12.68				
Total		143.65	5.13	809.41	57.53	43.26	9.01	73.11	13.97
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		271.05	32.17	847.41	57.19				
Power Boat Purchase		1,545.35	289.92	6,595.88	959.46				
Non-Power Boat Purchase		20.06	7.84	607.55	73.09				
Electronics		55.29	15.70	484.76	101.42				
Fishing Vehicle		672.51	165.73	9,781.04	466.13				
Vacation Home		191.26	121.73	17,193.61	4,992.62				
Total		2,755.52	357.32	35,510.26	5,107.15				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.  
 \*\* average expenditure across the previous 2 month wave of data collection.





# West Florida

**Table 10. West Florida Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

WESTERN FLORIDA		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
<b>Trip Expenditures</b>	<b>Mode</b>	<b>Residents</b>			<b>Non-Residents</b>		
Private Transportation	Charter	459	530	388	1,164	1,896	432
	Private/Rental	12,675	13,899	11,452	5,220	6,373	4,067
	Shore	9,473	11,031	7,915	8,228	11,172	5,284
Food	Charter	1,815	2,109	1,522	7,198	10,910	3,486
	Private/Rental	60,231	65,491	54,970	13,175	15,682	10,667
	Shore	28,755	32,856	24,653	15,487	19,757	11,218
Lodging	Charter	2,889	4,163	1,615	0	0	0
	Private/Rental	93,053	155,408	30,698	21,564	37,181	5,947
	Shore	3,450	10,212	0	14,237	0	0
Public Transportation	Charter	755	1,321	189	44,660	100,114	0
	Private/Rental	0	0	0	27,985	69,340	0
	Shore	5,668	15,198	0	0	0	0
Boat Fuel	Private/Rental	66,307	72,251	60,363	12,071	14,738	9,405
Charter Fees	Charter	9,716	11,063	8,370	37,779	59,573	15,985
Access/Boat Launching	Charter	52	123	0	0	0	0
	Private/Rental	3,783	4,599	2,968	743	1,032	454
	Shore	3,354	4,557	2,151	1,385	2,438	333
Equipment Rental	Charter	84	168	0	0	0	0
	Private/Rental	1,081	2,353	0	60	179	0
	Shore	268	713	0	41	121	0
Bait	Charter	35	56	13	0	0	0
	Private/Rental	21,382	23,530	19,233	3,645	4,629	2,660
	Shore	12,243	13,955	10,531	5,310	6,995	3,625
Ice	Charter	36	55	18	0	0	0
	Private/Rental	7,312	8,159	6,465	1,349	1,735	963
	Shore	2,091	2,544	1,638	1,089	1,457	722
Total	Charter	15,842	17,806	13,878	90,800	150,504	40,963
	Private/Rental	265,824	328,754	202,897	85,813	130,198	53,517
	Shore	65,302	77,974	57,060	45,777	61,064	30,491
<b>Equipment and Durable Expenditures</b>		<b>Residents</b>			<b>Non-Residents</b>		
Rods and Reels		221,918	238,574	205,261	57,858	71,005	44,710
Other Tackle		87,535	93,398	81,672	36,245	46,875	25,616
Camping Equipment		13,516	15,546	11,486			
Binoculars		14,161	16,331	11,991			
Clothing		19,632	21,727	17,536			
Processing/Taxidermy		3,748	5,294	2,202			
Magazines		12,429	13,449	11,408			
Club Dues		11,920	13,641	10,200			
License Fees		27,975	30,186	25,763			
Miscellaneous		24,191	27,509	20,873			
Boat Expenses		330,031	409,037	251,026			
Power Boat Purchase		1,881,656	2,581,490	1,181,822			
Non-Power Boat Purchase		24,422	43,183	5,662			
Electronics		67,322	104,965	29,679			
Fishing Vehicle		818,866	1,216,958	420,775			
Vacation Home		232,888	523,578	0			
<b>All Sub-Totals</b>		4,139,177	5,002,442	3,293,677	316,494	394,302	252,883
<b>State Total</b>		4,455,670	5,322,435	3,607,781			



# Florida (All)

**Table 11. Florida (All) Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

FLORIDA (ALL)		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
Trip Expenditures	Mode	Residents (\$)			Non-Residents (\$)		
Private Transportation	Charter	831	947	716	3,537	4,419	2,655
	Private/Rental	24,376	26,268	22,484	8,043	9,342	6,744
	Shore	19,931	22,287	17,576	16,624	20,990	12,257
Food	Charter	4,319	5,570	3,068	11,007	14,925	7,089
	Private/Rental	117,248	125,613	108,883	18,380	21,187	15,572
	Shore	60,405	67,587	53,223	28,226	35,204	21,249
Lodging	Charter	2,889	4,163	1,615	7,066	10,278	3,853
	Private/Rental	187,625	270,955	104,295	32,243	49,701	14,785
	Shore	60,390	121,531	0	72,462	107,574	37,351
Public Transportation	Charter	755	1,321	189	49,895	105,467	5,089
	Private/Rental	3,996	11,827	0	28,350	69,711	356
	Shore	5,668	15,198	0	16,624	49,207	0
Boat Fuel	Private/Rental	129,939	139,321	120,558	15,390	18,191	12,590
Charter Fees	Charter	19,793	24,463	15,122	58,124	80,737	35,511
Access/Boat Launching	Charter	52	123	0	394	895	0
	Private/Rental	6,776	8,213	5,339	1,104	1,479	729
	Shore	6,122	7,952	4,291	1,786	2,898	674
Equipment Rental	Charter	691	1,531	0	68	142	0
	Private/Rental	1,900	3,444	511	60	179	0
	Shore	346	805	56	334	915	0
Bait	Charter	35	56	13	148	302	0
	Private/Rental	46,204	50,146	42,263	4,866	5,900	3,832
	Shore	22,701	25,150	20,252	8,082	10,121	6,042
Ice	Charter	45	68	23	157	255	60
	Private/Rental	15,452	16,998	13,906	1,850	2,263	1,437
	Shore	4,296	4,942	3,651	2,102	3,040	1,164
Total	Charter	29,410	34,514	24,307	130,396	190,616	79,942
	Private/Rental	533,517	618,306	448,730	110,286	155,389	77,011
	Shore	179,860	242,279	118,188	146,240	194,910	97,569
<b>Equipment and Durable Expenditures</b>		<b>Residents (\$)</b>			<b>Non-Residents (\$)</b>		
Rods and Reels		414,578	438,193	390,962	82,590	96,560	68,620
Other Tackle		164,809	173,502	156,115	51,781	62,982	40,579
Camping Equipment		29,323	33,320	25,327			
Binoculars		22,224	24,918	19,529			
Clothing		32,940	35,949	29,932			
Processing/Taxidermy		6,563	8,405	4,720			
Magazines		22,887	24,312	21,461			
Club Dues		21,120	23,385	18,854			
License Fees		48,535	51,318	45,752			
Miscellaneous		48,453	53,744	43,161			
Boat Expenses		561,869	645,912	477,825			
Power Boat Purchase		3,793,900	5,019,817	2,567,983			
Non-Power Boat Purchase		37,723	61,430	14,016			
Electronics		113,956	158,477	69,436			
Fishing Vehicle		1,507,991	2,090,519	925,464			
Vacation Home		262,962	558,963	23,480			
<b>All Sub-Totals</b>		<b>7,832,619</b>	<b>9,229,493</b>	<b>6,446,654</b>	<b>521,292</b>	<b>612,671</b>	<b>441,653</b>
<b>State Total</b>		<b>8,353,911</b>	<b>9,753,771</b>	<b>6,965,659</b>			

Table 12. Georgia Average Expenditures by Mode and Resident Status, 1999 and 2000.

