

NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

Diana Hynek  
Departmental Paperwork Clearance Officer  
Office of the Chief Information Officer  
14th and Constitution Ave. NW.  
Room 6625  
Washington, DC 20230

09/20/2005

In accordance with the Paperwork Reduction Act, OMB has taken the following action on your request for the extension of approval of an information collection received on 11/19/2004.

TITLE: Marine Recreational Fisheries Statistics Survey

AGENCY FORM NUMBER(S): None

ACTION : APPROVED WITH CHANGE

OMB NO.: 0648-0052

EXPIRATION DATE: 09/30/2008

BURDEN:	RESPONSES	HOURS	COSTS(\$,000)
Previous	770,504	34,887	0
New	875,375	43,934	0
Difference	104,871	9,047	0
Program Change		9,047	0
Adjustment		0	0

TERMS OF CLEARANCE:

This package of surveys is approved with the following conditions: All race and ethnicity questions must conform to OMB's 1997 standards, including the use of two separate questions and the instruction to select one or more race. Future submissions under this OMB Control Number must include an analysis of nonresponse for each survey and a discussion of sources of nonresponse bias and techniques uses to correct or analyze the bias. The next submission should include an analysis of the use of RDD and a comparison against the use of permit rosters as a sampling frame.

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OMB Authorizing Official	Title
Donald R. Arbuckle	Deputy Administrator, Office of Information and Regulatory Affairs

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# PAPERWORK REDUCTION ACT SUBMISSION

**Please read the instructions before completing this form. For additional forms or assistance in completing this form, contact your agency's Paperwork Clearance Officer. Send two copies of this form, the collection instrument to be reviewed, the supporting statement, and any additional documentation to: Office of Information and Regulatory Affairs, Office of Management and Budget, Docket Library, Room 10102, 725 17th Street NW, Washington, DC 20503.**

1. Agency/Subagency originating request	2. OMB control number <span style="float: right;">b. <input type="checkbox"/> None</span> a. _____ - _____
3. Type of information collection ( <i>check one</i> ) a. <input type="checkbox"/> New Collection b. <input type="checkbox"/> Revision of a currently approved collection c. <input type="checkbox"/> Extension of a currently approved collection d. <input type="checkbox"/> Reinstatement, without change, of a previously approved collection for which approval has expired e. <input type="checkbox"/> Reinstatement, with change, of a previously approved collection for which approval has expired f. <input type="checkbox"/> Existing collection in use without an OMB control number For b-f, note Item A2 of Supporting Statement instructions	4. Type of review requested ( <i>check one</i> ) a. <input type="checkbox"/> Regular submission b. <input type="checkbox"/> Emergency - Approval requested by _____ / _____ / _____ c. <input type="checkbox"/> Delegated
	5. Small entities Will this information collection have a significant economic impact on a substantial number of small entities? <input type="checkbox"/> Yes <input type="checkbox"/> No
	6. Requested expiration date a. <input type="checkbox"/> Three years from approval date b. <input type="checkbox"/> Other Specify: _____ / _____
7. Title	
8. Agency form number(s) ( <i>if applicable</i> )	
9. Keywords	
10. Abstract	
11. Affected public ( <i>Mark primary with "P" and all others that apply with "x"</i> ) a. ___ Individuals or households d. ___ Farms b. ___ Business or other for-profit e. ___ Federal Government c. ___ Not-for-profit institutions f. ___ State, Local or Tribal Government	12. Obligation to respond ( <i>check one</i> ) a. <input type="checkbox"/> Voluntary b. <input type="checkbox"/> Required to obtain or retain benefits c. <input type="checkbox"/> Mandatory
13. Annual recordkeeping and reporting burden a. Number of respondents _____ b. Total annual responses _____ 1. Percentage of these responses collected electronically _____ % c. Total annual hours requested _____ d. Current OMB inventory _____ e. Difference _____ f. Explanation of difference 1. Program change _____ 2. Adjustment _____	14. Annual reporting and recordkeeping cost burden ( <i>in thousands of dollars</i> ) a. Total annualized capital/startup costs _____ b. Total annual costs (O&M) _____ c. Total annualized cost requested _____ d. Current OMB inventory _____ e. Difference _____ f. Explanation of difference 1. Program change _____ 2. Adjustment _____
15. Purpose of information collection ( <i>Mark primary with "P" and all others that apply with "X"</i> ) a. ___ Application for benefits e. ___ Program planning or management b. ___ Program evaluation f. ___ Research c. ___ General purpose statistics g. ___ Regulatory or compliance d. ___ Audit	16. Frequency of recordkeeping or reporting ( <i>check all that apply</i> ) a. <input type="checkbox"/> Recordkeeping b. <input type="checkbox"/> Third party disclosure c. <input type="checkbox"/> Reporting 1. <input type="checkbox"/> On occasion 2. <input type="checkbox"/> Weekly 3. <input type="checkbox"/> Monthly 4. <input type="checkbox"/> Quarterly 5. <input type="checkbox"/> Semi-annually 6. <input type="checkbox"/> Annually 7. <input type="checkbox"/> Biennially 8. <input type="checkbox"/> Other (describe) _____
17. Statistical methods Does this information collection employ statistical methods <input type="checkbox"/> Yes <input type="checkbox"/> No	18. Agency Contact (person who can best answer questions regarding the content of this submission)  Name: _____ Phone: _____

