# Marine Angler Expenditures in the Pacific Coast Region, 2000 

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U.S. DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
National Marine Fisheries Service

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In 2000, a recreational fishing expenditure survey was conducted in the Pacific Coast 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 2000.

## Executive <br> 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. Across all Pacific Coast states, recreational anglers spent between $\$ 574$ million and $\$ 2.5$ billion on marine recreational fishing in 2000, with Southern California anglers spending the most. Across all Pacific Coast states, recreational fishing expenditures in 2000 totaled $\$ 4.5$ billion. Nationwide, recreational fishing expenditures total $\$ 21$ billion.

Over 2.2 million saltwateranglers fished 8.5 milliondays in the Pacific Coastregion of the U.S. (California throughWashington) in 2000 (NMFS 2001).In addition to the leisure benefitsthese anglers received from participat ing in saltwater fishing, their expendi tures generated monetary benefits inthe form of sales, income, and em ployment throughout the PacificCoast. A variety of goods and ser vices were purchased from sportinggoods stores, specialty stores, bait andtackle shops, guide services, marinas,grocery stores, automobile servicestations, and restaurants. The eco nomic impacts of these purchasesrippled throughout the Pacific Coast'seconomy and provided income andjobs in manufacturing, transportationindustries, and service sectors.-

With the passage of the SustainableFisheries Act (P.L. 104-297) in 1996,which amended the Magnuson-Stevens Fishery Conservation andManagement Act (MSFCMA), Con gress mandated the analysis of eco nomic impacts of management poli cies on fishing participants andcoastal communities. A similarappraisal is also required under theNational Environmental Policy Act(NEPA) and Executive Order 12866.As a result, in 2000 the NationalMarine Fisheries Service (NMFS)conducted an economic expendituresurvey on the Pacific Coast (PC) ofthe United States to evaluate recre ational fishing expenditures and theeconomic impacts generated from-
these expendi tures in thisregion. The-

## Introduction

 expendituresurvey wasconducted as part of the 2000 MarineRecreational Fishery Statistics Survey(MRFSS) in the PC and was a follow-up to a comprehensive PC marinerecreational economic survey con ducted in 1998 (Gentner and Lowther,-forthcoming).-The purpose of this report is to sum marize the results of the 2000 eco nomic expenditure survey and toprovide state-level estimates of directsales resulting from anglers' expendi tures in the PC in 2000. Summarystatistics presented in this documentwill be used in the future to assesstotal sales, income, and employmentgenerated from angler expenditures.-

The report begins with a brief descrip tion of the base MRFSS and theeconomic data collection methodsused to date. Survey response ratesare then discussed followed by areview of the procedures used toestimate expenditures. Samplestatistics (means, weighted means,and standard errors) are provided bystate for all expenditure estimates andconfidence intervals are shown for thetotal expenditure statistics. Twoprevious publications, Steinback andGentner (2001) and Gentner, Priceand Steinback (2001), estimated thesesame expenditures for the Northeastand Southeast United States respec tively. Because this is the last publi--
cation in this series, this report alsopresents the total expenditure estimatesacross the entire United States. Thereport concludes with a review of majorfindings and a discussion of future-research.-

## The Marine Recreational Fisheries Statistics Survey

## The Base Surveys

Since 1979, the MRFSS has collecteddata to estimate the total bi-monthlyfishing effort (number of days fished),participation, and finfish catch bymarine recreational anglers on thePacific Coast. The MRFSS consists oftwo independent yet complementarysurveys: an intercept survey of marineanglers at fishing access sites and arandom digit dial (RDD) telephonesurvey of coastal county households.-

The intercept survey was designed toprovide a random sample of all marinerecreational fishing trips. Data fromthe intercept survey are primarily usedto estimate mean catch-per-trip byspecies. Participation and effort areestimated using data acquired throughthe RDD survey of coastal households.Coastal county households are sampledrandomly using the random digitdialing technique described by Groveset al. (1988).-

All anglers in a contacted householdare identified, and each is asked abouthis fishing activity during the previous-two-month period. The RDD survey-
therefore provides data to estimateeffort and participation by coastalresidents living in households withtelephones. Ratios from the interceptsurvey are used to correct these effortestimates to account for non-coastalresidents and coastal residents who donot have telephones, as those groupsare not covered in the householdsampling frame. Readers unfamiliarwith the MRFSS sampling proceduresare encouraged to review Gray et. al(1999) for further details.-

## Expenditure Surveys

To take advantage of sampling, surveydesign, and quality control proceduresalready in place, the economic surveywas designed as an add-on to theMRFSS. The economic expendituresurvey involved three phases. The firstphase added a series of questions to theMRFSS intercept survey, linking basiceconomic information to trip-specificcatch information and behavior. Inter cepted anglers were then asked toparticipate in the second phase of thesurvey, the telephone follow-up. Thetelephone follow-up solicited detailedexpenditure data. The third phaseadded several of the expenditure ques tions asked on the follow-up survey tothe RDD survey of coastal household-residents.-

The intercept survey collected informa tion from day-trip anglers only (Ap pendix 1). It was felt that multi-day(overnight) anglers would not be ableto adequately calculate trip expendi tures if they were intercepted mid-trip.-

Day-trip anglers were asked detailedquestions regarding their expendituresfor the current trip, including itemssuch as food, refreshments, lodging,travel costs, boat fuel, charter fees,access or boat launching fees, equip ment rental, bait, and ice. All anglerswere then asked if they would like toparticipate in a follow-up survey and,if so, their phone number was col -lected.-

The telephone follow-up surveycollected detailed expenditure datafrom both day-trip and overnightanglers (Appendix 2). Informationcollected from overnight anglersincluded: number of days away fromresidence, number of days spentfishing, whether or not the primarypurpose of the trip was for fishing, andthe same trip expenditure categoriesthe day trip anglers were asked on theintercept survey. All anglers werethen asked about other expenditurecategories including fishing equipmentand semi-durable items (rods, reels,lines, tackle, magazines, club dues,special fishing clothing, camping gear,binoculars, and taxidermy), anddurable goods (motor boats andaccessories, non-motorized boats,boating electronics, mooring, boatstorage, boat insurance and vehicles orsecond homes used primarily formarine angling).-

The RDD add-on survey was designedso that expenditure responses from arandom sample of households could becompared to responses from a randomsample of trips (i.e., to both the inter -
cept and telephone follow-up surveys).As such, it collects a similar set ofexpenditure elements (Appendix 3).-

## Response Rates

A total of 37,078 economic interceptswere attempted and 34,668 (94\%) werecompleted. Approximately 47\%$(17,341)$ of the respondents that com pleted the economic intercept surveyagreed to participate in the economic-follow-up survey. However, only12,683 of these anglers ( $73 \%$ ) com pleted the entire economic follow-upquestionnaire. Anglers that could notbe reached in six calls comprised themajority of the non-respondents,followed by wrong numbers and asmall number of refusals. For the RDDsurvey, a total of 73,708 householdswere contacted; 2,464 of these wereidentified as saltwater fishing house-holds. Of the fishing households, 1,900(77\%) successfully completed the RDD-survey.-

## Average Expenditures

Average daily trip expenditureswere estimated for each stateand fishing mode (party/charterboat; private/rental boat; and shore) byresident type (resident or non-resident).Anglers reported making two types oftrips: day trips and multi-day (over-night) trips. Overnight anglers wereasked to report trip length, number ofdays fished, and total trip cost.-

For overnight anglers, average dailycosts for expenditures directly relatedto fishing, such as boat fuel, guide orpackage fees, access and/or boatlaunching fees, equipment rental (boat,-fishing or camping equipment), bait,ice, and public transportation werecalculated by dividing the total amountspent by the number of days fished.For expenditures not directly associ ated with fishing (e.g., food/drink/refreshments and lodging at motels/cabins/lodges/campgrounds, etc.),average daily costs were derived bydividing total expenses on multi-day(overnight) trips by the length of thesetrips. This approach for estimatingindirect average costs per day assumesconstant daily food, beverage, andlodging expenditures for anglers onovernight trips.-

Additional procedures were required toestimate private transportation costs.-Round-trip mileage traveled in eachstate where fishing trips occurred wasestimated using PCMILER software(ALK Associates, Inc. 1995) and-
multiplied by 12.2 cents per mile(American Automobile Associationestimate of the average per mile vari able cost of operating a car in 2000) tocalculate state-level private travelexpenses. ${ }^{1}$ For overnight trips, dailyexpense estimates were determined bydividing total in-state expenses by thenumber of days fished on the trip.Finally, since anglers identified howmany people shared trip expenses, eachangler's total daily transportationexpense was divided by the averagenumber of contributors, by state and-mode.-

Apart from trip-related expenditures,anglers also purchase fishing equip ment and other durable items usedprimarily for saltwater recreationalfishing. Annual estimates of averageangler expenditures for fishing equip ment, semi-durable, and durable itemswere calculated with data collectedfrom the telephone follow-up survey.-

## Sample Variability

The RDD survey incorporates uniformselection probabilities with respect tocontacting individuals. That is, avidanglers were just as likely to be inter-viewed as those that fished less fre quently. In contrast, the probability ofselection for the intercept survey wasuniform across fishing trips, but higherfor participants who fished morefrequently. As a result, avid anglerswere disproportionately represented inthe intercept sample. This avidity biasdoes not affect the estimation of an glers' daily trip expenditures since the-
selection probability was uniformacross fishing trips. However, the biasmay affect the annual expenditureestimates to the extent they are corre lated with avidity.-

Linear regression analysis of a similardata set for the Northeast Region(Maine through Virginia) indicated apositive relationship between expendi tures and avidity (Steinback andGentner, 2001). This relationship heldfor almost all categories of annualexpenditures. This suggests that moreavid anglers spend more money onannual fishing expenses.-

In two previous studies of similar datain the Northeast (Steinback andGentner, 2001) and Southeast(Gentner, Price, and Steinback 2001)regions, one-way analyses of variance(ANOVA) tests revealed that inter cepted anglers fished significantly moredays per year, on average, than thosecontacted randomly over the phone forthe RDD survey.-

In addition, average expenditures ondurable goods, semi-durable goods, andfishing equipment were comparedbetween the two surveys. In almost allcases, average expenditures estimatedfrom the intercepted respondents weresignificantly higher ( $\mathrm{P}<0.05$ ) then theestimates obtained from the RDDsurvey. The ANOVA results were notsurprising considering the sampleselection differences between theintercept and RDD surveys. Because ofthe positive relationship betweenavidity and expenditures found in-
previous surveys, it isassumed that the inter cepted responses on thePacific Coast are alsoupwardly biased. Tocorrect for the avidity bias, weightedmeans were calculated as described-below.-

## Procedure to Correct for Avidity Bias

Using a procedure adapted fromThomson (1991), estimates of meanswere computed as follows:-

$$
\begin{equation*}
\hat{R}=\frac{\sum_{s} \frac{Y_{k}}{X_{k}}}{\sum_{s} \frac{1}{X_{k}}} \tag{1}
\end{equation*}
$$

where R is the weighted mean (the"hat" notation denotes estimatedquantities); $Y_{k}$ is the expenditure ofangler $\mathrm{k} ; X_{k}$ is the avidity of angler k; and s represents the population sample.Equation (1) corrects for the unequalselection probabilities of interceptedanglers due to the avidity bias andproduces consistent estimates of meanexpenditures with relatively highprecision. ${ }^{2}$ The associated variance,$\hat{V}(\hat{R})$, developed by Thomson (1991), was estimated by
$\hat{V}(\hat{R})=\left[\frac{\sum_{s} \frac{Y_{k}}{X_{k}}}{\sum_{s} \frac{1}{X_{k}}}\right]^{2} \frac{1}{m}\left[\frac{S_{\frac{Y}{X}}{ }^{2}}{\hat{R}^{2}}+\frac{S_{\frac{1}{X}}{ }^{2}}{1-}-\frac{2 S_{\left(\frac{Y}{X}\right)\left(\frac{1}{X}\right)}}{\hat{R}}\right] ;$
where

$$
\begin{aligned}
& S_{\frac{Y}{X}}^{2}=\frac{1}{m-1}\left[\sum_{s}\left(\frac{Y_{k}}{X_{k}}\right)^{2}-m\left(\frac{\overline{\mathrm{Y}_{\mathrm{k}}}}{X_{k}}\right)^{2}\right], \\
& S_{\frac{1}{X}}^{2}=\frac{1}{m-1}\left[\sum_{s}\left(\frac{1}{X_{k}}\right)^{2}-m\left(\overline{\frac{1}{X_{k}}}\right)^{2}\right],
\end{aligned}
$$

and

$$
S_{\left(\frac{Y}{X}\right)\left(\frac{1}{X}\right)}=\frac{1}{m-1}\left[\sum_{s} \frac{Y_{k}}{X_{k}{ }^{2}}-m \overline{\frac{Y_{k}}{X_{k}}} \frac{1}{X_{k}}\right] .
$$

m is the number of observations in the sample, $\frac{Y_{k}}{X_{k}}$ is the sample mean of $Y_{k}$ times the inverse of $X_{k}$, and $\frac{\overline{1}}{X_{k}}$ is the sample mean of the inverse of avidityfor each angler k.-
proportion was used to adjust the expenditure estimates from the intercept survey prior to calculating weighted means for the equipment expenditures. Because non-residentanglers were not asked the proportion of annual expenditures made in the PC state of intercept, non-resident expen ditures were not estimated for any ofthe annual expenditure categories.-

## Total Expenditures

Arithmetic mean daily trip expendi tures were multiplied by MRFSSestimates of total fishing effort (i.e.,days fished in 2000; Table 1) to derivetotal expense estimates. Estimateswere calculated by state, mode, andresident status. The variances of the-

Angler expenditureestimates were further adjusted using other information, where possible. Boat related expenditures (boat purchases, boat maintenance, and boat accessories) were weighted by the percent of time the boat in question was used for saltwater recreational angling. For equipment expenditures (rods/reels, other tackle, and gear), anglers were asked to estimate the proportion of trip and equipment expenditures spent in the intercept state. This