GEORGIA		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	13.64	1.05	13.64	1.05	5.67	0.22	5.67	0.22
	Private/Rental	5.68	0.95	5.68	0.95	8.04	0.71	8.04	0.71
	Shore	10.07	1.60	10.07	1.60	9.02	1.11	9.02	1.11
Food	Charter	23.03	5.30	24.80	5.56	20.75	1.28	20.75	1.28
	Private/Rental	11.31	1.61	11.81	1.64	29.12	5.75	29.12	5.75
	Shore	12.43	3.18	15.54	3.57	22.78	3.82	22.78	3.82
Lodging	Charter	27.90	8.29	45.33	8.88	33.75	2.34	33.75	2.34
	Private/Rental	124.24	124.24	248.48	*	22.31	8.37	22.31	8.37
	Shore	4.47	4.47	8.95	*	65.34	22.88	65.34	22.88
Public Transportation	Charter	1.42	0.97	12.74	*	11.81	2.38	90.83	14.65
	Private/Rental	.	.	.	.	1.99	1.99	33.90	*
	Shore	.	.	.	.	5.40	5.40	70.15	*
Boat Fuel	Private/Rental	10.60	1.53	11.08	1.56	9.19	1.59	10.45	1.63
Charter Fees	Charter	73.68	16.00	147.36	18.30	80.99	4.54	119.01	5.40
Access/Boat Launching	Charter	0.28	0.20	4.78	*	0.10	0.04	5.78	1.30
	Private/Rental	1.61	0.41	4.74	0.72	1.26	0.36	3.09	0.51
	Shore	0.41	0.19	1.86	0.52	4.07	1.64	8.13	2.69
Equipment Rental	Charter	9.37	6.52	159.28	*	1.36	0.72	63.80	28.86
	Private/Rental	.	.	.	.	0.68	0.48	9.20	1.71
	Shore	.	.	.	.	0.39	0.39	7.01	*
Bait	Charter	2.60	0.98	10.39	2.30	0.77	0.19	12.92	2.17
	Private/Rental	6.53	1.26	9.30	1.56	3.34	1.05	6.67	1.65
	Shore	3.82	0.99	6.28	1.25	6.11	2.19	8.46	2.78
Ice	Charter	0.54	0.17	1.61	0.30	0.69	0.10	3.39	0.39
	Private/Rental	1.37	0.25	2.00	0.31	1.58	0.30	2.24	0.32
	Shore	0.58	0.17	1.34	0.21	2.01	0.56	2.42	0.63
Total	Charter	152.45	19.97	419.94	21.24	155.90	5.83	355.90	33.02
	Private/Rental	161.34	124.27	293.08	3.02	77.51	10.57	125.03	10.60
	Shore	31.78	5.81	44.03	4.15	115.13	24.01	193.32	23.55
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		45.09	12.40	94.85	22.67	31.04	6.14	94.47	18.42
Other Tackle		24.63	8.39	24.63	8.39	14.01	2.05	14.01	2.05
Camping Equipment		2.13	1.45	41.05	26.79				
Binoculars		3.76	3.12	81.82	62.24				
Clothing		14.52	11.27	119.89	99.53				
Processing/Taxidermy		0.51	0.36	22.37	23.90				
Magazines		1.72	0.79	20.71	6.38				
Club Dues		7.28	4.65	65.44	33.70				
License Fees		3.78	0.81	10.75	1.01				
Miscellaneous		2.27	2.19	95.98	31.71				
Total		105.70	19.77	577.49	133.55	45.05	6.47	108.48	18.53
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		115.37	38.54	489.82	65.67				
Power Boat Purchase		66.14	19.53	637.22	166.86				
Non-Power Boat Purchase		0.07	0.06	14.57	*				
Electronics		5.62	2.58	193.99	161.91				
Fishing Vehicle		9.49	9.75	1,678.79	3,700.32				
Vacation Home		4.14	4.28	2,563.97	*				
Total		200.82	44.58	5,578.35	3,708.20				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.



# Georgia

**Table 13. Georgia Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

GEORGIA		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
Trip Expenditures	Mode	Residents			Non-Residents		
Private Transportation	Charter	81	111	50	10	16	4
	Private/Rental	1,685	2,337	1,034	65	101	28
	Shore	1,854	2,634	1,074	222	345	100
Food	Charter	136	213	59	38	60	15
	Private/Rental	3,353	4,514	2,192	234	386	81
	Shore	2,288	3,599	977	562	893	230
Lodging	Charter	165	276	54	61	98	25
	Private/Rental	36,846	109,064	0	179	338	20
	Shore	823	2,437	0	1,611	2,947	274
Public Transportation	Charter	8	20	0	22	36	7
	Private/Rental	0	0	0	16	47	0
	Shore	0	0	0	133	394	0
Boat Fuel	Private/Rental	3,142	4,241	2,044	74	120	28
Charter Fees	Charter	435	674	197	148	235	60
Access/Boat Launching	Charter	2	4	0	0	0	0
	Private/Rental	479	736	222	10	18	2
	Shore	75	147	2	100	192	9
Equipment Rental	Charter	55	132	0	2	5	0
	Private/Rental	0	0	0	5	13	0
	Shore	0	0	0	10	28	0
Bait	Charter	15	28	3	1	2	0
	Private/Rental	1,936	2,766	1,107	27	48	5
	Shore	704	1,112	295	151	277	24
Ice	Charter	3	5	1	1	2	0
	Private/Rental	407	575	240	13	21	5
	Shore	107	174	40	50	86	14
Total	Charter	901	1,187	614	284	383	185
	Private/Rental	47,849	120,093	0	622	853	391
	Shore	5,850	8,111	3,590	2,838	4,254	1,422
<b>Equipment and Durable Expenditures</b>		<b>Residents</b>			<b>Non-Residents</b>		
Rods and Reels		10,954	14,241	7,667	889	515	1,263
Other Tackle		5,982	8,070	3,895	401	239	564
Camping Equipment		517	842	191			
Binoculars		912	1,602	222			
Clothing		3,528	6,032	1,025			
Processing/Taxidermy		125	205	45			
Magazines		419	605	233			
Club Dues		1,769	2,818	721			
License Fees		917	1,155	680			
Miscellaneous		552	1,033	72			
Boat Expenses		10,504	17,810	3,199			
Power Boat Purchase		6,022	9,790	2,254			
Non-Power Boat Purchase		6	17	0			
Electronics		511	986	36			
Fishing Vehicle		864	2,603	0			
Vacation Home		377	1,140	0			
<b>All Sub-Totals</b>		<b>98,562</b>	<b>171,495</b>	<b>25,629</b>	<b>5,034</b>	<b>6,530</b>	<b>3,539</b>
<b>State Total</b>		<b>103,596</b>	<b>176,544</b>	<b>30,648</b>			

**Table 14. Louisiana Average Expenditures by Mode and Resident Status, 1999 and 2000.**

LOUISIANA		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	6.29	0.30	6.29	0.30	3.47	0.60	3.47	0.60
	Private/Rental	5.57	0.13	5.57	0.13	6.91	3.19	6.91	3.19
	Shore	4.52	0.26	4.52	0.26	3.30	0.49	3.30	0.49
Food	Charter	20.04	1.67	24.87	1.89	12.71	3.32	18.61	4.45
	Private/Rental	14.85	0.56	16.05	0.58	18.77	3.41	18.77	3.41
	Shore	12.68	1.63	15.77	1.84	37.64	18.93	37.64	18.93
Lodging	Charter	23.75	8.15	65.32	19.39	11.67	4.23	45.50	11.13
	Private/Rental	14.07	3.73	62.43	9.30	5.80	5.25	14.50	12.22
	Shore	15.62	14.03	54.66	44.73	42.96	19.61	42.96	19.61
Public Transportation	Charter	2.93	1.99	51.35	27.74	6.38	4.46	140.30	*
	Private/Rental	0.65	0.35	9.36	3.31	.	.	.	.
	Shore	.	.	.	.	.	.	.	.
Boat Fuel	Private/Rental	13.04	0.47	14.36	0.50	11.89	2.67	14.64	2.77
Charter Fees	Charter	118.83	9.08	167.45	10.10	89.65	15.26	137.46	18.10
Access/Boat Launching	Charter	0.17	0.07	4.69	0.94	.	.	.	.
	Private/Rental	2.99	0.10	3.97	0.11	4.25	2.37	7.22	3.81
	Shore	2.39	0.42	7.52	0.59	0.96	0.96	3.83	*
Equipment Rental	Charter	0.04	0.03	4.97	*	.	.	.	.
	Private/Rental	0.52	0.21	29.35	*	2.97	2.97	50.51	*
	Shore	.	.	.	.	.	.	.	.
Bait	Charter	0.06	0.04	6.63	*	0.56	0.32	7.29	2.54
	Private/Rental	4.95	0.26	8.59	0.37	3.95	1.47	8.39	2.26
	Shore	4.90	0.64	6.99	0.78	2.65	2.23	2.65	2.23
Ice	Charter	0.29	0.05	2.20	0.15	0.81	0.38	4.21	1.64
	Private/Rental	1.96	0.09	3.00	0.12	1.77	0.49	3.01	0.55
	Shore	1.24	0.16	2.21	0.20	1.34	1.12	1.79	1.45
Total	Charter	172.42	12.48	327.47	35.38	125.24	16.80	353.37	21.92
	Private/Rental	58.60	3.83	147.11	13.72	56.31	8.56	117.04	13.73
	Shore	41.35	14.15	87.15	44.77	88.85	27.39	88.87	27.38
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		58.31	3.52	115.62	5.60	18.89	7.24	60.49	24.09
Other Tackle		33.59	2.76	33.59	2.76	24.74	11.78	24.74	11.78
Camping Equipment		5.57	1.76	181.27	44.37				
Binoculars		3.53	0.95	133.08	26.39				
Clothing		8.84	1.25	77.94	7.52				
Processing/Taxidermy		3.97	1.44	262.75	60.21				
Magazines		3.77	0.44	24.27	1.84				
Club Dues		4.86	0.89	57.95	8.08				
License Fees		8.25	0.71	16.05	1.30				
Miscellaneous		3.54	0.63	67.31	7.51				
Total		134.23	5.43	969.83	80.70	43.63	13.82	85.23	26.82
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		258.47	31.25	657.98	50.87				
Power Boat Purchase		1,055.41	136.46	4,633.73	193.00				
Non-Power Boat Purchase		26.71	13.74	1,169.66	364.99				
Electronics		27.35	4.75	355.18	55.48				
Fishing Vehicle		463.69	98.70	9,502.42	1,446.40				
Vacation Home		70.01	42.90	3,801.36	1,951.63				
Total		1,901.63	177.17	20,120.34	2,465.17				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.