## 19. Certification for Paperwork Reduction Act Submissions

On behalf of this Federal Agency, I certify that the collection of information encompassed by this request complies with 5 CFR 1320.9

**NOTE:** The text of 5 CFR 1320.9, and the related provisions of 5 CFR 1320.8(b)(3), appear at the end of the instructions. *The certification is to be made with reference to those regulatory provisions as set forth in the instructions.*

The following is a summary of the topics, regarding the proposed collection of information, that the certification covers:

- (a) It is necessary for the proper performance of agency functions;
- (b) It avoids unnecessary duplication;
- (c) It reduces burden on small entities;
- (d) It used plain, coherent, and unambiguous terminology that is understandable to respondents;
- (e) Its implementation will be consistent and compatible with current reporting and recordkeeping practices;
- (f) It indicates the retention period for recordkeeping requirements;
- (g) It informs respondents of the information called for under 5 CFR 1320.8(b)(3):
  - (i) Why the information is being collected;
  - (ii) Use of information;
  - (iii) Burden estimate;
  - (iv) Nature of response (voluntary, required for a benefit, mandatory);
  - (v) Nature and extent of confidentiality; and
  - (vi) Need to display currently valid OMB control number;
- (h) It was developed by an office that has planned and allocated resources for the efficient and effective management and use of the information to be collected (see note in Item 19 of instructions);
- (i) It uses effective and efficient statistical survey methodology; and
- (j) It makes appropriate use of information technology.

If you are unable to certify compliance with any of the provisions, identify the item below and explain the reason in Item 18 of the Supporting Statement.

Signature of Senior Official or designee

Date

Agency Certification (signature of Assistant Administrator, Deputy Assistant Administrator, Line Office Chief Information Officer, head of MB staff for L.O.s, or of the Director of a Program or StaffOffice)

Signature

Date

Signature of NOAA Clearance Officer

Signature

Date

**REVISED SUPPORTING STATEMENT  
MARINE RECREATIONAL FISHERY STATISTICS SURVEY  
OMB CONTROL NO. 0648-0052**

**A. JUSTIFICATION**

**1. Explain the circumstances that make the collection of information necessary.**

Collection of these data is necessary to fulfill statutory requirements of Section 303 of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1852 *et. seq.*; Attachment 10) and to comply with Executive Order 12962 on Recreational Fisheries (Attachment 11). Section 303 (a) of the Magnuson-Stevens Act specifies data and analyses to be included in Fishery Management Plans (FMPs), as well as pertinent data that shall be submitted to the Secretary of Commerce under the plan.

In the past, it was thought that commercial fisheries took the greater part of the fishery catch in the marine waters of the United States. However, most species of fish in estuarine and inshore areas, as well as in many open ocean waters, are harvested by both commercial and recreational fishermen. Recent data indicate that catches by the marine recreational fishery are a significant portion of the total landings of many marine species. Therefore, it is essential to monitor both the commercial and recreational components of the fishery on a continuing basis.

This request includes several data collection components for the Marine Recreational Fisheries Statistics Program. These are detailed in answer #12 below. The Marine Recreational Fisheries Statistics Survey (MRFSS) makes up the core of the Agency's recreational fishery data collection efforts. Implementation of the new components and sampling levels for the previously approved survey components will depend on fiscal year funding.

**2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.**

The data are used annually by NMFS, regional fishery management councils, interstate marine fisheries commissions, and state fishery agencies in developing, implementing and monitoring fishery management programs. Failure to conduct these data collections would prevent the Secretary from meeting statutory requirements of the Magnuson-Stevens Act of 1996.

Catch and effort statistics are fundamental for assessing the influence of fishing on any stock of fish. The quantities taken, the fishing effort, and both the seasonal and geographic distributions of the catch and effort are required for the development of regional management policies and plans. Social and economic data are used to provide descriptive and behavioral information on marine recreational fishing participants; provide estimates of the value of important recreational fisheries;

analyze fisheries management decisions regarding allocation, changes in management strategies or changes in factors that affect catch rates and/or access to marine recreational species for fishing sites; estimate the contribution of recreational fisheries to regional economies; and estimate the impact of fisheries regulations on regional economies. In addition to the need for data on recreational anglers, fisheries management requires cost-earnings on the charter boat fleet.