Table 1. Estimated Number of Days Fished by State, Mode, and Resident Status, 2000. ${ }^{1}$

| State | Mode $^{2}$ | Resident | Non-Resident | Total |
| :--- | :--- | ---: | ---: | ---: |
| Southern California | pc | 840,443 | 115,813 | 956,256 |
|  | pr | $1,685,297$ | 69,205 | $1,754,502$ |
|  | sh | $1,040,109$ | 31,390 | $1,071,500$ |
|  | Total | $3,565,849$ | 216,408 | $3,782,257$ |
| Northern California | pc | 198,267 | 39,429 | 237,696 |
|  | pr | 963,959 | 30,961 | 994,920 |
|  | sh | 912,402 | 21,987 | 934,389 |
|  | Total | $2,074,628$ | 92,377 | $2,167,005$ |
| California (all) | pc | $1,038,710$ | 155,242 | $1,193,952$ |
|  | pr | $2,649,256$ | 100,165 | $2,749,421$ |
|  | sh | $1,952,511$ | 53,378 | $2,005,889$ |
|  | Total | $5,640,477$ | 308,785 | $5,949,262$ |
| Oregon | pc | 67,677 | 32,544 | 100,221 |
|  | pr | 518,355 | 70,498 | 588,853 |
|  | sh | 189,790 | 22,454 | 212,244 |
|  | Total | 775,822 | 125,496 | 901,318 |
| Washington | pc | 30,925 | 2,905 | 33,830 |
|  | pr | $1,092,660$ | 35,993 | $1,128,653$ |
|  | sh | 428,241 | 37,714 | 465,955 |
|  | Total | $1,551,826$ | 76,612 | $1,628,439$ |

${ }^{1}$ Estimates will vary slightly from NMFS (2001) due to rounding.
${ }^{2} \mathrm{pc}=$ party/charter; pr = private/rental; sh = shore
total expenditure estimates werecalculated 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 variables. Because trip-related items were collected randomly and estimates of $R$ and $T$ were calculated from
different surveys, the variables were
resident status (Table 2) ${ }^{3}$. 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 variancesestimated from equations (1) and (2)for $\hat{R}$ and $\hat{V}(\hat{R})$. Standard errors were calculated from the resulting varianceestimates for each expenditure item andconfidence intervals were generated atthe $95 \%$ level.-

| Table 2. Total Estimated Number of Participants by State and Resident |  |  |  |
| :--- | ---: | ---: | ---: |
| State | Resident | Non-Resident | Total |
| Southern California | $1,097,232$ | 168,823 | $1,266,055$ |
| Northern California | 387,927 | 51,221 | 439,148 |
| California (all) | $1,485,159$ | 220,044 | $1,705,203$ |
| Oregon | 285,606 | 79,810 | 365,417 |
| Washington | 449,912 | 46,547 | 496,459 |

${ }^{1}$ These participation estimates are not additive across states. A participant could have fished in more than one state. See NMFS (2001) for total Pacific Coast region participation estimates.
considered to be random and indepen dent. Standard errors, derived fromequation (3), were used to generateconfidence intervals for trip-relatedexpenditures at the 95 percent level.-

Total estimated annual expenditureswere calculated by multiplying theweighted mean expenditures perparticipant by MRFSS estimates oftotal fishing participation by state and-

## Average Expenditures

Summary statistics (arith metic means or weightedmeans, and standard errors)by state are presented for twononexclusive groups of anglers:all respondents and spenders(Tables 3, 5, 8 and 10). The'spenders' estimates include onlyresponses of individuals whoreported an expense, while bothspenders and non-spenders areincluded in the 'all' category.Statistics are reported by state,resident category, and mode forthe daily trip expenditures andonly by state for the annual expen ditures by residents.-

Average daily trip expenditures for-non-residents were generallyhigher than for residents in all ofthe coastal states in the PC. Non-residents tended to travel furtherwithin the fishing state and tendedto make multi-day trips that re quired overnight lodging. InSouthern California, for example,-non-residents fishing from party orcharter boats spent $\$ 65.62$, onaverage, for private transportationand $\$ 59.55$ for lodging (Table 3).Expenditures by resident anglersfishing aboard party or charterboats, on the other hand, averaged$\$ 9.78$ for private transportationand $\$ 1.18$ for lodging. ${ }^{4-}$

Overall, non-residents tended tospend more than their residentcounterparts for most purchases.This anomaly is not easily ex plained. Non-resident anglersmay lack the time or local knowl edge that residents have to com pare prices for trip items such ascharter guide fees, equipmentrental, food, bait, and ice. Non-residents may also be less experi enced and may simply overspendto ensure they will have adequatesupplies for the trip. The largestdaily trip expenditures across mostof the states were for food/drink/refreshments, private transporta tion, boat fuel, lodging, and char ter guide fees.-

For the annual expenditure items,estimates could only be generatedfor residents of Pacific coastalstates. Residents' highest annualexpenditures by far were for boatpurchases, boat accessories, boatmaintenance, and fishing vehiclepurchases. In addition, averagedurable expenditures by resident‘spenders’ were substantiallyhigher than estimates generatedfrom all residents. In SouthernCalifornia, for example, the aver-age weighted annual boat expensefor spenders was $\$ 5,365.14$ andonly $\$ 465.55$ across all anglers(Table 3).-

## Total Expenditures

Total expenses and 95 percentconfidence intervals are shown forall expenditure items by state andresidence strata (Tables 4, 6, 7, 9,11,12 , and 13). The precision ofthe expenditure estimates can beevaluated by examining the differ ence between the estimate and theupper and lower bounds.-

Total resident trip-related expendi tures within the private/rentalmodes exceed non-residents'expenditures across all statesbecause of higher participationthan non-residents. For example,in Southern California eventhough non-residents' averageexpenditures in the private/rentalmode were almost six times theaverage expenditures of residents,total expenditures of residents inthe same mode were more thanfour times higher than non-resi dents. Total resident trip-relatedexpenditures within the shoremode exceed non-residents' ex penditures across all states. Totalresident trip expenditures withinthe charter mode exceed non-resident expenditures across all-states.-

In total, resident and non-resident anglers in South-ern California exhibited thehighest recreational fishingexpenditures in the PCregion. Anglers fishing in Califor nia spent $\$ 2.5$ billion on marinerecreational fishing in 2000 (Table7). Across all PC states, totalrecreational fishing expenditurestotaled $\$ 4.5$ billion (Table 12).-

Table 3. Southern California Average Expenditures by Mode and Resident Status, 2000.


[^0]

Table 4. Southern California Total Expenditures by Resident Status, 2000 (in thousands of dollars).

| SOUTHERN CALIFORNIA |  | Total | Upper Bound | Lower Bound | Total | Upper Bound | Lower Bound |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode | Residents |  |  | Non-Residents |  |  |
| Private Transportation | Party/Charter | 8,217 | 9,066 | 7,369 | 7,599 | 8,828 | 6,371 |
|  | Private/Rental | 11,914 | 14,503 | 9,326 | 5,181 | 7,039 | 3,324 |
|  | Shore | 6,754 | 8,531 | 4,977 | 2,321 | 3,270 | 1,371 |
| Food | Party/Charter | 10,605 | 11,750 | 9,459 | 4,402 | 5,239 | 3,565 |
|  | Private/Rental | 12,712 | 15,499 | 9,926 | 1,213 | 1,688 | 0 |
|  | Shore | 5,789 | 7,362 | 4,216 | 686 | 1,049 | 323 |
| Lodging | Party/Charter | 995 | 1,499 | 491 | 6,897 | 8,576 | 5,217 |
|  | Private/Rental | 875 | 1,599 | 150 | 1,614 | 2,731 | 498 |
|  | Shore | 2,873 | 4,148 | 0 | 1,301 | 2,146 | 0 |
| Public Transportation | Party/Charter | 429 | 952 | 0 | 29,405 | 37,238 | 21,572 |
|  | Private/Rental | 46 | 90 | 0 | 4,251 | 7,668 | 835 |
|  | Shore | 162 | 282 | 0 | 504 | 1,295 | 0 |
| Boat Fuel | Private/Rental | 21,700 | 26,453 | 16,948 | 1,520 | 2,188 | 0 |
| Party/Charter Fees | Party/Charter | 46,587 | 52,021 | 41,152 | 4,332 | 5,377 | 3,287 |
| Access/Boat Launching | Party/Charter | 806 | 1,018 | 593 | 342 | 515 | 0 |
|  | Private/Rental | 2,595 | 3,175 | 2,016 | 164 | 263 | 0 |
|  | Shore | 969 | 1,235 | 702 | 166 | 359 | 0 |
| Equipment Rental | Party/Charter | 1,525 | 1,943 | 0 | 4,050 | 5,304 | 2,795 |
|  | Private/Rental | 1,213 | 1,593 | 0 | 534 | 931 | 137 |
|  | Shore | 150 | 278 | 21 | 30 | 58 | 1 |
| Bait \& Ice | Party/Charter | 225 | 284 | 165 | 268 | 380 | 156 |
|  | Private/Rental | 11,570 | 14,078 | 9,062 | 762 | 1,069 | 456 |
|  | Shore | 2,750 | 4,028 | 1,471 | 195 | 302 | 88 |
| Total | Party/Charter | 69,388 | 71,056 | 63,703 | 57,294 | 65,606 | 48,982 |
|  | Private/Rental | 62,627 | 69,286 | 55,967 | 15,241 | 19,401 | 11,081 |
|  | Shore | 19,446 | 22,445 | 16,447 | 5,203 | 6,759 | 3,646 |
| Annual Expenditures |  | Residents |  |  | Non-Residents |  |  |
| Rods and Reels |  | 60,356 | 72,143 | 48,568 | Non-Residents |  |  |
| Other Tackle |  | 42,602 | 51,266 | 33,937 |  |  |  |
| Gear |  | 8,531 | 10,562 | 6,499 |  |  |  |
| Camping Equipment |  | 4,030 | 5,961 | 2,100 |  |  |  |
| Binoculars |  | 1,281 | 1,744 | 817 |  |  |  |
| Clothing |  | 4,105 | 5,468 | 2,743 |  |  |  |
| Magazines |  | 2,257 | 2,863 | 1,651 |  |  |  |
| Club Dues |  | 1,597 | 2,188 | 1,005 |  |  |  |
| License Fees |  | 22,124 | 25,804 | 18,444 |  |  |  |
| Boat Accessories |  | 180,526 | 264,226 | 96,827 |  |  |  |
| Boat Purchase |  | 525,965 | 658,229 | 393,700 |  |  |  |
| Boat Maintenance |  | 125,489 | 150,487 | 100,492 |  |  |  |
| Fishing Vehicle |  | 405,881 | 594,451 | 217,311 |  |  |  |
| Fishing Vehicle Maintenance |  | 96,070 | 126,785 | 65,356 |  |  |  |
| Vacation Home |  | 4,891 | 10,194 | 0 |  |  |  |
| Vacation Home Maintenance |  | 2,978 | 5,898 | 57 |  |  |  |
| All Sub-Totals |  | 1,640,143 | 1,889,056 | 1,391,171 | 77,737 | 87,162 | 68,313 |
| State Total |  | 1,717,880 | 1,966,971 | 1,468,730 |  |  |  |

Table 5. Northern California Average Expenditures by Mode and Resident Status, 2000.

| NORTHERN CALIFORNIA |  | Residents |  |  |  | Non-Residents |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode | All (\$) |  | Spenders (\$) |  | All (\$) |  | Spenders (\$) |  |
|  |  | Mean | Standard Error | MeanStandard <br> Error |  | MeanStandard <br> Error |  | MeanStandard <br> Error |  |
| Private Transportation | Party/Charter | 20.45 | 1.03 | 20.45 | 1.03 | 72.00 | 5.87 | 72.00 | 5.87 |
|  | Private/Rental | 13.53 | 0.39 | 13.53 | 0.39 | 64.24 | 5.19 | 64.24 | 5.19 |
|  | Shore | 18.50 | 1.07 | 18.50 | 1.07 | 66.19 | 13.05 | 66.19 | 13.05 |
| Food | Party/Charter | 16.49 | 1.31 | 18.30 | 1.39 | 22.86 | 2.90 | 23.63 | 2.89 |
|  | Private/Rental | 8.96 | 0.38 | 10.80 | 0.43 | 23.38 | 3.09 | 25.32 | 3.19 |
|  | Shore | 13.00 | 1.10 | 17.42 | 1.35 | 29.27 | 7.59 | 29.27 | 7.59 |
| Lodging | Party/Charter | 8.58 | 1.88 | 69.63 | 10.47 | 45.04 | 9.24 | 71.65 | 11.37 |
|  | Private/Rental | 3.66 | 0.47 | 31.93 | 3.26 | 10.21 | 3.04 | 32.43 | 7.24 |
|  | Shore | 9.90 | 2.00 | 37.57 | 6.73 | 30.41 | 14.88 | 43.93 | 20.14 |
| Public Transportation | Party/Charter | 1.83 | 1.07 | 37.40 | 19.46 | 114.98 | 37.24 | 365.84 | 76.33 |
|  | Private/Rental | 0.13 | 0.07 | 19.41 | 7.98 | 2.97 | 2.33 | 78.75 | 38.75 |
|  | Shore | 0.77 | 0.24 | 15.96 | 3.04 | 36.92 | 25.40 | 240.00 | 40.00 |
| Boat Fuel | Private/Rental | 9.71 | 0.30 | 10.49 | 0.31 | 11.94 | 1.59 | 13.50 | 1.66 |
| Party/Charter Fees | Party/Charter | 56.11 | 2.05 | 58.42 | 1.97 | 51.62 | 5.73 | 51.62 | 5.73 |
| Access/Boat Launching | Party/Charter | 0.84 | 0.19 | 4.50 | 0.78 | 1.24 | 0.74 | 10.88 | 4.42 |
|  | Private/Rental | 1.22 | 0.10 | 4.22 | 0.28 | 3.02 | 0.74 | 7.61 | 1.35 |
|  | Shore | 0.96 | 0.21 | 4.32 | 0.81 | 0.15 |  | 1.90 | * |
| Equipment Rental | Party/Charter | 5.13 | 1.22 | 36.07 | 5.99 | 18.76 | 13.33 | 82.08 | 55.09 |
|  | Private/Rental | 0.67 | 0.16 | 23.90 | 3.73 | 1.37 | 1.05 | 36.42 | 15.58 |
|  | Shore | 1.45 | 0.39 | 15.17 | 3.09 | 4.62 | 3.32 | 30.00 | 10.00 |
| Bait \& Ice | Party/Charter | 2.60 | 0.51 | 10.19 | 1.58 | 1.22 | 0.42 | 4.75 | 0.90 |
|  | Private/Rental | 6.03 | 0.16 | 6.94 | 0.16 | 8.33 | 1.16 | 9.20 | 1.21 |
|  | Shore | 3.89 | 0.23 | 5.02 | 0.25 | 6.24 | 1.69 | 7.38 | 1.80 |
| Total | Party/Charter | 112.03 | 3.67 | 236.89 | 14.86 | 327.73 | 41.55 | 367.18 | 62.52 |
|  | Private/Rental | 43.90 | 0.82 | 121.22 | 9.42 | 125.47 | 7.52 | 228.73 | 18.39 |
|  | Shore | 48.48 | 2.58 | 113.98 | 8.23 | 173.80 | 33.30 | 178.67 | 27.15 |
| Annual Expenditures |  | All (\$) |  | Spenders (\$) |  | All (\$) |  | Spenders (\$) |  |
| Rods and Reels |  | 69.66 | 6.17 | 278.24 | 17.81 |  |  |  |  |
| Other Tackle |  | 49.26 | 3.55 | 109.45 | 23.41 |  |  |  |  |
| Gear |  | 14.49 | 1.62 | 96.13 | 1.29 |  |  |  |  |
| Camping Equipment |  | 7.89 | 2.41 | 188.55 | 26.74 |  |  |  |  |
| Binoculars |  | 1.76 | 0.41 | 95.55 | 25.17 |  |  |  |  |
| Clothing |  | 13.34 | 2.94 | 144.82 | 17.92 |  |  |  |  |
| Magazines |  | 2.09 | 0.37 | 41.83 | 7.83 |  |  |  |  |
| Club Dues |  | 2.08 | 0.59 | 79.78 | 14.32 |  |  |  |  |
| License Fees |  | 33.96 | 1.23 | 43.16 | 1.50 |  |  |  |  |
| Boat Accessories |  | 125.52 | 27.04 | 888.26 | 138.51 |  |  |  |  |
| Boat Purchase |  | 407.72 | 66.97 | 4,338.97 | 302.76 |  |  |  |  |
| Boat Maintenance |  | 105.44 | 11.80 | 456.20 | 18.23 |  |  |  |  |
| Fishing Vehicle |  | 582.53 | 270.32 | 8,984.09 | 2,784.03 |  |  |  |  |
| Fishing Vehicle Maintenance |  | 149.72 | 32.19 | 1,097.93 | 37.37 |  |  |  |  |
| Vacation Home |  | 16.53 | 14.19 | 8,775.90 | 15,749.04 |  |  |  |  |
| Vacation Home Maintenance |  | 5.86 | 2.75 | 5.86 | 2.75 |  |  |  |  |
| Total |  | 1,587.84 | 282.39 | 25,624.71 | 15,996.82 |  |  |  |  |