# Louisiana

**Table 15. Louisiana Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

LOUISIANA		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
Trip Expenditures	Mode	Residents			Non-Residents		
Private Transportation	Charter	195	234	157	89	125	53
	Private/Rental	11,411	12,662	10,160	985	1,890	81
Food	Shore	2,945	3,555	2,334	73	110	35
	Charter	622	770	474	326	509	144
Lodging	Private/Rental	30,432	34,202	26,662	2,678	3,737	1,619
	Shore	8,270	10,799	5,741	829	1,703	0
Public Transportation	Charter	737	1,247	227	299	522	77
	Private/Rental	28,820	44,041	13,599	827	2,296	0
Boat Fuel	Shore	10,183	28,131	0	946	1,867	26
	Charter	91	213	0	164	389	0
Charter Fees	Private/Rental	1,331	2,741	0	0	0	0
	Shore	0	0	0	0	0	0
Access/Boat Launching	Private/Rental	26,723	29,993	23,454	1,696	2,499	894
	Charter	3,688	4,533	2,843	2,301	3,232	1,370
Equipment Rental	Charter	5	10	1	0	0	0
	Private/Rental	6,129	6,868	5,390	606	1,273	0
Bait	Shore	1,560	2,159	962	21	62	0
	Charter	1	3	0	0	0	0
Ice	Private/Rental	1,056	1,898	214	424	1,255	0
	Shore	0	0	0	0	0	0
Total	Charter	2	4	0	14	31	0
	Private/Rental	10,136	11,584	8,687	563	983	144
Equipment and Durable Expenditures	Shore	3,193	4,186	2,201	58	156	0
	Charter	9	13	5	21	40	1
Rods and Reels	Private/Rental	4,005	4,544	3,466	253	396	110
	Shore	805	1,055	556	30	78	0
Other Tackle	Charter	5,351	6,357	4,345	3,214	4,216	2,213
	Private/Rental	120,043	136,284	103,802	8,033	10,498	5,569
Camping Equipment	Shore	26,956	45,131	8,782	1,957	3,232	682
	Binoculars	66,609	73,439	59,778	7,114	2,892	11,336
Clothing	Other Tackle	38,370	42,675	34,066	9,318	15,979	2,657
	Camping Equipment	6,366	8,108	4,624			
Processing/Taxidermy	Binoculars	4,032	4,989	3,075			
	Clothing	10,097	11,573	8,621			
Magazines	Processing/Taxidermy	4,537	5,943	3,132			
	Magazines	4,307	4,875	3,739			
Club Dues	Club Dues	5,555	6,529	4,581			
	License Fees	9,427	10,503	8,352			
Miscellaneous	Miscellaneous	4,045	4,736	3,354			
	Boat Expenses	114,317	144,039	84,595			
Power Boat Purchase	Power Boat Purchase	466,798	595,172	338,424			
	Non-Power Boat Purchase	11,812	23,775	0			
Fishing Vehicle	Electronics	12,095	16,405	7,786			
	Fishing Vehicle	205,083	293,330	116,837			
Vacation Home	Vacation Home	30,964	68,244	0			
	<b>All Sub-Totals</b>	<b>1,146,765</b>	<b>1,312,215</b>	<b>981,316</b>	<b>29,636</b>	<b>38,056</b>	<b>21,216</b>
<b>State Total</b>		<b>1,176,402</b>	<b>1,342,065</b>	<b>1,010,738</b>			

Table 16. Mississippi Average Expenditures by Mode and Resident Status, 1999 and 2000.

MISSISSIPPI		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	10.08	0.99	10.08	0.99	3.51	0.23	3.51	0.23
	Private/Rental	0.82	0.11	0.82	0.11	8.26	0.63	8.26	0.63
	Shore	1.65	0.27	1.65	0.27	6.56	1.03	6.56	1.03
Food	Charter	24.49	4.46	24.49	4.46	15.89	1.70	19.21	1.92
	Private/Rental	11.84	0.97	12.56	0.99	19.61	3.36	19.61	3.36
	Shore	5.70	0.84	8.44	1.04	19.21	4.39	21.61	4.17
Lodging	Charter	13.83	8.93	48.42	*	23.52	4.02	38.88	6.02
	Private/Rental	.	.	.	.	30.76	13.76	52.73	20.06
	Shore	.	.	.	.	24.94	16.50	37.41	18.71
Public Transportation	Charter	.	.	.	.	2.91	1.30	29.56	11.23
	Private/Rental	.	.	.	.	.	.	.	.
	Shore	.	.	.	.	.	.	.	.
Boat Fuel	Private/Rental	13.94	1.15	15.69	1.20	16.04	3.10	17.65	3.27
Charter Fees	Charter	111.01	13.31	129.51	11.77	67.32	6.65	92.26	7.86
Access/Boat Launching	Charter	.	.	.	.	0.01	0.01	0.82	0.00
	Private/Rental	0.30	0.16	4.63	2.12	2.07	0.50	3.93	0.72
	Shore	0.09	0.06	2.25	0.93	0.40	0.27	1.80	0.40
Equipment Rental	Charter	.	.	.	.	0.06	0.04	4.68	*
	Private/Rental	.	.	.	.	.	.	.	.
	Shore	0.03	0.03*	1.99	*	.	.	.	.
Bait	Charter	.	.	.	.	0.69	0.30	13.16	3.52
	Private/Rental	5.10	0.57	7.84	0.73	4.86	1.21	8.95	1.75
	Shore	3.41	0.57	4.83	0.72	3.95	1.14	5.08	1.13
Ice	Charter	0.09	0.04	0.87	*	0.46	0.14	4.35	0.82
	Private/Rental	2.15	0.26	3.36	0.35	1.88	0.45	2.87	0.60
	Shore	0.72	0.13	1.66	0.22	1.17	0.52	2.11	0.68
Total	Charter	159.50	16.67	203.29	12.59	114.38	8.07	202.91	15.52
	Private/Rental	34.14	1.64	44.08	2.75	83.49	14.58	105.74	20.69
	Shore	11.59	1.05	19.17	1.59	56.23	17.15	68.01	19.21
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		67.58	12.94	129.05	22.32	25.18	6.20	73.11	16.87
Other Tackle		42.68	12.45	42.68	12.45	15.00	3.48	15.00	3.48
Camping Equipment		6.52	1.84	78.05	10.09				
Binoculars		2.88	1.22	73.74	*				
Clothing		6.55	1.92	76.73	10.41				
Processing/Taxidermy		5.00	3.21	341.45	*				
Magazines		2.87	0.58	19.51	*				
Club Dues		4.17	1.62	51.19	15.12				
License Fees		11.42	1.65	22.96	2.74				
Miscellaneous		5.26	1.92	84.25	22.34				
Total		154.94	18.72	919.61	39.98	40.19	7.11	88.11	17.23
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		142.98	15.53	491.92	100.24				
Power Boat Purchase		1,553.87	551.21	7,424.77	908.60				
Non-Power Boat Purchase		4.21	3.44	120.56	73.05				
Electronics		25.39	6.35	274.23	97.61				
Fishing Vehicle		539.69	214.84	5,690.87	1,558.58				
Vacation Home		.	.	2.91	*				
Total		2,266.14	591.85	14,005.26	1,810.98				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.

\*\* average expenditure across the previous 2 month wave of data collection.