Accurate and timely catch statistics collected over the range of a species must be used in association with biological studies to perform the stock assessments necessary for monitoring the effectiveness of fishery management planning for optimum yield. Several fish species are now being managed under FMP quota systems that include recreational fishery components. For example, this collection has been the key source of data used to monitor recreational quotas for the harvest of red snapper, king mackerel and Spanish mackerel in the Southeast Region. This collection provides coastwide information on quantity, species composition, and size distribution of catch. Such information is not available from any other source. For example, catch distributions and harvested size distributions obtained in this data collection have formed the basis of FMPs developed for bluefish, red drum, red snapper, summer flounder, weakfish, winter flounder, and other key species targeted by the marine recreational fishery.

It is anticipated that the information collected will be disseminated to the public or used to support publicly disseminated information. As explained in the preceding paragraphs, the information gathered has utility. NOAA Fisheries will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. See response #10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

**3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.**

The methodological approach for the MRFSS has been developed and refined over 23 years, employing the experience of NMFS statisticians and contractors in statistical sampling and survey methods. State-of-the-art interviewing methods have been used to minimize response times. Most of the proposed data collections require interviewer-mediated reporting of data by respondents in order to minimize item non-response and maximize accuracy of the collected data and statistics estimated from those data. Proposed telephone surveys require use of computer-assisted telephone interviewing (CATI) methods that greatly reduce response errors and data entry errors.

The For-Hire Survey (FHS), a vessel directory telephone survey of for-hire representatives, allows two alternate response options on the Atlantic Coast. Along with their advance notification, vessel representatives receive a 7-digit Personal Identification Number (PIN) and a logsheet to assist them in recording their data for their fishing week. They can either wait for a phone call to retrieve their

information, fax in the their logsheet to a toll-free number, or use their PIN to logon and complete the questionnaire online. The logsheet and web tool mirror the CATI program, and are only used as additional response options to accommodate the schedule of for-hire captains during their reporting week.

#### **4. Describe efforts to identify duplication.**

NMFS has the lead Federal responsibility for collection of data from marine recreational fishermen and coordinates marine recreational fishing informational needs with other agencies. For example, in 1987 NMFS coordinated an economic study of marine recreational anglers on the Atlantic Coast with the Environmental Protection Agency. Also NMFS has worked with State fishery agencies each year to coordinate data collection efforts and avoid duplication. In some cases, NMFS employs State personnel under contract to conduct field interviewing. The Survey is not conducted in Texas, since existing Texas-sponsored surveys provide the information that would have been obtained by NMFS.

Specialized NMFS data collections, such as the Large Pelagics Survey (LPS), which obtains information on recreational catch of large pelagic species, such as tunas, billfishes and pelagic sharks, overlap to a minor extent with the MRFSS and its related data collections. Such overlap with the Coastal Household Telephone Survey (CHTS) and its related catch component is minimal because the MRFSS is designed to cover marine recreational fishing for all finfish species. Contacts with anglers who fished for large pelagic species are relatively rare in these samples, however, anglers who fish for large pelagic species are not excluded from the MRFSS sampling because representative sampling of their fishing trips in relation to other marine recreational angler fishing trips is necessary to avoid biasing catch estimates for any given species.

When NMFS began fielding of the FHS on the Atlantic coast in 2003 however, we anticipated a more substantial overlap in the for-hire fishery. Since the LPS telephone survey relies on a list of permit holders, we knew that many for-hire captains might be contacted twice to report. As a result, the effort portion of the LPS for charter permit holders was folded into the FHS. During the June-November LPS fielding period, vessel representatives contacted for the FHS are asked additional LPS questions if they hold a current charter category Highly Migratory Species (HMS) permit. A logsheet and webtool are also used during this period as additional response options.

In some states, NMFS has required anglers to report their catches of Atlantic bluefin tuna for the purpose of real-time quota monitoring. Although that data collection overlaps to a minor extent with the MRFSS, it does not collect information on the other finfish species caught on bluefin tuna fishing trips. That specialized data collection places a priority on obtaining up-to-date catch information on only one species. On the other hand, the MRFSS is designed to obtain accurate marine recreational fishery catch information for all finfish species. Therefore, the minimal overlap is necessary.

**5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.**

Charter and party boat businesses are respondents in the FHS, a coast-wide vessel directory telephone survey of fishing effort by the charter and party boat recreational fisheries. The survey instrument is restricted in length to minimize response time per interview, and randomized sampling distributes both telephone and intercept reporting burdens randomly among individual charter or party boat operators.