[^1]

## Northern California

Table 6. Northern California Total Expenditures by Resident Status, 2000 (in thousands of dollars).

| NORTHERN CALIFORNIA |  | Total | Upper Bound | Lower Bound | Total | Total Upper Bound | Lower Bound |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode | Residents |  |  | Non-Residents |  |  |
| Private Transportation | Party/Charter | 4,055 | 4,669 | 3,441 | 2,839 | 3,579 | 2,098 |
|  | Private/Rental | 13,044 | 15,446 | 10,643 | 1,989 | 2,571 | 1,407 |
|  | Shore | 16,879 | 20,306 | 13,453 | 1,455 | 2,109 | 802 |
| Food | Party/Charter | 3,269 | 3,901 | 2,636 | 902 | 1,192 | 611 |
|  | Private/Rental | 8,634 | 10,307 | 6,961 | 724 | 982 | 466 |
|  | Shore | 11,866 | 14,479 | 9,253 | 644 | 970 | 317 |
| Lodging | Party/Charter | 1,701 | 2,455 | 946 | 1,776 | 2,575 | 976 |
|  | Private/Rental | 3,525 | 4,599 | 2,451 | 316 | 515 | 117 |
|  | Shore | 9,033 | 12,052 | 6,015 | 669 | 1,184 | 154 |
| Public Transportation | Party/Charter | 363 | 781 | 0 | 4,533 | 7,545 | 1,522 |
|  | Private/Rental | 122 | 252 | 0 | 92 | 234 | 0 |
|  | Shore | 698 | 1,031 | 365 | 812 | 1,644 | 0 |
| Boat Fuel | Private/Rental | 9,358 | 11,094 | 7,623 | 370 | 502 | 238 |
| Party/Charter Fees | Party/Charter | 11,126 | 12,637 | 9,615 | 2,036 | 2,645 | 1,426 |
| Access/Boat Launching | Party/Charter | 166 | 242 | 91 | 49 | 107 | 0 |
|  | Private/Rental | 1,176 | 1,455 | 898 | 93 | 143 | 43 |
|  | Shore | 877 | 1,185 | 570 | 3 | 8 | 0 |
| Equipment Rental | Party/Charter | 1,017 | 1,504 | 530 | 740 | 1,776 | 0 |
|  | Private/Rental | 646 | 965 | 327 | 43 | 107 | 0 |
|  | Shore | 1,327 | 1,878 | 777 | 101 | 210 | 0 |
| Bait \& Ice | Party/Charter | 515 | 721 | 309 | 48 | 82 | 14 |
|  | Private/Rental | 5,816 | 6,879 | 4,753 | 258 | 352 | 164 |
|  | Shore | 3,548 | 4,272 | 2,824 | 137 | 208 | 66 |
| Total | Party/Charter | 22,212 | 23,555 | 20,190 | 12,922 | 16,356 | 9,488 |
|  | Private/Rental | 42,322 | 46,071 | 38,573 | 3,884 | 4,590 | 3,179 |
|  | Shore | 44,229 | 49,588 | 38,871 | 3,821 | 5,049 | 2,593 |
| Annual Expenditures |  | Residents |  |  | Non-Residents |  |  |
| Rods and Reels |  | 27,023 | 32,622 | 21,424 |  |  |  |
| Other Tackle |  | 19,111 | 22,572 | 15,649 |  |  |  |
| Gear |  | 5,621 | 7,005 | 4,237 |  |  |  |
| Camping Equipment |  | 3,059 | 4,918 | 1,200 |  |  |  |
| Binoculars |  | 683 | 1,002 | 364 |  |  |  |
| Clothing |  | 5,174 | 7,480 | 2,868 |  |  |  |
| Magazines |  | 811 | 1,108 | 514 |  |  |  |
| Club Dues |  | 807 | 1,261 | 354 |  |  |  |
| License Fees |  | 13,172 | 14,937 | 11,407 |  |  |  |
| Boat Accessories |  | 50,137 | 71,438 | 28,837 |  |  |  |
| Boat Purchase |  | 162,855 | 216,959 | 108,752 |  |  |  |
| Boat Maintenance |  | 42,116 | 52,270 | 31,963 |  |  |  |
| Fishing Vehicle |  | 232,680 | 439,564 | 25,795 |  |  |  |
| Fishing Vehicle Maintenance |  | 59,801 | 85,162 | 34,441 |  |  |  |
| Vacation Home |  | 6,604 | 17,400 | 0 |  |  |  |
| Vacation Home Maintenance |  | 2,339 | 4,446 | 231 |  |  |  |
| All Sub-Totals |  | 740,758 | 957,902 | 523,608 | 20,628 | 24,342 | 16,914 |
| State Total |  | 761,385 | 978,561 | 544,204 |  |  |  |



## California (All)

Table 7. California (All) Total Expenditures by Resident Status, 2000 (in thousands of dollars).

| CALIFORNIA (ALL) |  | Total | Upper Bound | Lower Bound | Total | Upper Bound | Lower Bound |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode | Residents |  |  | Non-Residents |  |  |
| Private Transportation | Party/Charter | 12,272 | 13,320 | 11,225 | 10,438 | 11,872 | 9,004 |
|  | Private/Rental | 24,958 | 13,320 | 21,428 | 7,170 | 9,117 | 5,224 |
|  | Shore | 23,634 | 27,494 | 19,774 | 3,776 | 4,929 | 2,624 |
| Food | Party/Charter | 13,873 | 15,182 | 12,565 | 5,304 | 6,189 | 4,418 |
|  | Private/Rental | 21,347 | 24,597 | 18,096 | 1,937 | 2,477 | 1,396 |
|  | Shore | 17,655 | 20,704 | 14,605 | 1,329 | 1,818 | 841 |
| Lodging | Party/Charter | 2,695 | 3,603 | 1,788 | 8,672 | 10,532 | 6,812 |
|  | Private/Rental | 4,400 | 5,695 | 3,104 | 1,930 | 3,065 | 796 |
|  | Shore | 11,906 | 15,183 | 8,629 | 1,970 | 2,959 | 980 |
| Public Transportation | Party/Charter | 793 | 1,462 | 124 | 33,938 | 42,330 | 25,546 |
|  | Private/Rental | 169 | 306 | 32 | 4,343 | 7,763 | 924 |
|  | Shore | 860 | 1,214 | 506 | 1,316 | 2,464 | 168 |
| Boat Fuel | Private/Rental | 31,059 | 36,118 | 25,999 | 1,890 | 2,570 | 1,210 |
| Party/Charter Fees | Party/Charter | 57,712 | 63,353 | 52,071 | 6,367 | 7,577 | 5,158 |
| Access/Boat Launching | Party/Charter | 972 | 1,198 | 746 | 391 | 573 | 208 |
|  | Private/Rental | 3,771 | 4,414 | 3,128 | 257 | 369 | 146 |
|  | Shore | 1,846 | 2,253 | 1,439 | 169 | 363 | 0 |
| Equipment Rental | Party/Charter | 2,541 | 3,184 | 1,899 | 4,789 | 6,416 | 3,162 |
|  | Private/Rental | 1,859 | 2,355 | 1,363 | 576 | 978 | 174 |
|  | Shore | 1,477 | 2,042 | 912 | 131 | 243 | 19 |
| Bait \& Ice | Party/Charter | 740 | 954 | 525 | 316 | 433 | 199 |
|  | Private/Rental | 17,386 | 20,110 | 14,662 | 1,020 | 1,341 | 700 |
|  | Shore | 6,297 | 7,767 | 4,828 | 332 | 461 | 204 |
| Total | Party/Charter | 91,599 | 93,742 | 85,565 | 70,216 | 79,210 | 61,222 |
|  | Private/Rental | 104,949 | 118,417 | 97,307 | 19,125 | 23,344 | 14,906 |
|  | Shore | 63,675 | 69,816 | 57,534 | 9,024 | 11,007 | 7,042 |
| Annual Expenditures |  | Residents |  |  | Non-Residents |  |  |
| Rods and Reels |  | 87,379 | 100,428 | 74,329 |  |  |  |
| Other Tackle |  | 61,712 | 71,043 | 52,382 |  |  |  |
| Gear |  | 14,152 | 16,610 | 11,694 |  |  |  |
| Camping Equipment |  | 7,090 | 9,770 | 4,409 |  |  |  |
| Binoculars |  | 1,963 | 2,526 | 1,401 |  |  |  |
| Clothing |  | 9,280 | 11,958 | 6,601 |  |  |  |
| Magazines |  | 3,067 | 3,742 | 2,393 |  |  |  |
| Club Dues |  | 2,404 | 3,150 | 1,658 |  |  |  |
| License Fees |  | 35,296 | 39,378 | 31,215 |  |  |  |
| Boat Accessories |  | 230,663 | 317,031 | 144,296 |  |  |  |
| Boat Purchase |  | 688,820 | 831,723 | 545,917 |  |  |  |
| Boat Maintenance |  | 167,606 | 194,586 | 140,625 |  |  |  |
| Fishing Vehicle |  | 638,561 | 918,489 | 358,632 |  |  |  |
| Fishing Vehicle Maintenance |  | 155,872 | 195,703 | 116,041 |  |  |  |
| Vacation Home |  | 11,495 | 23,523 | 0 |  |  |  |
| Vacation Home Maintenance |  | 5,316 | 8,918 | 1,715 |  |  |  |
| All Sub-Totals |  | 2,380,901 | 2,711,403 | 2,050,536 | 98,365 | 108,495 | 88,235 |
| State Total |  | 2,479,266 | 2,809,924 | 2,148,746 |  |  |  |

Table 8. Oregon Average Expenditures by Mode and Resident Status, 2000.