# Mississippi

**Table 17. Mississippi Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

MISSISSIPPI		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
<b>Trip Expenditures</b>	<b>Mode</b>	<b>Residents</b>			<b>Non-Residents</b>		
Private Transportation	Charter	131	181	80	86	139	32
	Private/Rental	365	474	256	237	314	159
	Shore	578	792	364	225	341	109
Food	Charter	317	472	163	388	638	138
	Private/Rental	5,297	6,459	4,135	563	811	314
	Shore	2,000	2,684	1,316	659	1,058	259
Lodging	Charter	179	411	0	575	971	178
	Private/Rental	0	0	0	882	1,690	75
	Shore	0	0	0	855	1,996	0
Public Transportation	Charter	0	0	0	71	145	0
	Private/Rental	0	0	0	0	0	0
	Shore	0	0	0	0	0	0
Boat Fuel	Private/Rental	6,236	7,610	4,862	460	679	242
Charter Fees	Charter	1,439	2,028	849	1,645	2,697	593
Access/Boat Launching	Charter	0	0	0	0	1	0
	Private/Rental	133	275	0	59	92	27
	Shore	30	69	0	14	33	0
Equipment Rental	Charter	0	0	0	2	4	0
	Private/Rental	0	0	0	0	0	0
	Shore	9	26	0	0	0	0
Bait	Charter	0	0	0	17	34	0
	Private/Rental	2,279	2,886	1,673	139	218	61
	Shore	1,195	1,642	748	135	229	41
Ice	Charter	1	2	0	11	20	2
	Private/Rental	961	1,231	690	54	84	24
	Shore	253	356	150	40	78	2
Total	Charter	2,067	2,721	1,413	2,794	3,950	1,639
	Private/Rental	15,271	17,197	13,344	2,395	3,275	1,514
	Shore	4,064	4,916	3,213	1,928	3,147	709
<b>Equipment and Durable Expenditures</b>		<b>Residents</b>			<b>Non-Residents</b>		
Rods and Reels		17,804	21,515	14,093	1,856	1,222	2,490
Other Tackle		11,243	14,426	8,059	1,106	1,475	736
Camping Equipment		1,718	2,192	1,244			
Binoculars		759	1,055	463			
Clothing		1,725	2,215	1,235			
Processing/Taxidermy		1,317	2,071	563			
Magazines		757	920	593			
Club Dues		1,098	1,495	701			
License Fees		3,008	3,541	2,474			
Miscellaneous		1,387	1,860	914			
Boat Expenses		14,548	18,833	10,262			
Power Boat Purchase		158,103	272,124	44,082			
Non-Power Boat Purchase		428	1,116	0			
Electronics		2,584	3,949	1,218			
Fishing Vehicle		54,913	98,982	10,844			
Vacation Home		0	0	0			
<b>All Sub-Totals</b>		292,793	415,244	170,342	10,079	12,112	8,045
<b>State Total</b>		302,872	425,339	180,404			

Table 18. North Carolina Average Expenditures by Mode and Resident Status, 1999 and 2000.

NORTH CAROLINA		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	10.21	0.46	10.21	0.46	8.78	0.71	8.78	0.71
	Private/Rental	10.17	0.46	10.17	0.46	14.12	1.81	14.12	1.81
	Shore	13.39	0.69	13.39	0.69	10.77	0.85	10.77	0.85
Food	Charter	17.08	4.00	20.78	4.65	13.82	2.54	13.82	2.54
	Private/Rental	16.97	1.05	18.69	1.10	28.68	5.80	28.68	5.80
	Shore	14.27	1.27	17.41	1.41	29.81	8.60	29.81	8.60
Lodging	Charter	38.93	14.94	60.56	21.78	16.90	4.61	16.90	4.61 *
	Private/Rental	19.12	4.01	45.08	6.92	28.10	14.38	28.10	14.38
	Shore	28.15	4.85	42.97	6.17	26.80	17.60	26.80	17.60
Public Transportation	Charter	.	.	.	.	.	.	.	.
	Private/Rental	.	.	.	.	.	.	.	.
	Shore	1.13	1.13	74.27	.	.	.	.	.
Boat Fuel	Private/Rental	17.62	1.27	19.49	1.35	13.00	3.54	14.08	3.76
Charter Fees	Charter	133.76	15.87	173.11	14.77	70.59	12.48	88.24	13.34
Access/Boat Launching	Charter	.	.	.	.	.	.	.	.
	Private/Rental	1.33	0.16	4.27	0.35	2.33	1.51	.	.
	Shore	1.07	0.23	5.29	0.82	0.53	0.31	.	.
Equipment Rental	Charter	.	.	.	.	0.11	0.07	9.71	5.59
	Private/Rental	0.09	0.06	8.31	3.30 *	.	.	1.49	0.74
	Shore	0.35	0.25	20.82	10.67	0.03	0.03	1.89	.
Bait	Charter	.	.	.	.	0.11	0.07	.	.
	Private/Rental	4.08	0.43	8.04	0.71	4.44	1.16	0.40	.
	Shore	4.15	0.33	5.30	0.36	5.99	2.36	1.89	.
Ice	Charter	1.67	0.84	8.37	3.59	0.42	0.19	8.25	1.55
	Private/Rental	1.91	0.15	2.99	0.19	1.47	0.35	6.99	2.66
	Shore	1.11	0.19	2.00	0.32	1.61	0.62	2.49	0.71
Total	Charter	201.66	22.18	273.02	26.97	110.71	13.57	145.69	15.49
	Private/Rental	71.28	4.39	117.04	7.92	92.15	16.12	93.86	16.29
	Shore	63.61	5.20	181.45	12.46	75.53	19.76	73.65	19.62
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		88.74	16.25	157.54	23.59	38.22	15.78	54.92	20.55
Other Tackle		34.78	4.95	55.60	6.10	14.81	4.70	24.99	7.33
Camping Equipment		9.58	3.69	126.06	32.17				
Binoculars		3.12	1.07	64.02	14.75				
Clothing		10.47	2.92	82.11	15.66				
Processing/Taxidermy		0.13	0.08	17.16	11.80				
Magazines		5.95	0.81	21.26	1.61				
Club Dues		7.57	1.89	48.70	9.42				
License Fees		10.22	1.42	25.74	3.13				
Miscellaneous		3.69	1.21	60.75	12.41				
Total		174.25	17.88	658.94	49.85	53.03	16.46	79.91	21.82
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		22.77	6.26	733.32	162.37				
Power Boat Purchase		882.32	569.27	6,667.98	3,831.59				
Non-Power Boat Purchase		3.65	2.24	423.24	74.38				
Electronics		10.78	3.82	212.15	37.02				
Fishing Vehicle		41.00	23.19	6,000.39	4,026.86				
Vacation Home		1.44	1.04	734.87	530.77				
Total		961.95	569.80	14,771.95	5,586.74				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.

\*\* average expenditure across the previous 2 month wave of data collection.

# North Carolina



**Table 19. North Carolina Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

NORTH CAROLINA		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
<b>Trip Expenditures</b>	<b>Mode</b>		<b>Residents</b>		<b>Non-Residents</b>		
Private Transportation	Charter	477	549	406	1,425	1,753	1,096
	Private/Rental	12,834	14,622	11,045	8,227	10,609	5,846
	Shore	14,909	17,042	12,775	15,423	18,686	12,160
Food	Charter	799	1,177	421	2,243	3,131	1,355
	Private/Rental	21,418	24,882	17,954	16,711	23,753	9,670
	Shore	15,891	19,089	12,692	42,694	67,567	17,820
Lodging	Charter	1,821	3,205	437	2,743	4,274	1,211
	Private/Rental	24,144	34,385	13,904	16,372	32,916	0
	Shore	31,355	42,392	20,318	38,394	87,987	0
Public Transportation	Charter	0	0	0	0	0	0
	Private/Rental	0	0	0	0	0	0
	Shore	1,253	3,710	0	0	0	0
Boat Fuel	Private/Rental	22,248	26,197	18,299	7,575	11,757	3,392
Charter Fees	Charter	6,256	7,890	4,622	11,459	15,860	7,058
Access/Boat Launching	Charter	0	0	0	0	0	0
	Private/Rental	1,680	2,116	1,244	1,357	3,088	0
	Shore	1,193	1,710	675	762	1,649	0
Equipment Rental	Charter	0	0	0	17	40	0
	Private/Rental	113	259	0	0	0	0
	Shore	393	942	0	38	113	0
Bait	Charter	0	0	0	17	40	0
	Private/Rental	5,148	6,351	3,944	2,590	3,964	1,216
	Shore	4,619	5,469	3,768	8,576	15,314	1,839
Ice	Charter	78	155	0	67	129	0
	Private/Rental	2,407	2,858	1,956	857	1,272	442
	Shore	1,240	1,684	797	2,300	4,066	534
Total	Charter	9,431	11,608	7,254	17,971	22,727	13,216
	Private/Rental	89,991	101,719	78,264	53,689	72,438	34,941
	Shore	70,852	82,857	58,848	108,187	164,207	52,168
<b>Equipment and Durable Expenditures</b>			<b>Residents</b>		<b>Non-Residents</b>		
Rods and Reels		92,877	111,128	74,626	39,548	25,461	53,636
Other Tackle		42,077	48,473	35,682	17,690	22,861	12,519
Camping Equipment		6,173	8,244	4,103			
Binoculars		3,882	5,828	1,937			
Clothing		5,984	7,324	4,643			
Processing/Taxidermy		4,534	6,249	2,819			
Magazines		3,533	4,155	2,910			
Club Dues		2,923	3,689	2,157			
License Fees		4,782	5,828	3,735			
Miscellaneous		6,104	9,162	3,045			
Boat Expenses		99,937	138,597	61,277			
Power Boat Purchase		451,170	677,109	225,230			
Non-Power Boat Purchase		1,151	2,070	232			
Electronics		11,031	17,154	4,907			
Fishing Vehicle		343,048	597,187	88,909			
Vacation Home		76,974	176,466	0			
<b>All Sub-Totals</b>		<b>1,326,454</b>	<b>1,683,877</b>	<b>969,031</b>	<b>237,087</b>	<b>298,222</b>	<b>175,952</b>
<b>State Total</b>		<b>1,563,541</b>	<b>1,926,155</b>	<b>1,200,927</b>			

Table 20. South Carolina Average Expenditures by Mode and Resident Status, 1999 and 2000.