Advance notification is sent to selected respondents, alerting them that they have been randomly selected for an interview and letting them know when they will be contacted. Included with the pre-contact letter is a logsheet to record their data, and a webcard, with a website address and 7-digit Personal Identification Number (PIN). Captains are not required to use the logsheet, but it lets them know exactly what information they will be asked for as part of the survey. They have the option of faxing in their logsheet to a toll-free fax number, or using their assigned PIN to logon to a password protected website to report their data online. Interviewed charter or party boat operators are also asked at the conclusion of their interview to specify preferred calling times which will be used for future contact attempts to minimize disruption of their daily activities. State-of-the-art CATI methods are also used to minimize response times.

**6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.**

An annual survey of recreational anglers is required to monitor changing conditions in the fishery and support modifications in fishery regulations for each fishing year. A continuous time series of data is scientifically essential. Start up costs in hiring and training of interviewers and in overhauling of the site selection frame for biannual surveys would greatly exceed the budgeted amount for the Survey, and reduce funds available to collect sufficient interviews to meet statistical objectives.

**7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.**

The collection is consistent with OMB guidelines.

**8. Provide a copy of the PRA Federal Register notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.**



A Federal Register Notice (Attachment 12) solicited public comment on this renewal. One comment was received regarding the frequency of the data collection.

Comment: US DOC NOAA ID 061804g - Information Collection – Marine Recreational Statistics

When is the marine industry, which profits from use of these statistics, going to be charged with paying for this kind of information collection? The general American taxpayer is already overburdened with paying for everything else in the world and doesn't need this added burden. I oppose and object to this information collection. This seems to be a completely wasteful activity.

Even if it was done, why every year? Certainly every 5 years would be more than often enough. License sales also could be used to tell the story. License every boat and get a fee. After all if you can afford to buy a boat, you can afford to pay for a license.

Response: The commenter questioned the use of taxpayer money to fund the survey and the frequency of the data collection. Law mandates our collection of marine recreational fishing data and the required frequency. Collection of these data is necessary to fulfill statutory requirements of Section 303 of the Magnuson-Stevens Fishery Conservation and Management Act, and Executive Order 12962 on Recreational Fisheries.

The commenter also recommended that the marine industry pay for the information collection, or that license sales be used to somehow estimate participation in the fishery. There is not currently a national license requirement either for recreational anglers, or boat owners, that would allow for such an estimate. Many states do not have license requirements, and therefore, a pool of eligible anglers cannot be established. The methodological approach for the MRFSS has been developed and refined over 23 years, employing the experience of NMFS statisticians and contractors in statistical sampling and survey methods. It is the approved method for estimating marine recreational catch and effort by every regional council, interstate commission and participating state.

Consultations with other Federal and State agencies occur continuously throughout the survey year. Regional Councils, Interstate Marine Fisheries Commissions and the Marine Fishery Advisory Committee (a Federally-chartered advisory group) receive regular briefings on the MRFSS and make recommendations as appropriate. In addition, in 2004 the MRFSS team hosted its first annual Constituent Data Review, to allow stakeholders to ask questions about the MRFSS program, learn how the data is used to create annual estimates of landings, and discuss ongoing concerns with the various data collections. Because all participants deemed the two-day meeting a great success, NMFS plans to hold an annual review every spring prior to the release of final estimates.

Individual respondents are provided with the name and telephone number of the MRFSS team leader if they wish to comment or receive additional information. Attachment 1 includes statements of mean individual response times that are given to potential survey respondents in accordance with OMB requirements.

**9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.**

No payments or gifts to respondents are given under this program.

**10. Describe any assurance or confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.**

Responses are kept confidential as required by section 402(b) of the Magnuson-Stevens and NOAA Administrative Order 216-100, Confidentiality of Fisheries Statistics, and will not be released for public use except in aggregate statistical form without identification as to its source. Section 402(b) stipulates that data required to be submitted under an FMP shall be confidential and shall not be released except to Federal employees and Council staff responsible for FMP monitoring and development or when required under court order. Data such as personal addresses and phone numbers will remain confidential.

**11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.**

No sensitive questions are asked.

**12. Provide an estimate in hours of the burden of the collection of information.**

- (a) **Coastal Household Telephone Survey** (i.e. base telephone survey) Based on previously approved sampling targets for the Northeast, Southeast, Pacific, Western Pacific, and Caribbean Regions.

	Persons	Contacts	Mean Time (min.)	Total Time (min.)
Non-households	72,354	72,354*	0.5	36,177
Non-fishing Households	375,833	375,833	1.0	375,833
Fishing Households	49,542***	34,167**	7.0	346,794
TOTALS	497,729	482,354		758,804 (12,647 hrs.)

\* About 15 percent of all random-digit-dialing contacts are expected to be non-household contacts. The other 85 percent are expected to be residential households. Therefore, 72,354 non-household contacts are expected in order to achieve the sampling goal of 410,000 household contacts. About 15 percent of all random-digit-dialing contacts are expected to be non-household contacts. The other 85percent are expected to be residential households. Therefore, 70,589 non-

household contacts are expected in order to achieve the sampling goal of 400,000 household contacts.