| OREGON |  | Residents |  |  |  | Non-Residents |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode |  |  | Spenders (\$) |  | All (\$) |  | Spenders (\$) |  |
|  |  | Mean $\begin{gathered}\text { All (\$) } \\ \substack{\text { Standard } \\ \text { Error }} \\ \end{gathered}$ |  | MeanStandard <br> Error |  | MeanStandard <br> Error |  | Mean Standard <br> Error |  |
| Private Transportation | Party/Charter | 29.02 | 0.96 | 29.02 | 0.96 | 58.25 | 3.36 | 58.25 | 3.36 |
|  | Private/Rental | 16.43 | 0.39 | 16.43 | 0.39 | 32.09 | 2.32 | 32.09 | 2.32 |
|  | Shore | 20.52 | 0.69 | 20.52 | 0.69 | 54.09 | 5.06 | 54.09 | 5.06 |
| Food | Party/Charter | 21.01 | 1.20 | 23.32 | 1.25 | 23.14 | 2.03 | 25.31 | 2.09 |
|  | Private/Rental | 9.53 | 0.39 | 13.67 | 0.51 | 22.86 | 1.87 | 25.39 | 2.00 |
|  | Shore | 12.31 | 0.66 | 16.20 | 0.79 | 18.02 | 2.54 | 18.95 | 2.62 |
| Lodging | Party/Charter | 26.91 | 2.95 | 54.96 | 5.05 | 26.85 | 3.94 | 38.70 | 5.13 |
|  | Private/Rental | 7.20 | 0.58 | 38.32 | 2.35 | 13.42 | 2.06 | 30.86 | 4.07 |
|  | Shore | 11.38 | 1.18 | 36.91 | 3.09 | 17.04 | 3.52 | 30.77 | 5.37 |
| Public Transportation | Party/Charter | 1.14 | 0.30 | 17.06 | 2.43 | 46.99 | 13.61 | 248.37 | 53.71 |
|  | Private/Rental | 0.30 | 0.09 | 22.52 | 5.25 | 14.55 | 5.27 | 157.01 | 46.44 |
|  | Shore | 0.51 | 0.17 | 15.61 | 4.06 | 4.71 | 1.50 | 25.10 | 4.69 |
| Boat Fuel | Private/Rental | 6.34 | 0.27 | 6.80 | 0.28 | 10.94 | 3.14 | 12.72 | 3.63 |
| Party/Charter Fees | Party/Charter | 50.39 | 2.73 | 58.50 | 2.83 | 36.39 | 3.20 | 41.98 | 3.33 |
| Access/Boat Launching | Party/Charter | 0.21 | 0.10 | 5.93 | 2.38 | 2.24 | 1.42 | 24.89 | 14.54 |
|  | Private/Rental | 1.38 | 0.06 | 2.95 | 0.11 | 2.08 | 0.25 | 3.74 | 0.38 |
|  | Shore | 0.17 | 0.05 | 3.85 | 0.84 | 4.55 | 3.81 | 30.03 | 24.63 |
| Equipment Rental | Party/Charter | 15.06 | 1.87 | 64.58 | 3.96 | 24.76 | 3.87 | 68.57 | 6.14 |
|  | Private/Rental | 0.35 | 0.15 | 14.80 | 5.71 | 1.53 | 0.50 | 22.52 | 4.78 |
|  | Shore | 1.39 | 0.29 | 18.17 | 2.84 | 7.12 | 2.86 | 38.54 | 12.17 |
| Bait \& Ice | Party/Charter | 1.02 | 0.17 | 4.35 | 0.55 | 1.34 | 0.33 | 3.63 | 0.79 |
|  | Private/Rental | 2.86 | 0.10 | 4.39 | 0.13 | 4.44 | 0.38 | 5.79 | 0.45 |
|  | Shore | 3.37 | 0.26 | 5.14 | 0.37 | 5.94 | 1.27 | 7.76 | 1.57 |
| Total | Party/Charter | 144.75 | 4.70 | 257.71 | 7.97 | 219.96 | 15.61 | 509.71 | 56.46 |
|  | Private/Rental | 44.40 | 0.87 | 119.90 | 8.14 | 101.91 | 7.16 | 290.13 | 47.11 |
|  | Shore | 49.66 | 1.58 | 116.40 | 6.00 | 111.46 | 8.43 | 205.23 | 28.99 |
| Annual Expenditures |  | All (\$) |  | Spenders (\$) |  | All (\$) |  | Spenders (\$) |  |
| Rods and Reels |  | 43.08 | 3.85 | 225.52 | 10.34 |  |  |  |  |
| Other Tackle |  | 33.19 | 2.68 | 74.79 | 8.40 |  |  |  |  |
| Gear |  | 8.37 | 0.89 | 91.63 | 6.53 |  |  |  |  |
| Camping Equipment |  | 6.40 | 1.45 | 175.56 | 26.09 |  |  |  |  |
| Binoculars |  | 3.09 | 0.98 | 174.07 | 23.08 |  |  |  |  |
| Clothing |  | 8.73 | 1.49 | 130.40 | 13.15 |  |  |  |  |
| Magazines |  | 1.07 | 0.19 | 34.45 | 3.71 |  |  |  |  |
| Club Dues |  | 2.31 | 0.80 | 96.60 | 23.94 |  |  |  |  |
| License Fees |  | 32.37 | 1.81 | 44.35 | 1.78 |  |  |  |  |
| Boat Accessories |  | 56.11 | 7.20 | 411.73 | 37.78 |  |  |  |  |
| Boat Purchase |  | 282.41 | 44.43 | 3,226.09 | 311.09 |  |  |  |  |
| Boat Maintenance |  | 59.39 | 6.99 | 269.74 | 24.26 |  |  |  |  |
| Fishing Vehicle |  | 508.66 | 123.62 | 7,596.54 | 918.93 |  |  |  |  |
| Fishing Vehicle Maintenance |  | 76.61 | 9.52 | 614.51 | 35.65 |  |  |  |  |
| Vacation Home |  | 109.50 | 51.73 | 6,420.03 | 2,313.31 |  |  |  |  |
| Vacation Home Maintenance |  | 141.32 | 121.70 | 141.32 | 121.70 |  |  |  |  |
| Total |  | 1,372.60 | 186.99 | 19,727.32 | 2,512.55 |  |  |  |  |

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


Table 9. Oregon Total Expenditures by Resident Status, 2000 (in thousands of dollars).

| OREGON |  | Total | Upper Bound | Lower Bound | Total | Upper Bound | Lower Bound |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode | Residents |  |  | Non-Residents |  |  |
| Private Transportation | Party/Charter | 1,964 | 2,282 | 1,646 | 1,896 | 2,364 | 1,428 |
|  | Private/Rental | 8,517 | 10,069 | 6,964 | 2,262 | 2,849 | 1,675 |
|  | Shore | 3,895 | 4,937 | 2,854 | 1,214 | 1,670 | 759 |
| Food | Party/Charter | 1,422 | 1,686 | 1,157 | 753 | 963 | 543 |
|  | Private/Rental | 4,942 | 5,899 | 3,984 | 1,611 | 2,047 | 0 |
|  | Shore | 2,336 | 2,975 | 1,697 | 405 | 568 | 241 |
| Lodging | Party/Charter | 1,821 | 2,296 | 1,346 | 874 | 1,189 | 559 |
|  | Private/Rental | 3,732 | 4,613 | 2,851 | 946 | 1,296 | 596 |
|  | Shore | 2,160 | 2,806 | 0 | 383 | 558 | 0 |
| Public Transportation | Party/Charter | 77 | 118 | 0 | 1,529 | 2,455 | 603 |
|  | Private/Rental | 154 | 253 | 0 | 1,026 | 1,784 | 268 |
|  | Shore | 96 | 147 | 0 | 106 | 166 | 45 |
| Boat Fuel | Private/Rental | 3,287 | 3,927 | 2,647 | 771 | 1,234 | 0 |
| Party/Charter Fees | Party/Charter | 3,410 | 4,032 | 2,788 | 1,184 | 1,514 | 854 |
| Access/Boat Launching | Party/Charter | 14 | 28 | 0 | 73 | 164 | 0 |
|  | Private/Rental | 718 | 860 | 576 | 147 | 193 | 0 |
|  | Shore | 32 | 48 | 17 | 102 | 230 | 0 |
| Equipment Rental | Party/Charter | 1,019 | 1,309 | 0 | 806 | 1,108 | 503 |
|  | Private/Rental | 184 | 335 | 0 | 108 | 181 | 35 |
|  | Shore | 264 | 368 | 161 | 160 | 268 | 52 |
| Bait \& Ice | Party/Charter | 69 | 94 | 44 | 44 | 67 | 20 |
|  | Private/Rental | 1,480 | 1,760 | 1,200 | 313 | 399 | 227 |
|  | Shore | 641 | 823 | 458 | 133 | 195 | 71 |
| Total | Party/Charter | 9,796 | 10,492 | 8,863 | 7,159 | 8,354 | 5,963 |
|  | Private/Rental | 23,013 | 25,168 | 20,858 | 7,184 | 8,392 | 5,976 |
|  | Shore | 9,425 | 10,824 | 8,026 | 2,503 | 3,051 | 1,954 |
| Annual Expenditures |  | Residents |  |  | Non-Residents |  |  |
| Rods and Reels |  | 15,741 | 18,992 | 12,490 |  |  |  |
| Other Tackle |  | 12,129 | 14,465 | 9,794 |  |  |  |
| Gear |  | 3,058 | 3,780 | 2,337 |  |  |  |
| Camping Equipment |  | 2,339 | 3,410 | 1,267 |  |  |  |
| Binoculars |  | 1,128 | 1,836 | 419 |  |  |  |
| Clothing |  | 3,191 | 4,315 | 2,067 |  |  |  |
| Magazines |  | 391 | 534 | 247 |  |  |  |
| Club Dues |  | 845 | 1,428 | 262 |  |  |  |
| License Fees |  | 11,828 | 13,663 | 9,994 |  |  |  |
| Boat Accessories |  | 21,113 | 26,758 | 15,467 |  |  |  |
| Boat Purchase |  | 106,257 | 140,103 | 72,411 |  |  |  |
| Boat Maintenance |  | 22,345 | 27,913 | 0 |  |  |  |
| Fishing Vehicle |  | 191,383 | 282,246 | 100,521 |  |  |  |
| Fishing Vehicle Maintenance |  | 28,824 | 36,328 | 21,320 |  |  |  |
| Vacation Home |  | 41,199 | 78,468 | 0 |  |  |  |
| Vacation Home Maintenance |  | 53,170 | 140,392 | 0 |  |  |  |
| All Sub-Totals |  | 557,176 | 693,366 | 420,985 | 16,845 | 18,631 | 15,059 |
| State Total |  | 574,021 | 710,223 | 437,818 |  |  |  |

Table 10. Washington Average Expenditures by Mode and Resident Status, 2000.

| WASHINGTON |  | Residents |  |  |  | Non-Residents |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode |  |  | Spenders (\$) |  | All (\$) |  | Spenders (\$) |  |
|  |  | MeanStandard <br> Error |  | Mean Standard <br> Error |  | MeanStandard <br> Error |  | Mean Standard <br> Error |  |
| Private Transportation | Party/Charter | 25.78 | 3.12 | 25.78 | 3.12 | 71.32 |  | 71.32 | . * |
|  | Private/Rental | 8.99 | 0.34 | 8.99 | 0.34 | 77.98 | 5.12 | 77.98 | 5.12 |
|  | Shore | 58.94 | 50.39 | 58.94 | 50.39 | 57.52 | 6.14 | 57.52 | 6.14 |
| Food | Party/Charter | 23.21 | 6.38 | 27.08 | 6.00 | 40.00 | . * | 40.00 | * |
|  | Private/Rental | 9.49 | 0.40 | 12.31 | 0.48 | 17.35 | 2.73 | 18.02 | 2.75 |
|  | Shore | 6.22 | 0.56 | 9.64 | 0.80 | 22.30 | 4.69 | 26.02 | 4.95 |
| Lodging | Party/Charter | 45.18 | 18.54 | 63.25 | 20.89 | 1.60 |  | 1.60 | * |
|  | Private/Rental | 2.86 | 0.43 | 38.87 | 4.59 | 11.82 | 4.48 | 31.92 | 9.24 |
|  | Shore | 2.01 | 0.65 | 33.21 | 9.10 | 24.71 | 8.60 | 47.17 | 13.28 |
| Public Transportation | Party/Charter |  |  |  |  |  | . |  |  |
|  | Private/Rental | 0.50 | 0.13 | 19.22 | 3.73 | 37.46 | 19.84 | 135.79 | 61.66 |
|  | Shore | 0.52 | 0.10 | 6.94 | 0.74 | 152.44 | 99.03 | 304.89 | 190.37 |
| Boat Fuel | Private/Rental | 10.37 | 0.33 | 11.39 | 0.35 | 12.81 | 3.02 | 13.83 | 3.17 |
| Party/Charter Fees | Party/Charter | 90.71 | 14.33 | 90.71 | 14.33 | 10.00 |  | 10.00 | . * |
| Access/Boat Launching | Party/Charter |  |  |  |  | 17.50 |  | 17.50 | * |
|  | Private/Rental | 2.65 | 0.14 | 4.05 | 0.20 | 4.91 | 1.76 | 8.28 | 2.68 |
|  | Shore | 0.18 | 0.06 | 3.38 | 1.01 |  |  |  |  |
| Equipment Rental | Party/Charter | 10.29 | 10.29 | 72.00 |  | 50.00 |  | 50.00 | * |
|  | Private/Rental | 0.53 | 0.24 | 26.60 | 11.00 | 0.77 | 0.60 | 7.49 | 4.84 |
|  | Shore | 0.14 | 0.10 | 12.70 | 6.96 | 9.29 | 5.17 | 65.00 | 7.64 |
| Bait \& Ice | Party/Charter | 0.17 | 0.17 | 1.00 |  | 62.50 |  | 62.50 | * |
|  | Private/Rental | 3.07 | 0.15 | 4.79 | 0.22 | 5.21 | 1.02 | 6.05 | 1.09 |
|  | Shore | 1.38 | 0.22 | 4.97 | 0.70 | 3.03 | 0.79 | 4.24 | 0.93 |
| Total | Party/Charter | 195.34 | 26.56 | 44.34 | 116.20 | 252.92 | . | 252.92 | * |
|  | Private/Rental | 38.46 | 0.83 | 19.75 | 90.22 | 199.83 | 22.32 | 199.83 | 22.32 |
|  | Shore | 69.40 | 50.40 | 129.78 | 51.70 | 269.28 | 99.84 | 249.38 | 20.90 |
| Annual Expenditures |  | All (\$) |  | Spenders (\$) |  | All (\$) |  | Spenders (\$) |  |
| Rods and Reels |  | 82.12 | 6.21 | 261.29 | 13.98 |  |  |  |  |
| Other Tackle |  | 82.87 | 5.02 | 93.42 | 4.03 |  |  |  |  |
| Gear |  | 19.36 | 2.18 | 167.10 | 11.06 |  |  |  |  |
| Camping Equipment |  | 13.52 | 4.29 | 280.51 | 34.73 |  |  |  |  |
| Binoculars |  | 3.18 | 0.98 | 95.84 | 13.89 |  |  |  |  |
| Clothing |  | 13.29 | 1.99 | 120.53 | 12.22 |  |  |  |  |
| Magazines |  | 2.42 | 0.44 | 38.94 | 6.26 |  |  |  |  |
| Club Dues |  | 1.55 | 0.37 | 52.48 | 9.31 |  |  |  |  |
| License Fees |  | 49.50 | 2.31 | 61.09 | 3.00 |  |  |  |  |
| Boat Accessories |  | 232.47 | 24.34 | 728.26 | 50.99 |  |  |  |  |
| Boat Purchase |  | 530.56 | 73.59 | 2,791.99 | 214.75 |  |  |  |  |
| Boat Maintenance |  | 223.66 | 22.26 | 480.07 | 36.48 |  |  |  |  |
| Fishing Vehicle |  | 969.64 | 167.71 | 7,874.16 | 1,158.44 |  |  |  |  |
| Fishing Vehicle Maintenance |  | 196.92 | 18.34 | 754.77 | 79.64 |  |  |  |  |
| Vacation Home |  | 152.15 | 63.47 | 8,164.13 | 3,219.72 |  |  |  |  |
| Vacation Home Maintenance |  | 23.20 | 7.91 | 23.20 | 7.91 |  |  |  |  |
| Total |  | 2,596.40 | 197.88 | 21,987.78 | 3,430.31 |  |  |  |  |