SOUTH CAROLINA		Residents				Non-Residents			
Trip Expenditures	Mode	All (\$)		Spenders (\$)		All (\$)		Spenders (\$)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Private Transportation	Charter	12.43	1.37	12.43	1.37	14.03	1.28	14.03	1.28
	Private/Rental	3.63	0.33	3.63	0.33	12.95	2.68	12.95	2.68
	Shore	8.58	1.00	8.58	1.00	22.60	6.87	22.60	6.87
Food	Charter	11.94	2.19	13.14	2.24	9.30	3.50	9.30	3.50
	Private/Rental	13.32	1.14	15.31	1.23	9.90	3.13	9.90	3.13
	Shore	9.16	1.30	11.50	1.45	38.97	28.10	38.97	28.10
Lodging	Charter	.	.	.	.	39.76	9.98	39.76	9.98
	Private/Rental	1.56	0.86	5.21	1.31	9.92	9.92	9.92	9.92 *
	Shore	27.61	14.61	41.41	8.28	37.26	28.63	37.26	28.63
Public Transportation	Charter	.	.	.	.	47.16	17.59	188.64	40.86
	Private/Rental	.	.	.	.	.	.	.	.
	Shore	.	.	.	.	.	.	.	.
Boat Fuel	Private/Rental	10.81	0.94	11.72	0.98	15.08	6.69	15.08	6.69
	Charter	114.26	25.33	195.88	26.77	109.97	23.30	158.84	26.40
Access/Boat Launching	Charter	.	.	.	.	0.27	0.19	4.04	0.00 *
	Private/Rental	0.30	0.10	4.70	0.66	10.42	9.96	36.48	33.67
	Shore	4.04	1.56	13.48	4.53	.	.	.	.
Equipment Rental	Charter	.	.	.	.	.	.	.	.
	Private/Rental	1.16	1.16	198.78	.	.	.	.	.
	Shore	.	.	.	.	0.01	0.01	0.02	.
Bait	Charter	0.43	0.30	5.16	.	.	.	.	.
	Private/Rental	3.84	0.65	9.63	1.37	3.53	3.38	12.37	11.43
	Shore	3.99	0.89	6.36	1.27	4.37	3.68	4.37	3.68
Ice	Charter	0.65	0.30	2.61	0.78	0.49	0.23	2.47	0.78
	Private/Rental	1.29	0.15	2.50	0.21	5.27	3.33	9.23	5.16
	Shore	0.73	0.19	1.92	0.40	1.06	0.68	1.06	0.68
Total	Charter	139.72	25.47	229.21	26.91	220.97	31.08	417.08	49.80
	Private/Rental	35.91	2.20	251.49	2.58	67.07	16.79	105.92	38.09
	Shore	54.12	14.81	83.25	9.70	104.27	40.87	104.28	40.87
<b>Wave Expenditures**</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>	
Rods and Reels		83.98	15.54	151.28	24.93	34.61	11.70	65.99	23.19
Other Tackle		44.28	10.43	44.28	10.43	20.12	8.90	20.12	8.90
Camping Equipment		4.34	2.15	72.36	18.03				
Binoculars		3.49	1.76	76.06	23.17				
Clothing		8.42	4.15	114.01	34.35				
Processing/Taxidermy		.	.	.	.				
Magazines		3.31	0.89	17.57	3.37				
Club Dues		5.01	1.70	53.19	8.41				
License Fees		7.63	1.62	14.31	2.83				
Miscellaneous		3.73	1.64	47.36	18.00				
Total		164.19	19.61	590.42	56.45	54.73	14.70	86.11	24.84
<b>Annual Expenditures</b>		<b>All (\$)</b>		<b>Spenders (\$)</b>					
Boat Expenses		298.47	88.45	653.77	149.81				
Power Boat Purchase		1,396.66	265.15	3,984.59	197.68				
Non-Power Boat Purchase		9.23	8.22	775.69	689.36				
Electronics		75.12	31.61	622.53	116.21				
Fishing Vehicle		464.89	204.82	7,396.89	1,497.86				
Vacation Home		4.11	2.96	364.48	363.11				
Total		2,248.49	348.07	13,797.96	1,710.46				

\* indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.

\*\* average expenditure across the previous 2 month wave of data collection.