\*\* An estimated 8.3335 percent of the targeted 410,000 household contacts are expected to be with households whose residents fished within the last two months.

\*\*\* Contacted fishing households are expected to have an average of 1.45 anglers who will be interviewed to collect fishing effort data.

**(b) Longitudinal Sampling for Coastal Household Telephone Survey** (i.e. base telephone survey) Based on recontact of identified anglers in a) CHTS who agree to participate in additional interviews.

	Persons*	Contacts	Mean Time (min.)	Total Time (min.)
Fishing Households**	0	37,500	7.0	262,500
TOTALS	0	37,500		262,500 (4,375 hrs.)

\* No new persons since these are recontacts of identified fishing households.

\*\* Assumes sampling in four states in pilot year, resulting in 10,000 contacts; and 1.5 times the expected sample of fishing households (34,167) in a) CHTS in subsequent years.

**(c) Directory Frame Telephone Survey of licensed marine recreational anglers** (Revision based on conduct coastwide.) Angler license-frame surveys will be conducted in CA, WA, OR in 2005 to collect effort data from licensed anglers on the Pacific Coast.

	Persons	Contacts	Mean Time (min.)	Total Time (min.)
Anglers with no trips*	9,600	9,600	1.0	9,600
Anglers with trips	6,400	6,400	6.0	38,400
TOTALS	16,000**	16,000		48,000 (800 hrs.)

\* Based on 40 percent of anglers having trips during last two months.

\*\* Based on sample sizes of 10,000 in California, 3,000 in Washington and 3,000 in Oregon.

- (d) **Base intercept survey of catch per unit fishing effort** (Revised based on incorporation of previously approved Caribbean and Western Pacific intercept survey sampling and increased sampling targets for the Northeast, Southeast, Pacific, Western Pacific, and Caribbean Regions.)

	Persons	Contacts	Mean Time (min.)	Total Time (min.)
Intercept Interviews	153,000	153,000	4.5	688,500
Verification Calls (10 percent)	0	15,300	1.5	22,950
<b>TOTALS</b>	153,000	168,300		711,450 (11,858 hrs.)

- (e) **For-Hire Survey of angler fishing effort on headboats, partyboats, and charter boats** in the Northeast, Southeast, Caribbean, Pacific, and Western Pacific Regions.

	Party/Charter Boat Representatives	Party/Charter Boat Representative Contacts	Mean Time (min.)	Total Time (min.)
Telephone Interviews	8,500	44,200	7.0	309,400 (5,157 hrs.)

\* Based on vessel frames of 4,500 in Northeast, 2,500 in the Gulf, 1,000 in the Pacific, 300 in Western Pacific and 200 in the Caribbean regions, and a 10 percent weekly sample in each region, across 52 weeks.

- (f) **Maintenance of telephone/address directories of headboats, partyboats, and charter boats** at previously approved levels.

	Boat Representatives	Mean Time (min.)	Total Time (min.)
Telephone Interviews	5,000	2.0	10,000 (167 hrs.)

- (g) **Extension of base telephone survey to collect economic data** once every three years in Northeast, Southeast, Pacific, Western Pacific, and Caribbean Regions (Revision based on sample size increases needed for improved precision on economic statistics.)

	Persons	Mean Time (min.)	Annual Frequency	Total Time (min.)
Non-Fishing Households	32,633*	3.0	1/3 yrs	32,633
Fishing Households	29,667	3.0	1/3 yrs	29,667
TOTALS	62,300			62,300 (1,038 hrs.)

\* Based on 10 percent sampling of estimated 326,332 non-fishing households contacted by Base Telephone Survey in Northeast, Southeast, Pacific, Western Pacific, and Caribbean Regions.

- (h) **Extension of base intercept survey to collect economic data.** Annual collection of minimal economic data through extended interviews of intercepted anglers and collection of more detailed data through follow-up telephone interviews once every three years in Northeast and Southeast Regions. This survey will periodically be used to develop a sample frame for j) Follow-up economic mail survey in the Northeast, Southeast, Western Pacific, and Caribbean Regions. (Revision based on sample size increases needed for improved precision on economic statistics.)

	Persons	Contacts (Eligible Anglers)	Mean Time (min.)	Annual Frequency	Total Time (min.)
Extended Intercept Interviews	0	104,500*	1.0	1/yr	104,500
Follow-Up Telephone Interviews	0	38,500**	7.0	1/3 yrs	89,833
TOTALS		143,000			194,333 (3,239 hrs.)