## Washington

Table 11. Washington Total Expenditures by Resident Status, 2000 (in thousands of dollars).

| WASHINGTON |  | Total | Upper Bound | Lower Bound | Total | Upper Bound | Lower Bound |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Mode | Residents |  |  | Non-Residents |  |  |
| Private Transportation | Party/Charter | 797 | 1,055 | 539 | 207 | 0 | 0 |
|  | Private/Rental | 9,818 | 11,843 | 7,793 | 2,807 | 3,642 | 1,972 |
|  | Shore | 25,241 | 55,505 | 0 | 2,169 | 2,985 | 1,354 |
| Food | Party/Charter | 718 | 1,134 | 302 | 116 | 0 | 0 |
|  | Private/Rental | 10,367 | 12,532 | 8,202 | 624 | 879 | 0 |
|  | Shore | 2,663 | 3,363 | 1,964 | 841 | 1,230 | 452 |
| Lodging | Party/Charter | 1,397 | 2,556 | 238 | 5 | 0 | 0 |
|  | Private/Rental | 3,128 | 4,227 | 2,029 | 426 | 759 | 92 |
|  | Shore | 863 | 1,296 | 0 | 932 | 1,509 | 0 |
| Public Transportation | Party/Charter | 0 | 0 | 0 | 0 | 0 | 0 |
|  | Private/Rental | 544 | 842 | 0 | 1,348 | 2,782 | 0 |
|  | Shore | 222 | 301 | 0 | 5,749 | 11,632 | 0 |
| Boat Fuel | Private/Rental | 11,331 | 13,621 | 9,041 | 461 | 706 | 0 |
| Party/Charter Fees | Party/Charter | 2,805 | 3,870 | 1,741 | 29 | 0 | 0 |
| Access/Boat Launching | Party/Charter | 0 | 0 | 0 | 51 | 0 | 0 |
|  | Private/Rental | 2,900 | 3,536 | 2,264 | 177 | 308 | 0 |
|  | Shore | 75 | 116 | 34 | 0 | 0 | 0 |
| Equipment Rental | Party/Charter | 318 | 942 | 0 | 145 | 0 | 0 |
|  | Private/Rental | 577 | 1,101 | 0 | 28 | 70 | 0 |
|  | Shore | 62 | 119 | 4 | 350 | 663 | 37 |
| Bait \& Ice | Party/Charter | 5 | 15 | 0 | 182 | 0 | 0 |
|  | Private/Rental | 3,353 | 4,077 | 2,630 | 188 | 275 | 100 |
|  | Shore | 593 | 782 | 403 | 114 | 173 | 55 |
| Total | Party/Charter | 6,041 | 7,445 | 4,279 | 735 | 1,072 | 397 |
|  | Private/Rental | 42,019 | 46,084 | 37,953 | 6,058 | 7,794 | 4,322 |
|  | Shore | 29,718 | 59,995 | 0 | 10,156 | 16,144 | 4,168 |
| Annual Expenditures |  | Residents |  |  | Non-Residents |  |  |
| Rods and Reels |  | 40,768 | 48,935 | 32,601 |  |  |  |
| Other Tackle |  | 41,141 | 48,539 | 33,742 |  |  |  |
| Gear |  | 9,610 | 12,093 | 7,128 |  |  |  |
| Camping Equipment |  | 6,710 | 10,975 | 2,446 |  |  |  |
| Binoculars |  | 1,581 | 2,552 | 610 |  |  |  |
| Clothing |  | 6,597 | 8,725 | 4,469 |  |  |  |
| Magazines |  | 1,201 | 1,663 | 740 |  |  |  |
| Club Dues |  | 768 | 1,146 | 390 |  |  |  |
| License Fees |  | 24,574 | 28,585 | 20,563 |  |  |  |
| Boat Accessories |  | 118,836 | 147,412 | 90,261 |  |  |  |
| Boat Purchase |  | 271,210 | 351,509 | 190,911 |  |  |  |
| Boat Maintenance |  | 114,332 | 140,899 | 0 |  |  |  |
| Fishing Vehicle |  | 495,663 | 671,729 | 319,596 |  |  |  |
| Fishing Vehicle Maintenance |  | 100,661 | 123,070 | 78,252 |  |  |  |
| Vacation Home |  | 77,775 | 140,279 | 0 |  |  |  |
| Vacation Home Maintenance |  | 11,858 | 19,701 | 4,016 |  |  |  |
| All Sub-Totals |  | 1,401,065 | 1,612,117 | 1,190,010 | 16,948 | 23,192 | 10,705 |
| State Total |  | 1,418,013 | 1,629,158 | 1,206,867 |  |  |  |



## Pacific Coast Totals

Table 12. Total Pacific Coast Region Expenditures by Resident Status, 2000 (millions of dollars).

| PACIFIC COAST REGION | Total | Upper Bound | Lower Bound | Total | Upper Bound | Lower Bound |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Expenditures | Residents (\$) |  |  | Non-Residents (\$) |  |  |
| Private Transportation | 111 | 142 | 80 | 32 | 35 | 29 |
| Food | 75 | 81 | 70 | 13 | 14 | 12 |
| Lodging | 32 | 36 | 28 | 16 | 19 | 14 |
| Public Transportation | 3 | 4 | 2 | 49 | 60 | 38 |
| Boat Fuel | 46 | 51 | 40 | 3 | 4 | 2 |
| Party/Charter Fees | 64 | 70 | 58 | 8 | 9 | 6 |
| Access/Boat Launching | 10 | 11 | 9 | 1 | 2 | 1 |
| Equipment Rental | 8 | 10 | 7 | 7 | 9 | 5 |
| Bait \& Ice | 31 | 34 | 27 | 3 | 3 | 2 |
| Trip Sub-Totals | 380 | 413 | 347 | 132 | 144 | 120 |
| Annual Expenditures |  |  |  |  |  |  |
| Rods and Reels | 144 | 160 | 128 |  |  |  |
| Other Tackle | 115 | 127 | 103 |  |  |  |
| Gear | 27 | 30 | 23 |  |  |  |
| Camping Equipment | 16 | 21 | 11 |  |  |  |
| Binnoculars | 5 | 6 | 3 |  |  |  |
| Clothing | 19 | 23 | 15 |  |  |  |
| Magazines | 5 | 5 | 4 |  |  |  |
| Club Dues | 4 | 5 | 3 |  |  |  |
| License Fees | 72 | 78 | 66 |  |  |  |
| Boat Accessories | 371 | 462 | 279 |  |  |  |
| Boat Purchase | 1,066 | 1,234 | 899 |  |  |  |
| Boat Maintenance | 304 | 343 | 266 |  |  |  |
| Fishing Vehicle | 1,326 | 1,669 | 983 |  |  |  |
| Fishing Vehicle Maintenance | 285 | 332 | 239 |  |  |  |
| Vacation Home | 98 | 161 | 34 |  |  |  |
| Vacation Home Maintenance | 103 | 199 | 8 |  |  |  |
| Equipment and Durable Sub-Totals | 3,959 | 4,361 | 3,546 |  |  |  |
| All Sub-Totals | 4,339 | 4,743 | 3,925 | 132 | 144 | 120 |
| $\underline{\text { Pacific Coast Region Total }}$ | 4,471 | 4,875 | 4,057 |  |  |  |



## United States Totals

Table 13. Total United States Expenditures by Coastal Resident Status 1998, 1999, and 2000 (millions of dollars) ${ }^{1}$.

| UNITED STATES | Total | Lower Bound | Upper Bound |
| :---: | :---: | :---: | :---: |
| Trip Expenditures ${ }^{1}$ |  |  |  |
| Private Transportation | 623.40 | 605.97 | 640.84 |
| Food | 1,049.57 | 1,002.45 | 1,096.69 |
| Lodging | 630.70 | 541.95 | 719.44 |
| Public Transportation | 108.64 | 72.84 | 144.44 |
| Boat Fuel | 416.38 | 390.90 | 441.85 |
| Party/Charter Fees ${ }^{1}$ | 220.74 | 65.24 | 376.25 |
| Access/Boat Launching | 70.29 | 66.32 | 74.26 |
| Equipment Rental | 53.73 | 42.74 | 64.71 |
| Bait \& $\mathrm{Ice}^{2}$ | 372.44 | 359.16 | 385.72 |
| Trip Sub-Totals | 3,546 | 3,148 | 3,944 |
| Annual Expenditures |  |  |  |
| Rods and Reels ${ }^{3}$ | 900.29 | 719.55 | 1,081.02 |
| Other Tackle \& Gear ${ }^{3,4}$ | 541.91 | 433.20 | 650.63 |
| Camping Equipment | 165.83 | 132.31 | 199.36 |
| Binnoculars | 72.19 | 57.62 | 86.76 |
| Clothing | 198.50 | 158.64 | 238.36 |
| Processing/Taxidermy ${ }^{5}$ | 43.80 | 32.38 | 55.22 |
| Magazines | 59.47 | 47.55 | 71.39 |
| Club Dues | 86.91 | 69.36 | 104.46 |
| License Fees ${ }^{6}$ | 224.15 | 160.05 | 288.25 |
| Miscellaneous ${ }^{5}$ | 81.04 | 60.45 | 101.63 |
| Boat Maintenance/Expenses | 3,235.23 | 2,586.58 | 3,883.88 |
| Power Boat Purchase ${ }^{7}$ | 7,703.35 | 6,153.27 | 9,253.43 |
| Non-Power Boat Purchase ${ }^{5}$ | 109.06 | 79.65 | 138.48 |
| Electronics ${ }^{5}$ | 226.26 | 168.61 | 283.91 |
| Fishing Vehicle | 4,540.67 | 3,621.24 | 5,460.10 |
| Fishing Vehicle Maintenance ${ }^{8}$ | 207.82 | 1.62 | 414.03 |
| Vacation Home | 645.03 | 506.32 | 783.75 |
| Vacation Home Maintenance ${ }^{8}$ | 26.02 | 0.00 | 57.67 |
| Equipment and Durable Sub-Totals | 19,068 | 14,988 | 23,152 |
| United States Total | 22,613 | 18,136 | 27,097 |

[^2]Total annual expenditures by resident anglers in PC coastal states in 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 PC, the highest trip expenditures were for food, lodging, and boat fuel respectively, while the largest annual purchases were for fishing vehicles and boats respectively (Table 12). 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 PC.

At first glance, the state-level estimates of total marine recreational expenditures appear large. About $89 \%$ of the total expenditure was for fishing equipment and durable items, items that may last for many years. The costs of several durable items, boats, boat accessories, boat maintenance and fishing vehicles/trailers, comprised just under $69 \%$ of total angler expenditures in 2000. Although anglers were asked to indicate the total costs of durable purchases made during the past 12 months, their actual outlay in 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.

State-level expenditures estimated in this study are roughly 8 times greater than those estimated from the U.S. Fish and Wildlife Service's 1996 National Survey of Fishing, Hunting, and Wild-life-Associated Recreation (USFWS 1996). ${ }^{5}$ 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 report.

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 boats and boat accessories were the second largest expense category in each PC state, behind fishing vehicle purchases. In fact, the estimate generated for the PC region for boat and boat accessory purchases (\$1.44 billion; Table 12) was greater than the National Marine Manufactures Association (NMMA) estimate of total retail
sales of new and used recreational boats across all of the PC coastal states in 1997 ( $\$ 1.40$ billion; NMMA 1998). The NMMA estimates, however, do not include personal sales of pre-owned boats. According to data obtained from United States Department of Labor (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 2000 expenditure survey need to be considered in light of a number of data limitations and assumptions. First, even with 12,683 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 expenses, and not any annual expenditures. 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 PC state. Lastly, although adjustments were made for avidity bias, no corrections were made for nonresponse 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.

Because this is the last regional volume in a series that has estimated angler expenditures across the US, Table 13 is provided to summarize nationwide expenditures on marine recreational angling. Nationwide, the estimates presented here are 2.8 times higher than those estimated from the 1996 USFWS survey. Again, the same general explanations provided above apply here: participation and effort are higher using the MRFSS and the MRFSS provides a better sample to capture saltwater angling. Nationwide, boat purchases and accessories generate $\$ 9.3$ billion dollars in expenditures (Table 13). This is 1.6 times the estimate NMMA produced in 1998 ( $\$ 5.8$ billion; NMMA 1998). Again, some of this difference can be attributed to personal sales of pre-owned boats.

## 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 PC. 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 MagnusonStevens Fisheries Conservation and Management Act.

## Endnotes

1. Because of the geographic boundary created by the Cascade Mountain range, some Eastern Oregon residents are forced to travel in California to fish sites in Oregon. If one assumes that all gas purchased by Oregon residents on Oregon trips is purchased in Oregon, including California miles in the calculation of travel costs is consistent with the calculation made in other states.
2. 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.
3. 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 numbers of annual participants than that shown in Table 2. At the state-level (see Table 2), 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.
4. 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.
5. 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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## Appendix 1:Intercept Add-on Survey Instrument ${ }^{\square}$

Appendix 1
$\qquad$

# 2000 PACIFIC COAST ANGLER EXPENDITURE SURVEY ADD-ON TO MRFSS INTERCEPT <br> VERSION \#3 

## IF INTERVIEWER IS NOT CERTAIN WHETHER RESPONDENT IS 16 YEARS OF AGE OR OLDER, ASK RESPONDENT. IF < 16 YEARS OF AGE, THANK RESPONDENT AND TERMINATE INTERVIEW.