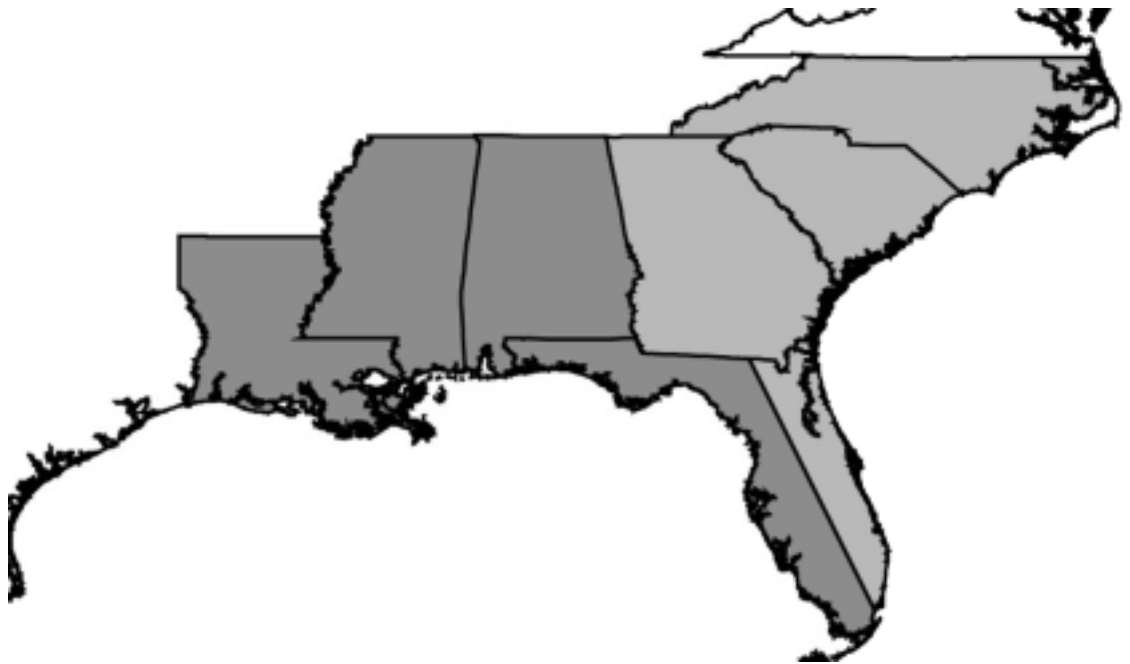
# South Carolina

**Table 21. South Carolina Total Expenditures by Resident Status, 1999 and 2000 (in thousands of dollars).**

SOUTH CAROLINA		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lower Bound
<b>Trip Expenditures</b>	<b>Mode</b>	<b>Residents</b>			<b>Non-Residents</b>		
Private Transportation	Charter	198	261	136	583	776	390
	Private/Rental	1,882	2,343	1,422	780	1,151	409
	Shore	2,909	3,787	2,030	5,244	8,670	1,817
Food	Charter	191	272	109	386	688	84
	Private/Rental	6,902	8,527	5,276	596	992	200
	Shore	3,104	4,165	2,044	9,042	21,942	0
Lodging	Charter	0	0	0	1,652	2,580	724
	Private/Rental	810	1,695	0	597	1,768	0
	Shore	9,357	19,191	0	8,644	21,754	0
Public Transportation	Charter	0	0	0	1,960	3,480	439
	Private/Rental	0	0	0	0	0	0
	Shore	0	0	0	0	0	0
Boat Fuel	Private/Rental	5,601	6,929	4,272	908	1,725	92
Charter Fees	Charter	1,824	2,718	930	4,570	6,842	2,298
Access/Boat Launching	Charter	0	0	0	11	27	0
	Private/Rental	156	257	55	628	1,804	0
	Shore	1,371	2,436	306	0	0	0
Equipment Rental	Charter	0	0	0	0	0	0
	Private/Rental	599	1,773	0	0	0	0
	Shore	0	0	0	1	4	0
Bait	Charter	7	16	0	0	0	0
	Private/Rental	1,991	2,731	1,250	213	612	0
	Shore	1,352	1,999	706	1,014	2,695	0
Ice	Charter	10	20	1	21	40	1
	Private/Rental	667	850	483	318	716	0
	Shore	249	387	111	246	561	0
Total	Charter	2,231	3,131	1,331	9,183	12,092	6,274
	Private/Rental	18,607	21,322	16,111	4,039	6,048	2,676
	Shore	18,343	28,351	8,802	24,191	42,978	11,179
<b>Equipment and Durable Expenditures</b>		<b>Residents</b>			<b>Non-Residents</b>		
Rods and Reels		31,022	37,595	24,449	9,175	12,736	5,615
Other Tackle		16,358	20,446	12,270	5,335	7,878	2,791
Camping Equipment		1,603	2,354	852			
Binoculars		1,289	1,904	673			
Clothing		3,110	4,560	1,660			
Processing/Taxidermy		0	0	0			
Magazines		1,224	1,563	886			
Club Dues		1,850	2,468	1,231			
License Fees		2,818	3,471	2,165			
Miscellaneous		1,379	1,958	800			
Boat Expenses		57,578	92,488	22,668			
Power Boat Purchase		269,433	380,646	158,219			
Non-Power Boat Purchase		1,781	4,894	0			
Electronics		14,492	26,681	2,304			
Fishing Vehicle		89,683	168,501	10,865			
Vacation Home		794	1,917	0			
<b>All Sub-Totals</b>		533,594	675,480	391,733	51,923	71,534	37,825
<b>State Total</b>		585,517	728,752	442,957			

Southeast Totals

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# Southeast Totals

Table 22. Total Southeast Region Expenditures by Resident Status, 1999 and 2000 (millions of dollars).

<b>SOUTHEAST REGION</b>	<b>Total</b>	<b>Upper Bound</b>	<b>Lower Bound</b>	<b>Total</b>	<b>Upper Bound</b>	<b>Lower Bound</b>
<b>Trip Expenditures</b>		<b>Residents</b>		<b>Non-Residents</b>		
Private Transportation	103.63	108.32	98.94	63.08	70.21	55.95
Food	297.23	310.68	283.78	140.67	170.91	111.86
Lodging	415.43	545.59	301.51	188.89	255.76	130.78
Public Transportation	19.13	33.84	9.97	97.58	174.15	42.17
Boat Fuel	203.09	214.00	192.01	27.34	32.51	22.03
Party/Charter Fee	35.89	41.03	30.70	81.38	104.57	58.17
Access/Boat Launching	26.56	29.41	23.72	7.17	9.86	4.97
Equipment Rental	5.20	7.59	3.27	0.96	1.99	0.06
Bait	106.86	112.34	101.38	27.70	35.19	20.34
Ice	32.74	34.71	30.78	8.78	10.94	6.63
<b>Trip Sub-Totals</b>	<b>1,245.76</b>	<b>1,378.25</b>	<b>1,129.74</b>	<b>643.54</b>	<b>752.79</b>	<b>554.33</b>
<b>Equipment and Durable Expenditures</b>						
Rods and Reels	664.31	696.67	631.95	145.39	166.02	124.75
Other Tackle	292.74	305.82	279.67	88.54	102.81	74.27
Camping Equipment	47.19	52.13	42.25			
Binnoculars	34.00	37.60	30.40			
Clothing	59.31	63.98	54.63			
Processing/Taxidermy	17.56	20.55	14.57			
Magazines	34.44	36.17	32.72			
Club Dues	36.01	38.93	33.08			
License Fees	73.68	77.04	70.32			
Miscellaneous	64.63	70.89	58.36			
Boat Expenses	893.39	997.66	789.12			
Power Boat Purchase	5,247.15	6,511.12	3,983.17			
Non-Power Boat Purchase	54.43	81.27	27.59			
Electronics	161.24	208.14	114.34			
Fishing Vehicle	2,289.18	2,942.10	1,636.26			
Vacation Home	412.93	736.12	89.75			
<b>Equipment and Durable Sub-Totals</b>	<b>10,382.18</b>	<b>11,846.26</b>	<b>8,918.10</b>	<b>233.92</b>	<b>259.01</b>	<b>208.84</b>
<b>All Sub-Totals</b>	<b>11,627.94</b>	<b>13,098.01</b>	<b>10,159.28</b>	<b>877.46</b>	<b>989.55</b>	<b>784.79</b>
<b>Southeast Region Total</b>	<b>12,505.41</b>	<b>13,975.68</b>	<b>11,033.82</b>			

**T**otal annual expenditures by resident anglers in SE coastal states in 1999/2000 were substantially larger than those of non-residents. In part, this was because resident participants outnumbered non-residents and took more trips than non-residents. In most states, anglers fishing from private or rental boats spent considerably more than those who fished from shore or from a charter boat. Across the entire SE, the highest trip expenditures were for lodging, food, and boat fuel respectively, while the largest durable purchases were for powerboats and fishing vehicles respectively (Table 22). Taken as a whole, the expenditure estimates provide an indication of the importance of marine recreational fishing to the economies of the coastal states in the SE.

At first glance, the state-level estimates of total marine recreational expenditures appear large. About 85% of the total expenditure was for fishing equipment and durable items, items that may last for many years. The costs of two durable items, power boats/accessories and fishing vehicles/trailers, comprised just over 60% of total angler expenditures in 1999/2000. Although anglers were asked to indicate the total costs of durable purchases made during the past 12 months, their actual outlay in 1999/2000 may have been lower if purchases were financed. Because the main objective of this report was to estimate the total sales generated by anglers' expenditures, no attempt was made to identify this type of transaction. All state-level expenditures estimated

in this study are 2 to 6 times greater than those estimated from the U.S. Fish and Wildlife Service's 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (USFWS 1996).<sup>8</sup> State-level participation estimates derived from the USFWS' survey are about 1 to 2 times lower than MRFSS participation estimates for 1996. As well, the USFWS' estimates of durable purchases are substantially lower than those estimated in this paper. Differences in sampling procedures may also have contributed to some of these disparities. The base MRFSS survey is specifically designed to provide statistically reliable estimates of saltwater angling effort, participation, and finfish catch. In contrast, the USFWS' survey is designed to provide information on fishing, hunting, and wildlife-watching activities. Saltwater fishing comprises a small portion of these recreation-related activities in most states. Thus, the coverage and sample sizes for saltwater fishing in the USFWS' survey are considerably smaller than in the MRFSS.

Purchases of motor boats/motor boat accessories was the largest expense category in each SE state. In fact, the estimate generated for the SE region (\$5.2 billion; Table 22) was greater than the National Marine Manufacturers Association (NMMA) estimate of total retail sales of new and used recreational boats across all of the SE coastal states in 1997 (\$3.2 billion; NMMA 1998). The NMMA estimates, however, do not include personal sales of pre-owned



boats. Although the intention was to exclude this type of purchase from the 1999/2000 expenditure survey by only asking about “new” motor boat purchases and accessories, the distinction was not stressed and respondents may have interpreted “new” to mean any new expenditure in 1999/2000. According to data obtained from USDL (1998) 53% of boat purchases in 1998 occurred through personal sales. Thus, the difference between our estimate and the NMMA estimate may be due to the inclusion of personal sales.

Results of the 1999/2000 expenditure survey need to be considered in light of a number of data limitations and assumptions. First, even with 15,510 complete responses, sample sizes were insufficient to calculate statistically reliable mean expenditures across some categories in some states. In addition, because only a small portion of the survey respondents actually reported an expense for all of the expenditure items, estimates of purchases by ‘spenders’ were also constrained by sample size. Second, non-resident expenditure estimates are conservative as they include only trip and equipment-related expenses, but not semi-durable and durable items. However, this bias may be small because many durable items are likely to be purchased in an angler’s state of residence and not in a coastal SE state. Third, estimates of party boat passenger expenses are not included in this report (see endnote 1). Lastly, although adjustments were made for avidity bias, no corrections were made for non-response bias.

Anglers with considerable expenses may have been more willing to complete a lengthy telephone follow-up survey than those that spent very little, although no significant differences were detected in avidity between non-respondents and those that completed the follow-up survey.

## Future Research

Expenditure estimates in this report will be used in the future to construct regional economic impact models. These models will be used to track the economic activity (i.e., sales, income, employment, and taxes) generated directly and indirectly from anglers’ expenditures in the SE. Ultimately, the models will provide the capability to recognize and assess relative impacts of recreational fishing management actions on communities and businesses. In other words, the models will delineate inter-sectoral linkages between marine recreation-related businesses within each state thereby allowing quantification of the distributional impacts arising from changes in fishing activity, incomes, business practices, and/or other factors outside the control of fisheries management. An assessment of these impacts is required under the National Environmental Policy Act (NEPA), Executive Order 12866, and National Standard 8 of the Magnuson-Stevens Fisheries Conservation and Management Act.