\* Based on 95 percent of the estimated 110,000 intercepted anglers in the Northeast, Southeast, Western Pacific and Caribbean Regions responding to the add-on economic questions.

\*\* Based on 35 percent of intercepted anglers responding to follow-up telephone survey in the Northeast and Southeast Regions.

- (i) **Extension of directory frame telephone survey of anglers to collect economic data.** The Pacific Region's current intercept surveying protocol cannot be used to collect the same data we collect in the Northeast or Southeast Regions, and, therefore, no intercept add-on survey will be conducted in the Pacific Region. Less contacts are necessary since first contact will be made by phone, rather than through an initial intercept and telephone

follow-up. Telephone surveys will be conducted using the same questionnaire in h) Extension of base intercept survey to collect economic data.

	Persons	Contacts	Mean Time (min.)	Annual Frequency	Total Time (min.)
Pacific Coast Telephone Interviews	22,000*	22,000	8.0	1/3 years	58,667
TOTALS	22,000				978 hrs.

\* Based on 22,000 new contacts from the Pacific Region license frame.

(j) **Follow-up economic mail survey** once every three years, as an extension of the base intercept survey in the Northeast, Southeast, Pacific, Western Pacific, and Caribbean Regions to collect stated and revealed preference data needed for economic valuation analyses. In the Northeast, Southeast, Western Pacific, and Caribbean Regions, names and addresses will be sourced from anglers agreeing to participate in a follow-up mail survey from either g) Extension of base telephone survey to collect economic data or h) Extension of base intercept survey to collect economic data or non-fishing households agreeing to participate in g) Extension of base telephone survey to collect economic data. Neither the Pacific Region’s current intercept survey nor its telephone survey of license holders provides large enough sample sizes for use in our economic surveys. As a result, mail surveys in the Pacific Region will be sent to newly contacted anglers from the license frame for each individual Pacific Region state.

	Cooperating Anglers	Contacts with Cooperating Anglers	Mean Time (min.)	Annual Frequency	Total Time (min.)
Follow-Up Mail Surveys	16,800*	50,400**	15.0	1/3 yrs	84,000 (1,400 hrs.)

\* Based on a subsample of 12,000 intercepted anglers, telephoned anglers and telephone non-anglers in the Northeast, Southeast, Western Pacific, and Caribbean Regions and anglers from 16,000 newly contacted anglers from the Pacific Region license frame and an expected 60 percent response rate.

\*\* Up to two additional mailings will be sent to each cooperating angler to remind them to complete and return the mail survey questionnaire.

(k) **Economic surveys of headboat, partyboat, and charter boat businesses** in the Northeast, Southeast, Western Pacific and Caribbean regions once every three years as an add-on to the For-Hire Survey.

	Party/Charter Boat Representatives	Party/Charter Boat Representative Contacts	Mean Time (min.)	Annual Frequency	Total Time (min.)
In-Person Interviews	1,125	1,125*	60.0	1/3 yrs	22,500
Telephone Interviews	7,500	39,000**	8.0	1/3 yrs	104,000
TOTALS	8,625	40,125			126,500 (2,108 hrs.)

\* In-person contacts are based on an independent 15 percent sample of the boat operators contacted by the vessel directory telephone surveys of headboat, partyboat, and charter boat fishing effort in the Northeast and Southeast Regions will be interviewed in person to collect annual cost and earnings data.

\*\* Telephone contacts based on sample frame for the party/charter boat directory telephone survey of fishing effort in the Northeast and Southeast Regions will be extended to collect cost and earnings data for randomly selected trips in one of the next three years for both the Northeast and Southeast Regions.

**(l) Biological data collection** in the Northeast, Southeast, and Pacific Regions.

	Eligible Intercepted Anglers	Mean Time (min.)	Total Time (min.)
Intercept Interviews	10,000	1.0	10,000 (167 hrs.)

**Total program burden:**

Survey	Persons	Contacts	Hours
(a) Coastal Household Telephone Survey (CHTS)	497,729	482,354	12,647 <sup>1</sup>
(b) Longitudinal Sampling – CHTS	0	37,500	4,375
(c) Angler Directory Telephone Surveys	16,000	16,000	800
(d) Base Intercept Survey	153,000	168,300	11,858 <sup>2</sup>
(e) For-Hire Telephone Survey	8,500	44,200	5,157
(f) Vessel Directory Maintenance	5,000	5,000	167
(g) Economic Telephone Survey	0	0	1,038 <sup>3</sup>
(h) Economic Intercept/Telephone Survey	0	38,500	3,239 <sup>4</sup>
(i) Economic Telephone Survey of Angler Directory	22,000	22,000	978
(j) Follow-up Economic Mail Survey	0	50,400	1,400 <sup>5</sup>
(k) Economic Survey of For-Hire Businesses	0	1,125 <sup>6</sup>	2,108 <sup>6</sup>
(l) Biological Data Collection	10,000	10,000	167
<b>TOTALS</b>	<b>712,229</b>	<b>875,379</b>	<b>43,934</b>

<sup>1</sup> NMFS anticipates contracting for 280,000 household telephone interviews to be conducted on the Atlantic and Gulf coasts, 76,000 household telephone interviews to be conducted on the Pacific coast, 40,000 household telephone interviews to be conducted in Puerto Rico and the Virgin Islands, and 14,000 household telephone interviews to be conducted in Hawaii. In order to get the total of 410,000 household contacts with the random-digit-dialing method of sampling, NMFS estimates that an additional 72,354 non-household contacts will occur.