1. Is today's fishing part of an overnight stay away from home? (ONE-DAY FISHING TRIPS INVOLVING DEPARTURE OF A PARTY/CHARTER OR PRIVATE/RENTAL BOAT FROM PORT ON THE NIGHT PRIOR TO FISHING SHOULD NOT BE CONSIDERED AN "OVERNIGHT STAY AWAY FROM HOME" UNLESS ANGLER IS SPENDING ADDITIONAL NIGHTS AWAY FROM HOME.)

| Yes | 1 | SKIP TO Q6. |
| :--- | :--- | :--- |
| No | 2 |  |
| Don't know | 8 | SKIP TO Q6. |
| Refused | 9 | SKIP TO Q6. |

The next questions are to help us determine the economic impact of saltwater recreational fishing on the [STATE OF INTERCEPT] economy.
2. Including yourself, how many people are traveling together on this trip away from home?

| ENTER NUMBER OF PEOPLE (IF "1", GO TO Q4) |  |  |
| :--- | :---: | :--- |
| Don't know | 98 | SKIP TO Q6. |
| Refused | 99 | SKIP TO Q6. |

3. Including yourself, how many of the [Q2 RESPONSE] people are paying for the expenses of this trip?

| ENTER NUMBER OF PEOPLE (<=Q2 RESPONSE) |  |  |
| :--- | :---: | :--- |
| Don't know | 98 | SKIP TO Q6. |
| Refused | 99 | SKIP TO Q6. |

4. IF Q2 RESPONSE=1 OR Q3 RESPONSE=1, ASK: Now I'd like to ask you about the amount of money being spent for this entire trip away from home, not just the time spent fishing, in each of the following categories:
IF Q3 RESPONSE $>1$, ASK: Now I'd like to ask you about the amount of money being spent for this entire trip away from home, not just the time spent fishing. For each expenditure category that I mention, please estimate either your own personal expenses or the expenses for your entire group, whichever is easier for you to remember.

FOR EACH EXPENDITURE CATEGORY, INTERVIEWER SHOULD FILL IN AMOUNT PROVIDED BY RESPONDENT. ALL EXPENSES SHOULD BE REPORTED TO THE NEAREST DOLLAR. IF Q2 RESPONSE=1 OR Q3 RESPONSE=1, INTERVIEWER SHOULD RECORD EXPENSES IN THE "PERS" COLUMN. IF Q3 RESPONSE > 1, INTERVIEWER SHOULD RECORD PERSONAL EXPENSES IN THE "PERS" COLUMN AND GROUP EXPENDITURES IN THE "GROUP" COLUMN, WHICHEVER IS APPROPRIATE.

IT IS IMPORTANT THAT RESPONSES REFLECT EXPENSES INCURRED DURING THE ENTIRE TIME AWAY FROM HOME, INCLUDING MEALS EATEN WHILE TRAVELING TO AND FROM THE FISHING SITE. BOAT FUEL SHOULD BE PRORATED TO REFLECT ACTUAL AMOUNT CONSUMED (RATHER THAN BOUGHT) DURING THE TRIP AWAY FROM HOME. Q4b PERTAINS ONLY TO ITEMS (E.G., FISHING GEAR) THAT WERE RENTED SPECIFICALLY FOR THE TRIP. MORE GENERAL QUESTIONS REGARDING MAINTENANCE AND REPAIR OF THE ANGLER'S OWN BOAT AND EQUIPMENT WILL BE ASKED IN THE TELEPHONE FOLLOW-UP. SIMILARLY, Q4d PERTAINS ONLY TO FEES SPECIFIC TO THE TRIP. MOORAGE FEES THAT ARE PAID ON A SEASONAL RATHER THAN PERTRIP BASIS WILL BE COVERED IN THE TELEPHONE FOLLOW-UP.

ASK Q4a-Q4e OF ALL RESPONDENTS:
4a. Food, drink and refreshments?
4b. Rental of boat, fishing or camping equipment?
4c. Public transportation, including airplane, train, bus and car rental?
4d. Parking, access and boat launching fees?
4e. Bait and ice?


ASK Q4f ONLY IF INTERCEPT MODE IS PRIVATE/RENTAL BOAT:
4f. Boat fuel? \$__
ASK Q4g ONLY IF INTERCEPT MODE IS PARTY/CHARTER BOAT:
4g. Passenger fees, tips, filleting/smoking/canning? \$ $\qquad$ \$ $\qquad$
ASK Q4h ONLY IF RESPONDENT UNABLE TO ITEMIZE:
4h. Total $\qquad$ \$ $\qquad$
FOR Q4a-Q4h, DON'T KNOW=9998 and REFUSED=9999 SHOULD BE INCLUDED AMONG CODING OPTIONS.

IF RESPONDENT REPORTS POSITIVE EXPENDITURES IN Q4, GOTO Q5. OTHERWISE SKIP TO Q6.

IF COUNTY OF INTERCEPT=COUNTY OF RESIDENCE, SKIP TO Q6. IF COUNTY OF INTERCEPT NE COUNTY OF RESIDENCE BUT COUNTY OF INTERCEPT AND COUNTY OF RESIDENCE ARE IN THE SAME STATE, ASK Q5a

## AND Q5b BUT NOT Q5c.

## IF COUNTY OF INTERCEPT AND COUNTY OF RESIDENCE ARE IN DIFFERENT STATES, ASK Q5a, Q5b AND Q5c.

5. What percentage of the expenses that you just described were made:

5a. In [COUNTY OF INTERCEPT]? ENTER \% (>=0,<=100)
Don't know 998
Refused 999
IF Q5a RESPONSE =100, 998 OR 999, SKIP TO Q6.
5b. Outside [COUNTY OF INTERCEPT] but in [STATE OF INTERCEPT]? ENTER \% (<=100-Q5a RESPONSE)

Don't know 998
Refused 999
IF (Q5a RESPONSE + Q5b RESPONSE = 100) OR (Q5b RESPONSE EQ 998 OR 999), SKIP TO Q6.

5c. Outside [STATE OF INTERCEPT]? ENTER \% (=100-Q5a RESPONSE-Q5b RESPONSE)
Don't know 998
Refused 999
6. IF Q1 RESPONSE="2'", ASK: We'd like to find out more about your other fishing expenses over the past year, but don't want to take any more of your time right now. May we call you at home and include you in our follow-up survey?
IF Q1 RESPONSE ="1", "8" OR "9", ASK: We're interested in estimating the economic impact of saltwater recreational fishing on the [STATE OF INTERCEPT] economy. In order to do this, I'd like to find out how much you spend on fishing, but I don't want to take any more of your time right now. May we call you at home and include you in our follow-up survey?

| Yes | 1 | $\rightarrow$ | Name: <br> Phone: $(\square)$ |
| :--- | :--- | :--- | :--- |
| No | 2 |  |  |

Thank you for your time.

## Appendix 2: <br> Phone Follow-up <br> Survey Instrument

# 2000 PACIFIC COAST ANGLER EXPENDITURE SURVEY TELEPHONE FOLLOW-UP TO MRFSS INTERCEPT ADD-ON VERSION \#3 

INTRODUCTION
Hello, may I speak with $\qquad$ ? (IF RESPONDENT IS NOT AVAILABLE, ASK FOR BEST TIME TO CALL BACK.)
"Hello, this is $\qquad$ calling from $\qquad$ . You recently spoke with a field interviewer during your fishing trip in [STATE OF INTERCEPT] on [DATE OF INTERCEPT]. We are calling now to collect more detailed information that could not be collected in the field. Your answers will be kept confidential. This will take $\qquad$ minutes." DO NOT ASK IF THIS IS CORRECT BUT BE PREPARED TO CODE AS FOLLOWS IF RECEIVE NEGATIVE RESPONSE:

| Was not interviewed | 8 | THANK AND TERMINATE |
| :--- | :--- | :--- |
| Did not volunteer for interview | 9 | THANK AND TERMINATE |

COST AND OTHER DETAILS OF INTERCEPTED TRIP
IF INTERCEPTED TRIP WAS A MULTI-DAY TRIP (Q1 RESPONSE IN INTERCEPT ADD-ON WAS "1"), BEGIN INTERVIEW WITH Q1. IF INTERCEPTED TRIP WAS A ONE-DAY TRIP (Q1 RESPONSE IN INTERCEPT ADD-ON WAS "2"), BEGIN INTERVIEW WITH Q10. IF INTERCEPTED TRIP WAS OF UNKNOWN LENGTH (Q1 RESPONSE IN INTERCEPT ADD-ON WAS "8" OR "9"), BEGIN INTERVIEW WITH Q13.

1. When you were interviewed on [DATE OF INTERCEPT], you said that your fishing on that day was part of an overnight trip away from home. How many nights were you away from your home on that trip?

| ENTER NUMBER OF NIGHTS |  |
| :--- | :---: |
| Don't know | 98 |
| Refused | 99 |

2. On how many days did you actually fish during that overnight trip away from your home?

ENTER NUMBER OF DAYS (<= Q1 RESPONSE+1)
Don't know 98
Refused 99

IF Q2 RESPONSE >= Q1 RESPONSE, SKIP TO Q4. OTHERWISE CONTINUE.
3. On how many of the days that you didn't fish on that trip did you engage in some other type of recreation?

ENTER NUMBER OF DAYS (<= Q2 RESPONSE-Q1 RESPONSE+1)
Don't know
98
Refused 99
4. Would you have made that trip if it weren't for fishing?

| Yes | 1 |
| :--- | :--- |
| No | 2 |
| Don't know | 8 |
| Refused | 9 |

5. Including yourself, how many people traveled together on that trip?

| ENTER NUMBER OF PEOPLE (IF ' 1 '", SKIP TO Q8) |  |  |
| :--- | :---: | :--- |
| Don't know | 98 | SKIP TO Q10. |
| Refused | 99 | SKIP TO Q10. |

6. Including yourself, how many of the [Q5 RESPONSE] people who traveled together on that trip actually went fishing?

| ENTER NUMBER OF PEOPLE (<=Q5 RESPONSE) |  |  |
| :--- | :---: | :--- |
| Don't know | 98 | SKIP TO Q10. |
| Refused | 99 | SKIP TO Q10. |

7. Including yourself, how many of the [Q5 RESPONSE] people paid for the expenses of that trip?

ENTER NUMBER OF PEOPLE (<=Q5 RESPONSE)
Don't know 98 SKIP TO Q10.
Refused 99 SKIP TO Q10.
8. IF Q5 RESPONSE=1 OR Q7 RESPONSE=1, ASK: Now I'd like to ask you about the amount of money that you spent for the entire trip away from home, not just the time spent fishing, in each of the following categories:
IF Q7 RESPONSE $>1$, ASK: Now I'd like to ask you about the amount of money that was spent for the entire trip away from home, not just the time spent fishing. For each expenditure category that I mention, please estimate either your own personal expenses or the expenses for your entire group, whichever is easier for you to remember.

FOR EACH EXPENDITURE CATEGORY, INTERVIEWER SHOULD FILL IN

AMOUNT PROVIDED BY RESPONDENT. ALL EXPENSES SHOULD BE REPORTED TO THE NEAREST DOLLAR. IF Q5 RESPONSE=1 OR Q7 RESPONSE=1, INTERVIEWER SHOULD RECORD EXPENSES IN THE "PERS" COLUMN. IF Q7 RESPONSE > 1, INTERVIEWER SHOULD RECORD PERSONAL EXPENSES IN THE "PERS" COLUMN AND GROUP EXPENDITURES IN THE "GROUP" COLUMN, WHICHEVER IS APPROPRIATE.

IT IS IMPORTANT THAT RESPONSES REFLECT EXPENSES INCURRED DURING THE ENTIRE TIME AWAY FROM HOME, INCLUDING LODGING AND MEAL COSTS INCURRED WHILE TRAVELING OR ENGAGED IN NON-FISHING AS WELL AS FISHING ACTIVITIES. ITEMS SUCH AS FOOD, BAIT AND BOAT FUEL SHOULD BE PRO-RATED TO REFLECT ACTUAL AMOUNTS CONSUMED (RATHER THAN BOUGHT) DURING THE TRIP AWAY FROM HOME. Q8d PERTAINS ONLY TO ITEMS (E.G., FISHING GEAR) THAT WERE RENTED SPECIFICALLY FOR THE TRIP. MORE GENERAL QUESTIONS REGARDING MAINTENANCE AND REPAIR OF THE ANGLER'S OWN BOAT AND EQUIPMENT WILL BE ASKED LATER IN THIS QUESTIONNAIRE. SIMILARLY, Q8e PERTAINS ONLY TO FEES SPECIFIC TO THE TRIP. MOORAGE FEES THAT ARE PAID ON A SEASONAL RATHER THAN PER-TRIP BASIS WILL BE COVERED LATER IN THIS QUESTIONNAIRE.

ASK Q8a-Q8f OF ALL RESPONDENTS: Pers Group

8a. Lodging at motels, cabins, lodges or campgrounds?
8b. Food, drink and refreshments?
8c. Public transportation, including airplane, train, bus and car rental?
8d. Rental of boat, fishing or camping equipment?
8 e . Parking, access and boat launching fees?
8f. Bait and ice?
$\qquad$
\$ $\qquad$
\$
$\qquad$
$\qquad$
$\qquad$
\$

ASK Q8g ONLY IF INTERCEPT MODE WAS PRIVATE/RENTAL BOAT:
8 g . Boat fuel?
\$ $\qquad$ \$ $\qquad$
ASK Q8h ONLY IF INTERCEPT MODE WAS PARTY/CHARTER BOAT:
8h. Passenger fees, tips, filleting/smoking/canning? \$ $\qquad$ \$ $\qquad$
ASK Q8i ONLY IF RESPONDENT UNABLE TO ITEMIZE:
8i. Total
\$
\$ $\qquad$

FOR Q8a-Q8i, DON'T KNOW=99998 and REFUSED=99999 SHOULD BE INCLUDED AMONG CODING OPTIONS.

IF RESPONDENT REPORTS POSITIVE EXPENDITURES IN Q8, GOTO Q9. OTHERWISE SKIP TO Q10.

IF COUNTY OF INTERCEPT=COUNTY OF RESIDENCE, SKIP TO Q10.

IF COUNTY OF INTERCEPT NE COUNTY OF RESIDENCE BUT COUNTY OF INTERCEPT AND COUNTY OF RESIDENCE ARE IN THE SAME STATE, ASK Q9a AND Q9b BUT NOT Q9c.
IF COUNTY OF INTERCEPT AND COUNTY OF RESIDENCE ARE IN DIFFERENT STATES, ASK Q9a, Q9b AND Q9c.
9. What percentage of the expenses that you just described were made:

| 9a. In [COUNTY OF INTERCEPT]? | ENTER \% (>=0,<=100) |
| :--- | :--- |
|  | Don't know 998 |
|  | Refused 999 |

IF Q9a RESPONSE =100, 998 OR 999, SKIP TO Q10.
9b. Outside [COUNTY OF INTERCEPT] but in [STATE OF INTERCEPT]? ENTER \% (<=100-Q9a RESPONSE)

Don't know 998
Refused 999

IF (Q9a RESPONSE + Q9b RESPONSE = 100) OR (Q9b RESPONSE EQ 998 OR 999), SKIP TO Q10.