In order to quantify angler expenditures nationwide, the three-part expenditure survey was also administered in the Northeast Region (Maine through Virginia) in 1998 and the Pacific Region (California, Oregon, and Washington) in 2000/2001. While the survey instruments varied regionally, the same set of core data elements was collected in all regions. The Northeast region's analysis, equivalent to this report, has been completed (Steinback and Gentner, 2001). An expenditure analysis of the Pacific region's data, will follow in the fall of 2001. Finally, impacts analysis should be completed for all three regions by mid-year 2002.



### Endnotes

1. In the Southeast Region, unlike other NMFS regions, the intercept collection of party boat catch and effort is conducted in a separate survey. We are unable to collect economic data using this survey and, as a result, expenditures for the party boat mode will not be estimated in this report.

2. To minimize recall bias, anglers were asked to indicate the amount spent during the previous 2-month MRFSS sampling wave. As such, the fishing equipment and semi-durable means presented in this paper represent average expenditures over a 2-month period.

3. The random digit dial survey is directed at households located in coastal counties. The majority of anglers living in coastal counties fish within their resident state, whereas the intercept survey captures both coastal state residents and non-residents. Thus, to make the avidity comparison more tenable 2-month avidity estimates provided by residents of coastal states were used in the comparison.

4. Typically, ANOVA calculates the T-test. The SAS procedure NPAR1WAY used here calculates the F-value, and, when using one class variable, this procedure is equivalent to one-way ANOVA.

5. Although  $\hat{R}$  is an unbiased estimator of  $R$ , equation 1 is not an unbiased

estimator of  $\bar{R}$  because it is a ratio estimator (Thomson, 1991). However, as the sample size increases the bias becomes negligible.

6. The participation estimates contained in Table 4 are not additive across waves. A participant could have fished in more than one wave. Addition of the estimates across waves results in substantially greater numbers of annual participants than that shown in Table 4. At the state-level (see Table 4) resident participation estimates are additive but non-resident participants should not be added across states since they could have fished in more than one state.

7. Private transportation expenses were calculated for all respondents from the round trip miles traveled in the state where the fishing trip occurred. Thus, average expenditures are identical for the 'spenders' and the 'all' category.

8. The USFWS' 1996 expenditure estimates were adjusted to their 1999 equivalent, prior to making the comparison, by using the Bureau of Labor Statistics Consumer Price Index.

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# Endnotes & References



# **Appendix 1: Intercept Add-on Survey Instrument**









**Appendix 2:  
Phone Follow-up  
Survey  
Instrument**

## Appendix 2

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Hello, may I please speak with [NAME]? This is [INTERVIEWER], calling from Macro International. You spoke with one of your field staff member on [TRIPDATE] during a day of fishing in [STATE] at [SITENAME].

If questflag=2, display: "I am calling to ask a few follow-up questions that could not be collected in the field."

If questflag=1, display "I am calling to verify some of the data that the interviewer recorded."

If questflag=3, display "I am calling to verify some of the data that the interviewer recorded and to ask a few follow-up questions that could not be collected in the field."

This study is being conducted in accordance with the privacy act of 1974. You are not required to answer any question that you consider to be an invasion of your privacy.}

{Note to programmer: If questflag=2, go to YEARSFISH}

1. How many years have you been saltwater recreational fishing?

001 record number of years

888 Don't know

999 Refused}

{If modeflag=6 or 7 go to peop\_pay} - PC

2. Have you been saltwater fishing since [TRIPDATE], the day you were interviewed?

[It may be helpful to reassure the respondent that you will only be asking a few quick questions about one recent trip.]

1 Yes

2 No SKIPTO PEOP\_PAY

8 Don't know SKIPTO PEOP\_PAY

9 Refused SKIPTO PEOP\_PAY}

3. Please think of your **most recent** day of saltwater fishing. Did you fish from a ...

1 Party/charter boat

2 Private boat

3 Rental boat

4 Shore (beach, bank, jetty, pier)

8 Don't know

9 Refused}

4. Were you targeting or hoping to catch any particular species or kinds of fish?

**Accept up to two target species**

9997 Anything/no particular species

0001 **NMFS to provide species list**

9995 Other (specify)

9996 Other (specify)

9998 Don't know

9999 Refused}

5. The species you have selected are:

Display Species 1

Display Species 2

Is this correct?

1 Yes

2 No

{Reset to TARGET}}

6. If mode is 1 or 4 or 8, or 9, display - In what city and state did you fish? First, what was the state?

If mode is 2 or 3, display - From which city and state did you launch your boat? First, what was the state?

01 Display state list (with fips codes for response category numbers)

02 *NMFS - This is all coastal states, including states not part of MRFSS, right?*

{CITY\_OTH:

In what city?

1 Record city name

98 Don't Know

99 Refused}

7. Was that day of fishing part of a longer trip in which you spent at least one night away from your residence?

1 Yes

2 No SKIPTO PEOP\_PAY

8 Don't know SKIPTO PEOP\_PAY

9 Refused SKIPTO PEOP\_PAY}

8. How many nights were you away from residence on that trip?

01 Record number of nights {If 0, skipto PEOP\_PAY}

98 Don't Know

99 Refused}

9. How many days of the trip were spent fishing? I am asking about the number of days that were actually spent fishing on the most recent trip, and **not** the total number of days you were away.

01 Record number of days

98 Don't Know

99 Refused}

10. Did you make the trip **primarily** to go fishing?

1 Yes

2 No

8 Don't know

9 Refused}

11. Now I would like to ask you about expenses you made for consumable items during :awording).

I'm interested in expenditures for the whole trip, not just for the time spent fishing.

How many people, including yourself, contributed to expenses for the trip?

01 Record number of people (If 1, set indiv=1)

98 Don't Know

99 Refused}

12. About how much did you individually spend for the following items?

Display if indiv=0: If you can't recall how much you spent individually for each question, please tell me how much was spent by the group of people who went on the trip with you.

Food, drink and refreshments?

00 Zero/Nothing (Skip to TRIP\_02)

01 Record amount

98 Don't Know (Skip to TRIP\_02)

99 Refused (Skip to TRIP\_02)}

12a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

## Appendix 2

---

13. Lodging at motels, cabins, lodges or campgrounds?

00 Zero/Nothing (Skip to TRIP\_03)

01 Record amount

98 Don't Know (Skip to TRIP\_03)

99 Refused (Skip to TRIP\_03)}

13a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

14. Transportation other than your own car, such as plane, train, bus or car rental?

00 Zero/Nothing (Skip to TRIP\_04)

01 Record amount

98 Don't Know (Skip to TRIP\_04)

99 Refused (Skip to TRIP\_04)}

14a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

15. Boat fuel?

00 Zero/Nothing (Skip to TRIP\_05)

01 Record amount

98 Don't Know (Skip to TRIP\_05)

99 Refused (Skip to TRIP\_05)}

15a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

16. Guide or package fees for party or charter boats?

00 Zero/Nothing (Skip to TRIP\_06)

01 Record amount

98 Don't Know (Skip to TRIP\_06)

99 Refused (Skip to TRIP\_06)}

16a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

17. Access and/or boat launching fees for access to pier, park, launch?

00 Zero/Nothing (Skip to TRIP\_07)

01 Record amount

98 Don't Know (Skip to TRIP\_07)

99 Refused (Skip to TRIP\_07)}

17a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

18. Equipment rental for boat, fishing or camping equipment?

00 Zero/Nothing (Skip to TRIP\_08)

01 Record amount

98 Don't Know (Skip to TRIP\_08)

99 Refused (Skip to TRIP\_08)}

18a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

19. Live, cut or prepared bait?

00 Zero/Nothing (Skip to TRIP\_09)

01 Record amount

98 Don't Know (Skip to TRIP\_09)

99 Refused (Skip to TRIP\_09)}

19a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

20. Ice?

00 Zero/Nothing (Skip to TRIP\_11)

01 Record amount

98 Don't Know (Skip to TRIP\_11)

99 Refused (Skip to TRIP\_11)}

20a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

21. Cleaning fees?

[These are fees paid at the dock for fileting and cleaning fish]

00 Zero/Nothing (Skip to TRIP\_10)

01 Record amount

98 Don't Know (Skip to TRIP\_10)

99 Refused (Skip to TRIP\_10)}

21a. And was that your individual expenses or the group's expenses?

01 Individual

02 Group}

22. Ask if TRIP\_01 through TRIP\_09 and **TRIP\_11** are all 98 or 99

Could you estimate the **total** amount that was spent for the trip?