<sup>2</sup> NMFS anticipates contracting for 64,000 intercept interviews to be conducted on the Atlantic and Gulf coasts, 3,500 intercept interviews to be conducted in Puerto Rico and the U.S. Virgin Islands, and 3,500 intercept interviews to be conducted in Hawaii; an additional 36,000 intercept interviews will be conducted as part of a cooperative agreement between NMFS, the Pacific States Marine Fisheries Commission, California Department of Fish and Game, Oregon Department of Fish and Wildlife, and the Washington Department of Fish and Wildlife. The remainder (46,000) is contracted for by individual states as sampling efforts added to the basic NMFS contract. Participation by individual states is at the discretion of the states. However, many states have made the MRFSS methodology, forms, etc. the basis for their own recreational fishery data collection programs.



- <sup>3</sup> Questions regarding fishery economic data will be included as an extension of the Base Telephone Survey for household residents having prior saltwater fishing experience; therefore, no additional telephone contacts will be made. This data collection will be conducted no more than once every three years in each Region.
- <sup>4</sup> Some questions regarding fishery economic data will be included as an extension of the Base Intercept Survey; therefore, no additional persons will be sampled in the Northeast and Southeast Regions. In the Pacific Region, this request includes 11,550 new persons from the license frame survey. The collection of economic data on extended intercept interviews will be done annually. Other economic questions will be included in follow-up telephone interviews conducted with anglers already interviewed by the Base Intercept Survey or already on the license frame in Oregon, Washington, and California. The follow-up telephone survey will be conducted no more than once every three years in each Region.
- <sup>5</sup> Questionnaires will be mailed to anglers already interviewed by the Base Intercept Survey in the Northeast and Southeast Regions and new contacts from the license frame in the Pacific Region who volunteer to participate in the follow-up mail survey. Up to two additional mailings will be sent to volunteers reminding them to complete and return their questionnaires. The follow-up mail survey will be conducted no more than once every three years in each Region, and will never be conducted in the same year as the follow-up economic telephone survey in any given Region.
- <sup>6</sup> An independent 15 percent sample of the 7,500 boat operators contacted by the vessel directory telephone surveys of headboat, partyboat, and charter boat fishing effort in the Northeast, Southeast, Western Pacific and Caribbean regions (item 12e above) will be interviewed in person to collect annual cost and earnings data. This will add 525 new contacts. Telephone interviews for the party/charter boat directory telephone survey (item 12e) of fishing effort in the Northeast, Southeast, Western Pacific and Caribbean regions will be extended to collect cost and earnings data for randomly selected trips in one of the next three years for both the Northeast and Southeast Regions. Because no new contacts are required to conduct the add-on economic interviews, no further change in the number of contacts is requested.

**13. Provide an estimate of the total annual cost burden to the respondents or record-keepers resulting from the collection (excluding the value of the burden hours in #12 above).**

These data collections will incur no cost burden on respondents beyond the costs of response time.

**14. Provide estimates of annualized cost to the Federal government.**

Annual cost to the Federal government is approximately \$8.5 million divided as follows: \$8.0 million in contract award money and \$500,000 in professional staff, overhead and computing costs.

**15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB 83-I.**

- (a) An increase of 37,500 contacts for b) Longitudinal Sampling for Coastal Household Telephone Survey to increase sampling efficiency and improve precision of effort estimates results in an increase of 4,375 burden hours;
- (b) An increase of 16,000 contacts with licensed anglers will be added as part of a cooperative agreement between NMFS, the Pacific States Marine Fisheries Commission, California Department of Fish and Game, Oregon Department of Fish and Wildlife, and the Washington Department of Fish and Wildlife through directory frame telephone surveys results in an increase of 800 burden hours;
- (c) An increase of 18,200 contacts with for-hire representatives to completely implement the e) For-Hire Telephone Survey in all regions results in an increase of 2,124 burden hours;
- (d) An increase of 3,000 Base Intercept Survey interviews of anglers to improve statistical precision of catch-per-trip estimates in the Pacific results in an increase of 233 burden hours;
- (e) An increase of 18,200 contacts with for-hire representatives to completely implement the k) Economic Survey of For-Hire Businesses in all regions results in an increase of 984 burden hours;
- (f) Removing the Pacific region from h) Extension of base intercept survey to collect economic data and surveying through i) Extension of the directory frame telephone survey to collect economic data results in an increase of six burden hours;
- (g) An increase in 18,900 contacts for conduct of the follow-up economic mail survey results in an increase of 525 burden hours.