9c. Outside [STATE OF INTERCEPT]? ENTER \% (=100-Q9a RESPONSE-Q9b RESPONSE)
Don't know 998
Refused 999
SKIP TO Q13. (Q10-Q12 TO BE ASKED ONLY IF INTERCEPTED TRIP WAS A ONEDAY TRIP, THAT IS, IF Q1 RESPONSE TO INTERCEPT ADD-ON WAS " 2 ".)
10. Did you take time off from work without pay in order to go fishing on [DATE OF INTERCEPT]?

| Yes | 1 |  |
| :--- | :--- | :--- |
| No | 2 | SKIP TO Q13. |
| Don't know | 8 | SKIP TO Q13. |
| Refused | 9 | SKIP TO Q13. |

11. About how many hours do you work per week?

ENTER NUMBER OF HOURS
Don't know 9998
Refused
9999

SKIP TO Q13.
SKIP TO Q13.
12. What is your personal annual income before taxes? (INTERVIEWER SHOULD BEGIN BY ASKING IF RESPONDENT'S INCOME FALLS INTO CATEGORY 3, THEN PROGRESSIVELY WORK WAY TOWARD LOWER/HIGHER INCOME CATEGORIES IF INCOME IS LESS/GREATER THAN PREVIOUS CATEGORY ASKED.)

| Less than $\$ 15,600$ | 1 |
| :--- | ---: |
| $\$ 15,600-\$ 31,199$ | 2 |
| $\$ 31,200-\$ 46,799$ | 3 |
| $\$ 46,800-\$ 62,399$ | 4 |
| $\$ 62,400-\$ 77,999$ | 5 |
| $\$ 78,000-\$ 93,599$ | 6 |
| $\$ 93,600-\$ 109,199$ | 7 |
| $\$ 109,200-\$ 123,799$ | 8 |
| $\$ 124,800-\$ 139,999$ | 9 |
| Greater than $\$ 140,00010$ |  |
| Don't know |  |
| Refused | 98 |
|  | 99 |

13. What type of saltwater fishing license did you have on [DATE OF INTERCEPT]? (CHECK ONE.)

## IF STATE OF INTERCEPT=CA:

Annual resident 1
One-day resident 2
Two-day resident 3
Annual non-resident 4
Two-day non-resident 5
Ten-day non-resident 6
IF STATE OF INTERCEPT=OR:
Annual resident 7
One-day resident 8
Annual non-resident 9
One-day non-resident 10
Seven-day non-resident 11

## IF STATE OF INTERCEPT=WA:

Annual resident 12
Two-day resident 13
Annual non-resident 14
Two-day non-resident 15

Other (please specify) $\qquad$
Don't know
98
Refused 99

## ANNUAL FISHING EQUIPMENT EXPENDITURES

Now I'm going to ask about saltwater recreational fishing equipment that you may have bought over the past 12 months.
14. Over the past 12 months, how much did you spend on the following items for yourself and others:

14a. Rods, poles, reels and components for rod making?
\$ $\qquad$
14b. Tackle (lures, hooks, leaders, sinkers, flies and fly-tying supplies, line, etc.)?
\$ $\qquad$
14c. Gear (tackle boxes, nets, bait containers, nets, knives, spears, etc.)? $\qquad$
14d. Total (ASK ONLY IF RESPONDENT UNABLE TO ITEMIZE) \$ $\qquad$
FOR Q14a-Q14d, DON'T KNOW=99998 and REFUSED=99999 SHOULD BE INCLUDED AMONG CODING OPTIONS.

IF RESPONDENT DOES NOT REPORT POSITIVE EXPENDITURES IN Q14, SKIP TO Q16.
15. What percentage of the fishing equipment expenses that you just described were made:

15a. In [COUNTY OF RESIDENCE]? ENTER \% (>=0,<=100)
Don't know 998
Refused 999
IF Q15a RESPONSE =100, 998 OR 999, SKIP TO Q16.
15b. Outside [COUNTY OF RESIDENCE] but in [STATE OF RESIDENCE]?

ENTER \% (<=100-Q15a RESPONSE)
Don't know 998
Refused 999
IF (Q15a RESPONSE + Q15b RESPONSE = 100) OR (Q15b RESPONSE EQ 998 OR 999), SKIP TO Q16.

15c. Outside [STATE OF RESIDENCE]? ENTER \% (=100-Q15a RESPONSEQ15b RESPONSE)<br>Don't know 998

Refused 999

## BOAT OWNERSHIP AND ANNUAL BOAT-RELATED EXPENDITURES

16. Do you or anyone in your household own a boat that is ever used for saltwater recreational fishing? (IF RESPONDENT OWNS MORE THAN ONE BOAT USED FOR SALTWATER RECREATIONAL FISHING, ASK ABOUT THE PRIMARY BOAT.)

| Yes | 1 |  |
| :--- | :--- | :--- |
| No | 2 | SKIP TO Q21. |
| Don't know | 8 | SKIP TO Q21. |
| Refused | 9 | SKIP TO Q21. |

17. Over the past 12 months, about what percentage of the boat's use was for saltwater recreational fishing?

ENTER PERCENTAGE (>=0, <=100)
Don't know 998
Refused 999

## IF Q17 RESPONSE=0, 998 OR 999, SKIP TO Q21.

18. How long is the boat?

## ENTER BOAT LENGTH (\# FEET)

Don't know 998
Refused 999

Now I'm going to ask about any boat-related expenses that you may have incurred over the past 12 months.
19. Over the past 12 months, how much did you personally spend on

19a. Purchase or loan payments for boat and boat accessories bought with the boat?
\$ $\qquad$
19b. Purchase or loan payments for boat accessories (new hull, motor, trailer/hitch, electronic devices, etc.) bought separately from the boat?
\$ $\qquad$
19c. Mooring, storage, maintenance, insurance, license and registration for boat and boat accessories?
\$ $\qquad$
19d. Total (ASK ONLY IF RESPONDENT UNABLE TO ITEMIZE) \$ $\qquad$
FOR Q19a-Q19d, DON'T KNOW=99998 and REFUSED=99999 SHOULD BE

## INCLUDED AMONG CODING OPTIONS.

## IF RESPONDENT DOES NOT REPORT POSITIVE EXPENDITURES IN Q19, SKIP TO

 Q21.20. What percentage of the annual boat-related expenses that you just described were made:

$$
\begin{array}{ll}
\text { 20a. In [COUNTY OF RESIDENCE]? } & \text { ENTER \% (>=0,<=100) } \\
& \text { Don't know } 998 \\
& \text { Refused } 999
\end{array}
$$

IF Q20a RESPONSE =100, 998 OR 999, SKIP TO Q21.
20b. Outside [COUNTY OF RESIDENCE] but in [STATE OF RESIDENCE]? ENTER \% (<=100-Q20a RESPONSE) Don't know 998 Refused 999

IF (Q20a RESPONSE + Q20b RESPONSE = 100) OR (Q20b RESPONSE EQ 998 OR 999), SKIP TO Q21.

20c. Outside [STATE OF RESIDENCE]? ENTER \% (=100-Q20a RESPONSEQ20b RESPONSE)
Don't know 998
Refused 999

## ANNUAL EXPENDITURES ON OTHER ITEMS

Now I'm going to ask about other miscellaneous expenses you may have incurred over the past 12 months primarily for saltwater recreational fishing (IF RESPONDENT ASKS, 'PRIMARILY" MEANS THAT MORE THAN 50\% OF THE ITEM'S USE IS FOR SALTWATER RECREATIONAL FISHING).
21. Over the past 12 months, how much did you spend for yourself and others for:

21a. Camping equipment used primarily for saltwater recreational fishing (sleeping bags, packs, tents, etc.)? $\qquad$
21b. Binoculars, field glasses, etc. used primarily for saltwater recreational fishing?
\$ $\qquad$
21c. Special saltwater fishing clothing (foul weather gear, boots, waders, masks, wetsuits, etc.)?
\$ $\qquad$
21d. Magazine, newspaper and electronic subscriptions devoted to saltwater recreational fishing?
\$ $\qquad$

21e. Dues or contributions to national, state or local recreational fishing clubs or organizations? \$ $\qquad$
21f. Total (ASK ONLY IF RESPONDENT UNABLE TO ITEMIZE) \$ $\qquad$
FOR Q21a-Q21f, DON'T KNOW=99998 and REFUSED=99999 SHOULD BE INCLUDED AMONG CODING OPTIONS.

## IF RESPONDENT DOES NOT REPORT POSITIVE EXPENDITURES IN Q21, SKIP TO Q23.

22. What percentage of the miscellaneous expenses that you just described were made:

| 22a. In [COUNTY OF RESIDENCE]? | $\begin{array}{ll}\text { ENTER \% } & (>=\mathbf{0},<=\mathbf{1 0 0}) \\ \text { Don't know } & 998 \\ \text { Refused } & 999\end{array}$ |
| :---: | :---: |
| IF Q22a RESPONSE =100, 998 OR 999, SKIP TO Q23. |  |
| 22b. Outside [COUNTY OF RESIDENCE] |  |
| but in [STATE OF RESIDENCE]? | ENTER \% (<=100-Q22a RESPONSE) |
|  | Don't know 998 |
|  | Refused 999 |

IF (Q22a RESPONSE + Q22b RESPONSE = 100) OR (Q22b RESPONSE EQ 998 OR 999), SKIP TO Q23.

22c. Outside [STATE OF RESIDENCE]? ENTER \% (=100-Q22a RESPONSEQ22b RESPONSE)
Don't know 998
Refused 999

## COST OF VEHICLES AND VACATION HOMES USED PRIMARILY FOR

 SALTWATER RECREATIONAL FISHINGNow I'm going to ask about purchases you may have made over the past 12 months for vehicles or vacation homes that you use primarily for saltwater recreational fishing (IF RESPONDENT ASKS, "PRIMARILY" MEANS THAT MORE THAN 50\% OF THE ITEMS' USE IS FOR SALTWATER RECREATIONAL FISHING).
23. Over the past 12 months, how much did you personally spend for:

23a. Purchase or loan payments for vehicles used primarily for saltwater recreational fishing (pickup, camper, RV, motor home, etc.)? \$ $\qquad$

23b. Insurance, repair and maintenance for vehicles used primarily for saltwater recreational fishing (pickup, camper, RV, motor home, etc.)?
\$ $\qquad$
23c. Purchase or loan payments for cabin or second home used primarily for saltwater recreational fishing?
\$ $\qquad$
23d. Insurance, repair and maintenance for cabin or second home used primarily for saltwater recreational fishing?
\$ $\qquad$
23e. Total (ASK ONLY IF RESPONDENT UNABLE TO ITEMIZE)
\$ $\qquad$
FOR Q23a-Q23e, DON'T KNOW=99998 and REFUSED=99999 SHOULD BE INCLUDED AMONG CODING OPTIONS.

## IF RESPONDENT DOES NOT REPORT POSITIVE EXPENDITURES IN Q23, SKIP TO Q25.

24. What percentage of the vehicle and housing expenses that you just described were made:

| 24a. In [COUNTY OF RESIDENCE]? | ENTER \% (>=0,<=100) |
| :--- | :--- |
|  | Don't know 998 |
|  | Refused 999 |

IF Q24a RESPONSE =100, 998 OR 999, SKIP TO Q25.
24b. Outside [COUNTY OF RESIDENCE]
but in [STATE OF RESIDENCE]? ENTER \% (<=100-Q24a RESPONSE)
Don't know 998
Refused 999

IF (Q24a RESPONSE + Q24b RESPONSE = 100) OR (Q24b RESPONSE EQ 998 OR 999), SKIP TO Q25.

24c. Outside [STATE OF RESIDENCE]? ENTER \% (=100-Q24a RESPONSE-
Q24b RESPONSE)
Don't know 998
Refused 999

## EXPENDITURE SHIFT PATTERNS

The next question is to determine how you would spend your money if you were to stop making saltwater recreational fishing trips in [COUNTY OF INTERCEPT].
25. Suppose that you decided-for whatever reason--to stop spending money for saltwater
recreational fishing in [COUNTY OF INTERCEPT]. Suppose you were considering whether to instead spend that money on saltwater recreational fishing outside of [COUNTY OF INTERCEPT], on freshwater fishing or on something unrelated to fishing.

25a. What percentage of the money that you currently spend on saltwater recreational fishing in [COUNTY OF INTERCEPT] would you spend instead on saltwater recreational fishing outside of [COUNTY OF INTERCEPT]?

ENTER \% (>=0, <=100) $\rightarrow$ Most likely county/state/country?

| Don't know | 998 | Don't know | 98 |
| :--- | :--- | :--- | :--- |
| Refused | 999 | Refused | 99 |

## IF Q25a RESPONSE =100, 998 OR 999, SKIP TO Q26.

25b. What percent would you spend on freshwater recreational fishing?

ENTER \% (<=100-Q25a RESPONSE) $\rightarrow$ Most likely county/state/country? $\qquad$
Don't know 998 Don't know 98
Refused 999
Refused 99

## IF (Q25a RESPONSE + Q25b RESPONSE = 100) OR (Q25b RESPONSE EQ 998 OR 999), SKIP TO Q26.

25 c . What percent would you spend on something other than fishing?
ENTER \% (=100-Q25a RESPONSE-Q25b RESPONSE) $\rightarrow$ Most likely county/ state/country?
Don’t know 998
Refused 999
Don't know 98
Refused 99

## DEMOGRAPHIC INFORMATION

These final questions are for statistical purposes, to help us be sure we've spoken with a random sample of anglers.
26. How many years of saltwater recreational fishing experience do you have?