00 Zero/Nothing (Skip to BOATEXP)

01 Record amount

98 Don't Know (Skip to BOATEXP)

99 Refused (Skip to BOATEXP)}

## Appendix 2

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22a. And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group}

23. On an annual basis, how much do you usually spend on mooring, storage, maintenance, and insurance for your fishing boat?

[If the respondent owns more than one boat that is used for saltwater fishing, ask about the boat that is used the most.]

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

24. For the next several questions, I'd like you to think about fishing equipment which was purchased during :\MONTH. For purchases during :\MONTH, how much did you spend on rods, poles, reels, and lines?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

25. Tackle and gear (lures, hooks, leaders, sinkers, flies, and fly-tying supplies/tackle boxes, landing nets, bait containers, minnow seines, knives?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

26. Ask if EQUIP\_01 and EQUIP\_02 are 98 or 99

Could you tell me the total amount that was spent for fishing equipment purchases during :\MONTH?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

And we're interested in how much you spent for several items purchased during :\MONTHS, where the items were purchased **primarily** for use in saltwater recreational fishing.

Some of these next items that I'll ask about are multi-purpose items which could be used for other things in addition to salt water recreational fishing. Please limit your responses to items purchased **PRIMARILY** for saltwater recreational fishing, even if you use them for other things.

27. During :\MONTHS, how much did you spend on camping equipment (such as sleeping bags, packs, tents) primarily used for saltwater recreational fishing.

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

28. Binoculars, field glasses, or similar equipment.

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know



29. Special fishing clothing such as foul weather gear, boots, and waders.

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

30. Processing and taxidermy fees.

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

31. Subscriptions to magazines devoted to recreational fishing.

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

32. Dues or contributions to national, state or local recreational fishing clubs or organizations.

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

33. Saltwater fishing licences or fees.

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

34. Any other miscellaneous expenses for items which you primarily use for saltwater recreational fishing that were not listed elsewhere?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

35. Could you tell me the total amount that was spent for these types of items during :\MONTHS, where the items were purchased **primarily** for saltwater recreational fishing?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

## Appendix 2

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The last set of questions concerns new boats and durable equipment that was purchased to be used **primarily** for saltwater recreational fishing during the last 12 months. Again, please limit your responses to items purchased **PRIMARILY** for saltwater recreational fishing, even if you use them for other things.

36. During the past 12 months, how much did you spend on new motor boats or motor boat accessories, including hull, motor and accessories?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

37. Canoe or other non-motor boat?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

38. Depth/fish finder or other electronic fishing devices?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

39. Vehicles (such as pickup, camper, RV, motor home, or trailer/hitch) used primarily for saltwater recreational fishing?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

40. Second home used primarily for saltwater recreational fishing?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

41. Could you tell me the total amount that was spent for durable fishing equipment purchases such as these during the last twelve months?

- 00 Zero/Nothing
- 01 Record amount
- 98 Don't Know
- 99 Refused}

42. Compared to your other recreational activities, would you rate fishing as... [Read list]

[By other recreational activities I mean things such as golfing, hiking, hunting and tennis.]

- 01 Your most important recreational activity
- 02 Your second most important recreational activity
- 03 Only one of many recreational activities
- 98 DK
- 99 Refused}

43. Do you usually keep some of the fish you catch?

01 Yes

02 No

98 Don't Know

99 Refused}

44. If conservation measures were implemented in :\state of residence: that prohibited marine recreational anglers from **keeping** fish, though catch and release would be allowed, would you:

01 Travel to another state to fish

02 Continue fishing in :\state of residence: even though you could not keep any of the fish you caught

03 Continue fishing in :\State of Residence: even though you could not keep any of the fish you catch, but spend more of your money on other recreational activities within :\Enter State of Residence:

04 Stop fishing in :\State of Residence: but spend your money on other recreational activities within :\State of Residence:

05 other (specify)

98 Don't know

99 Refused}



# **Appendix 3: Random Digit Dial**



**RECREATIONAL FISHING QUESTIONNAIRE- 1999**  
 Southeast Economic Add-On Questions  
 to Random Telephone Survey

Asked at the beginning of each trip loop for the first non-refusing person in the household. Section 1 questions will be asked for the first day of fishing discussed by the angler regardless of in-state or out-of-state trip (provided state of residence and state of trip completion can be determined). They shall be asked after the trip loop questions in the base MRFSS survey for one mode (see following priority list) of fishing on the first day discussed, based on the following mode priority: (1) party/charter; (2) private/rental boat; and (3) shore. If state of trip is not known, these questions will not be asked.

Section 1

Begin Trip Loop

1. For all respondents in the Southeast:  
 Are you at least 16 years of age?  
 If no, , continue with trip loop questions but do NOT ask target species question  
 If yes, ask: What species were you fishing for on this trip?

End Trip Loop

Section 2

FOR RESPONDENTS IN THE SOUTHEAST, ASK THE FOLLOWING SECTION IF: (1) respondent age is at least 16, (2) it=s a fishing household and (3) you=re speaking with the first fisherman in the household, and (5) the trip is in a coastal state. The questions refer to the first trip which was profiled.

2. For the next set of questions, please think back to the first fishing trip you told me about, which was {restore month and day}. Was that day of fishing part of a longer trip in which you spent at least one night away from your residence?  
 if Yes - record response  
 if No - skips to expenses personally spent for food, drink, etc.
3. How many nights were you away from your residence on that trip?  
 {restore month and day}.]  
 If 1 or more nights, ask:  
     How many days of that trip were spent fishing?  
     Did you make that trip primarily to go fishing?
4. Now I would like to ask you about expenses made on consumable items during your trip. We're interested in expenditures for the whole trip. Thus, for those on overnight trips, please provide total expenditures for the entire trip C not just those that apply to the time spent fishing. How many people, including yourself, contributed to the expenses for the trip?
5. On your most recent fishing trip how much did you individually spend for food, drink and refreshments?  
 If DK, ask: Do you know how much the group spent for food, drink and refreshments on the trip?
6. (Ask only if Q2 is no, DK or Ref) On your most recent fishing trip how much did you personally spend for lodging at motels, cabins, lodges, or campgrounds?

## Appendix 3

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If DK, ask: Do you know how much the group spent for lodging at motels, cabins, lodges or campgrounds

If trip is in the shore mode, go to question 9.

7. On your most recent fishing trip how much did you personally spend for boat fuel?  
If DK, ask: Do you know how much the group spent for boat fuel?
8. On your most recent fishing trip how much did you personally spend for access and/or boat launching fee:  
If DK, ask: Do you know how much the group spent for access and/or boat launching fees?
9. On your most recent fishing trip how much did you personally spend for equipment rental (boat, fishing or camping equipment)?  
If DK, ask: Do you know how much the group spent for equipment rental (boat, fishing or camping equipment)?
10. Were all these expenditures made in {restore state of trip}?  
If No, ask: Approximately what proportion of these expenditures were made in {restore state of trip}?  
[INTERVIEWER: Obtain the percent of expenditures made in {restore state of residence}].

The recall period of the base MRFSS telephone survey will be inserted in each question below as indicated by [autoinsert MONTHS].

11. Now, I would like to ask you about fishing equipment you purchased during the months of **[autoinsert MONTHS]**. To the nearest dollar, what is the value of the following items that you bought during **[autoinsert MONTHS]**.) Rods, poles, reels, and lines?
12. Tackle and gear (lures, hooks, leaders, sinkers, flies, and fly-tying supplies/tackle boxes, landing nets, bai containers, minnow seines, knives)?

If the sum of Q11 and Q12 is 0, go to Q14.

13. Were all of your expenditures for these items made in {restore state of trip}?  
  
if No, ask: What proportion of your expenditures for these items were made in {restore state of trip}?
14. Now, I would like to ask about your expenses for several items that you may have purchased during the months of **[autoinsert MONTHS]** that are **primarily** used for saltwater recreational fishing. How much did you spend on Special fishing clothing (like foul weather gear, boots, waders)?
15. Magazines subscriptions devoted to recreational fishing?
16. Saltwater Fishing licenses and fees?
17. Dues or contributions to National, state or local recreational fishing clubs or organizations?

If the sum of questions 14 through 17 is 0, go to Q19.



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18. Were all your expenditures on these items made in {restore state of residence}?  
if No, ask: What proportion of these expenditures were made in {restore state of residence}?
19. Lastly, I would like to ask about purchases that you may have made during the past 12-months for new boats and other durable equipment that you use **primarily** for saltwater recreational fishing. How much do you spend on A new motor boat, or purchase of motor boat accessories, including hull, motor and accessories?
20. Depth/fish finder or other electronic fishing devices?
21. Canoe or other non-motor boat?
22. Vehicles used primarily for saltwater recreational fishing (like a pickup, camper, RV, motor home, boat trailer/hitch)?

If the sum of questions 19 through 22 is 0, end survey.

23. Were all your expenditures for these items made in {restore state of residence}?  
If No, ask: What proportion of these expenditures were made in {restore state of residence}?