ENTER NUMBER OF YEARS
Don't know 98
Refused 99
27. What is your household's annual income before taxes? (INTERVIEWER SHOULD BEGIN BY ASKING IF RESPONDENT'S INCOME FALLS INTO CATEGORY 3,

## THEN PROGRESSIVELY WORK WAY TOWARD LOWER/HIGHER INCOME CATEGORIES IF INCOME IS LESS/GREATER THAN PREVIOUS CATEGORY ASKED.)

| Less than $\$ 15,600$ | 1 |
| :--- | ---: |
| $\$ 15,600-\$ 31,199$ | 2 |
| $\$ 31,200-\$ 46,799$ | 3 |
| $\$ 46,800-\$ 62,399$ | 4 |
| $\$ 62,400-\$ 77,999$ | 5 |
| $\$ 78,000-\$ 93,599$ | 6 |
| $\$ 93,600-\$ 109,199$ | 7 |
| $\$ 109,200-\$ 123,799$ | 8 |
| $\$ 124,800-\$ 139,999$ | 9 |
| Greater than $\$ 140,00010$ |  |
| Don’t know |  |
| Refused | 98 |

Thank you for taking the time to participate in this survey.

## RECORD DATE OF TELEPHONE FOLLOW-UP INTERVIEW.

Appendix 3:-
Random Digit Dial
Household Add-on口
Survey Instrument ${ }^{\square}$

Appendix 3

## Pacific Coast-- Supplemental Economic Add-on Questionnaire Dated: February 2, 2000

## Section 1

For 1st non-refusing 2-month angler with in-state and/or out-of-state trips
Section 1 questions shall 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.
These questions will be asked regardless of whether state and county of trip is known.
Age:
Are you at least 16 years of age?
1 Yes
$2 \mathrm{No} / \mathrm{DK} / \mathrm{R}$
\{Ask the following questions if age $=1$; if age $=0$, skip these questions $\}$
Q2: On your most recent day of fishing, were you fishing for any particular kind of fish?
01 No particular species/fishing for anything
02 Display species list - refer to attached
98 Don't Know
99 Refused

Q2_A: Record second species targeted. Do not prompt for species.
Section 2
The following questions will come after all of the trip loop questions are asked, before transferring to the next fisher/terminating the call.
If state and county of trip is not known, skip to Q9
Q3:For this 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 an overnight stay away from home? [Interviewer- One-day fishing trips involving departure of a boat from port on the night before fishing occurred should not be considered an "overnight stay away from home" unless the angler spent additional nights away from home.]
1 Yes
2 No
8 DK
9 Refused
\{If No, DK or Refused, respondents will skip to Q5\}
Q4:How many nights were you away from home on that trip?
[Interviewer - as needed: Remember, we're talking about the first fishing trip you told me about, which was on \{restore month and day\}.]
1 record response
\{range is 1 to 365 \}
998 DK
999 Refused

Q5:Including yourself, how many people traveled together on that trip?
1 record response
$\{$ if $\mathrm{Q} 5=1$, set indiv=1\}\{range is 1 to 50$\}$
98 Don't Know
99 Refused
\{if response $=1$, respondents will skip to Q7, \}
Q6:Including yourself, how many of the [display Q5 response] people who traveled together actually fished during the trip?

1 record response $\quad\{$ range is <= Q5 response $\}\{$ if Q6 response $=1$, set indiv=1\}
98 Don't Know
99 Refused
Q7: $\{$ If indiv=1 this question will be displayed as:
Now I'd like to ask you about the amount of money that you spent for your entire trip away from home, not just the time spent fishing, in each of the following categories:
\{If indiv=0 this question will be displayed as:
Now I'd like to ask you about the amount of money spent for the entire trip away from home, not just the time spent fishing. For each expenditure category that I mention, please estimate either your own personal expenses or the expenses for your entire group, whichever is easier for you to remember. If you prefer to report your personal expenses, please include your expenses only, regardless of who paid them, and please don't include expenses that you might have paid for anyone else on that trip.
\{If Q3 response is $2,8,9$, indicating no overnight trip or $\mathrm{dk} /$ ref, respondents will skip to Q7B \}
Q7A:On your most recent trip how much was spent for:
Lodging at motels, cabins, lodges, or campgrounds?
[Interviewer - as needed: Remember, we're talking about the first fishing trip you told me about, which was on \{restore month and day\}.
Please be sure to include lodging expenses incurred during the entire trip away from home including time spent traveling, fishing or engaging in non-fishing activity.
1 zero/nothing \{skip to Q7B \}
2 record amount spent
\{range is 1 to 9999 \}
99998 DK \{skip to Q7B \}
99999 R \{skip to Q7B \}
$\{$ This question will be asked if indiv $=0$ \}
Q7A_BY:And was that your individual expense or the group's expenses?
1 Individual

## 2 Group

Q7B:On your most recent trip how much was spent for:
Food, drink and refreshments?
[Interviewer - as needed: Remember, we're talking about the first fishing trip you told me about, which was on \{restore month and day\}. Please be sure to include expenses incurred during the entire trip away from home, including time spent traveling, fishing or engaging in nonfishing activity.]

1 zero/nothing \{skip to Q7C \}
2 record amount spent
\{range is 1 to 999 \}
99998 DK \{ skip to Q7C $\}$
99999 R \{skip to Q7C \}
$\{$ This question will be asked if indiv=0\}
Q7B_BY:
And was that your individual expense or the group's expenses?
1 Individual
2 Group

Q7C:On your most recent trip how much was spent for:
Bait and ice?
[Interviewer - as needed: Remember, we're talking about the first fishing trip you told me about, which was on \{restore month and day\}. Please be sure to include expenses incurred for all the fishing done during the entire trip away from home.]
1 zero/nothing \{skip to Q7D \}
2 record amount spent
\{range is 1 to 999 \}
99998 DK \{skip to Q7D $\}$
99999 R \{skip to Q7D \}
$\{$ This question will be asked if indiv $=0$ \}
Q7C_BY:And was that your individual expense or the group's expenses?
1 Individual
2 Group
\{If mode is not private/rental, respondents will skip to Q7E \}
Q7D:On your most recent trip how much was spent for:
Boat fuel used on the trip? (Please estimate the dollar amount of fuel you consumed on the trip, not just the amount you purchased.)
[Interviewer - as needed: Remember, we're talking about the first fishing trip you told me about, which was on \{restore month and day\}. Please be sure to include expenses incurred during the entire trip away from home, including time spent in non-fishing as well as fishing activity.]

1 zero/nothing \{skip to Q7E \}
2 record amount spent
\{range is 1 to 999 \} 99998 DK \{skip to Q7E $\}$

99999 R \{skip to Q7E $\}$
$\{$ This question will be asked if indiv $=0$ \}
Q7D_BY:And was that your individual expense or the group's expenses?
1 Individual
2 Group
\{If mode is not party/charter, respondents will skip to Q7F \}

Q7E:On your most recent trip how much was spent for:
Passenger fees, tips, filleting/smoking/canning?
[Interviewer - as needed: Remember, we're talking about the first fishing trip you told me about, which was on \{restore month and day\}. Please be sure to include expenses incurred for all the fishing done during the entire trip away from home.]
1 zero/nothing \{skip to Q7F \}
2 record amount spent
\{range is 1 to 999 \}
99998 DK \{skip to Q7F \}
99999 R \{skip to Q7F \}
\{This question will be asked if indiv $=0$ \}
Q7E_BY:And was that your individual expense or the group's expenses?
1 Individual
2 Group
\{This question will be asked if Q7A through Q7E are all don't know or refused\}
Q7F:Could you estimate the total amount that was spent for the trip?
[Interviewer - as needed: Remember, we're talking about the first fishing trip you told me about,
which was on \{restore month and day\}. Please be sure to include expenses incurred during the entire trip away from home, including time spent traveling, fishing or engaging in non-fishing activity.]
1 zero/nothing \{skip to Q8\}
2 Record Amount
\{Range 1 to 99995 \}
99998 DK \{ skip to Q8\}
99999 R \{skip to Q8\}
$\{$ This question will be asked if indiv $=0$ \}
Q7F_BY:And was that your individual expense or the group's expenses?
1 Individual
2 Group
\{If Q7A+Q7B+Q7C+Q7D+Q7E+Q7F sum to 0 , respondents will skip to Q 9$\}$
Q8: What percentage of the total trip expenses that you just described were made in \{restore county of trip\}?
[INTERVIEWER: Obtain the percent of expenditures made in \{restore county of trip\}].
1 record \%
\{range is 0 to 100\}
998 DK
999 R
$\{$ If Q8 $=100,998,999$, respondents will skip to Q 9$\}$
Q8B: What percentage of the total trip expenses that you just described were made outside \{restore county of trip\} but in \{restore state of trip\}?
1 record \% $\quad$ \{range is $<=100-\mathrm{Q} 8$ response $\}$
998 DK
999 R

Q9 Now, I'm going to ask about saltwater recreational fishing equipment that you may have bought over the past 12 months.

Q9A: Over the last 12 months, how much did you spend on the following items for yourself and others?
Rods, poles, reels, and components for rod making?
[Prompt as needed: To the nearest dollar, what is the value of these items that you bought during the last 12 months.]
1 record response
\{range is 0 to 9999 \}
99998 DK
99999 R

Q9B: Tackle (lures, hooks, leaders, sinkers, flies, fly-tying supplies, line, etc)?
[Prompt as needed: To the nearest dollar, what is the value of these items that you bought during the last 12 months.]
1 record response
\{range is 0 to 9999 \}
99998 DK
99999 R
\{This question will be asked if Q9A and Q9B are both don't know or refused \}
Q9C. Could you estimate the total amount that was spent on these items?
[Prompt as needed: To the nearest dollar, what is the value of these items that you bought during the last 12 months.]
1 record response
\{range is 0 to 99995 \}
99998 DK
99999 R
\{If Q9A+Q9B+Q9C sum to zero, respondents will skip to Q11\}
Q10 What percentage of the annual expenses that you just described were made in \{restore county of residence\}?
[Items include: Rods, poles, reels, components for rod making, and tackle (lures, hooks, leaders, sinkers, flies, fly tying supplies, line)?
1 record \%
\{range is 0 to 100 \}
998 DK
999 R
f Q10 $=100,998$, or 999 , respondents will skip to Q11 \}

Q10B:What percentage of the annual expenses that you just described were made outside \{restore county of residence \} but in \{restore state of residence\}?
[Items include: Rods, poles, reels, components for rod making, and tackle (lures, hooks, leaders, sinkers, flies, fly tying supplies, line)?]
1 record \%
$\{$ range is $<=100-Q 10\}$
998 DK
999 R

Q11:Do you personally own a boat that was used for saltwater recreational fishing over the past 12
months?
[Interviewer: If the respondent owns more than one boat that is used for saltwater fishing, ask about the boat that is used the most.]
1 Yes
2 No
8 DK
9 R
$\{$ If $\mathrm{Q} 11=2,8$, or 9 , respondents will skip to Q 14$\}$
Q12:Over the past 12 months, how much did you personally spend on mooring, storage, maintenance, insurance, license and registration for the boat and on boat accessories (electronic devices, trailer hitch, etc.)?
1 record amount spent
\{Range 0 to 99995 \}
99998 DK
99999 R
\{This question will be asked if Q12 response is a positive value \}
Q13: What percentage of the boat expenses that you just described were made in \{restore county of residence\}?
1 record \%
\{range is 0 to 100 \}
998 DK
999 R
\{If $\mathrm{Q} 13=100,998$ or 999 , respondents will skip to Q 14$\}$
Q13B:What percentage of the boat expenses that you just described were made outside \{restore county of residence\} but in \{restore state of residence\}?
1 record \%
\{range is $<=100-$ Q13 \}
998 DK
999 R

Q14: Now I'm going to ask about other miscellaneous expenses you may have incurred over the past 12 months primarily for saltwater recreational fishing.
[Interviewer : If respondent asks, "primarily" means that more than $50 \%$ of the item's use is for
saltwater recreational fishing.]
Q14A:Over the past 12 months, how much did you spend for yourself and others for:
Special saltwater fishing clothing (foul weather gear, boots, waders, masks, wetsuit, etc.)?
1 record amount
\{Range 0 to 999 \}
99998 DK
99999 R

Q14B:Over the past 12 months, how much did you spend for yourself and others for:
Magazine, newspaper and electronic subscriptions devoted to saltwater recreational fishing? 1 record amount
\{Range 0 to 999 \}
99998 DK
99999 R
Q14C:Over the past 12 months, how much did you spend for yourself and others for:
Dues or contributions to national, state or local recreational fishing clubs or organizations?
1 record amount
\{Range 0 to 999 \}
99998 DK
99999 R
\{This question will be asked if Q14A through Q14C are all don't know or refused\}
Q14D. Could you estimate the total amount that you spent on these items over the past 12 months for yourself and others?
1 record response
\{range is 0 to 99995 \}
99998 DK
99999 R
\{If Q14A, Q14B, Q14C, Q14D sum to zero, respondents will skip to the end \}
Q15: What percentage of the annual miscellaneous expenses that you just described were made in \{restore county of residence\}?
1 record \%
\{range is 0 to 100 \}
998 DK
999 R
$\{$ If $\mathrm{Q} 15=100,998$ or 999 , respondents will skip to the end \}
Q15B:What percentage of the annual miscellaneous expenses that you just described were made in \{restore county of residence\} but in \{restore state of residence\}? 1 record \%
$\{$ range is $<=100-\mathrm{Q} 15$ \}
998 DK
999 R


[^0]:    * indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.

[^1]:    * indicates standard error based on < 10 observations. If the cell is missing (.) and has an asterisk, only one observation was available.

[^2]:    ${ }^{1}$ Southeast party boat mode expenditures are not included, as data for this mode is collected in a separate survey. $\square$
    ${ }^{2}$ Because Bait and Ice expenditures were reported in separate categories in the Northeast and Southeast, they were combined to conform $\square$ with the single category reported on the Pacific Coast.
    ${ }^{3}$ Pacific Coast non-resident expenditures are not included in this total because the Pacific Coast survey did not collect information regarding $\square$ the amount of these goods purchased in the state of intercept.
    ${ }^{4}$ The Pacific Coast survey included an additional category called "Gear" that was a subset of the items included in "Other Tackle" in the $\square$ Northeast and Southeast surveys. Therefore, "Gear" and "Other Tackle" categories were summed for the Pacific Coast. $\square$
    ${ }^{5}$ These expenditure categories were not collected on the Pacific Coast. $\square$
    ${ }^{6}$ License Fee expenditures were not collected in the Northeast Survey. $\square$
    ${ }^{7}$ The Pacific Coast survey included an additional category called "Boat Accessories" that was a subset of the items included in "Power Boat Purchases" in the Northeast and Southeast surveys. Therefore, these categories were summed for the Pacific Coast.
    ${ }^{8}$ Both of these maintenance categories were only collected on the Pacific Coast.