**Item 12a (Coastal Household Telephone Survey).**

A copy of the 2003 CHTS (base telephone survey) questionnaire is provided as Attachment 2. Only minor wording changes are anticipated in this questionnaire.

The target sample size for the CHTS in the Northeast, Southeast, Caribbean, Pacific and Western Pacific Regions will be maintained at already approved levels.

The use of phone directories and predictive dialing technologies in recent years has greatly increased the efficiency of the CHTS by decreasing the number of non-household contacts made to obtain a given number of contacts with eligible residential households.

About 85 percent of successful random-digit-dialing contacts now turn out to be contacts with eligible residential households. Prior to 1995, this rate was closer to 72 percent.

We plan to add a question to the CHTS that identifies the number of lines in the household so we can evaluate possible weighting methods to take the increased probability of selection of such households into account in the CHTS effort estimates.

#### **Item 12b (Longitudinal Sampling for Coastal Household Telephone Survey).**

Modifications to the current CHTS design have been proposed to increase the efficiency of the sampling frame. Current plans involve the implementation of longitudinal sampling, or the recontacting of fishing households that have been identified in previous waves. Recontacting previously interviewed fishing households would allow us to reach a larger sample size of households from which to estimate fishing behavior among fishing households, greatly improve precision for the calculated estimates of angler trips by fishing mode in the given wave.

In the CHTS interview, respondents will be asked if they would be willing to be contacted again and asked similar questions later in the year. Based on previous survey results, we estimate that approximately 85 percent of respondents will indicate a willingness to participate in future waves.

Panel members may be recontacted in successive waves and/or in successive years during the same wave of initial contact through the RDD sampling approach. Panel members will be retained for no more than three repeated contacts, and as many as three overlapping panels will be maintained, with a new one created and an old one terminated in each sampling wave. In addition to increasing the efficiency of sampling efforts, the repeated measures design of the longitudinal panels (across successive two-month waves or across years in the same wave) will allow more effective measurement of differences in fishing effort across waves or across years.

Initially, these recontacts would not replace any part of the CHTS sample size as the CHTS would still be required to estimate the proportion of households with fishing activity. Data collection will be independent of the CHTS. However, data-collection and recall periods will overlap with the CHTS, and all interview and dialing protocols will be identical. We anticipate only minor CHTS questionnaire changes.

Sample size is based on four states for the pilot year (10,000), and 1.5 times the expected sample of fishing households obtained in the CHTS (34,167) for the two subsequent years.

#### **Item 12c (Directory Frame Telephone Survey of licensed marine recreational anglers).**

In the Pacific region, Washington, Oregon and California have coordinated the use of a saltwater-license directory to further increase sampling efficiency for collecting angler effort data. Questionnaires are designed to collect data elements similar to those of the

CHTS instrument (see Attachments 2a-2c). Since each state has a saltwater license, the same methodology will be used in each state for a license-based telephone survey of angler effort. A target sample size of 16,000 is added in the Pacific region to accommodate the angler-license frame surveys in WA, OR and CA. The CHTS will overlap with these surveys for several years to allow for side-by-side comparisons and calibration of the new effort estimation approach with the traditional method.

We expect the response rates for the angler license directory telephone surveys (ALDTS) to be similar to those for the CHTS. We will conduct the traditional CHTS in parallel with the ALDTS so that we can compare the survey approaches in terms of response rates, mean fishing effort reported, cost per completed interview, and survey coverage. The parallel conduct of the surveys should also help with any statistical calibrations that may be needed in converting to a new survey method for monitoring fishing effort.

We expect to find that sampling of an angler license directory frame will prove to be more efficient than RDD sampling of coastal zone households as a means of collecting representative data on angler fishing effort. Respondents to the ALDTS should be much more likely to report fishing trips than respondents to the CHTS. Therefore, fewer contacts will be needed to collect the same effective sample size of recreational fishery participants for any given sampling wave. Initial work completed in 2004 has shown that 20-40 % of ALDTS respondents reported fishing trips when only 4-8% of CHTS respondents did.

A question will be added to the CHTS that will allow us to identify if respondents have a fishing license, and if so, what type of license they obtained. This will allow us to compare the samples of anglers contacted by the CHTS with those contacted by the ALDTS to see if there are significant differences in the populations covered for the same geographic areas. For example, it is possible we may find that the ALDTS provides less complete coverage due to the exclusion of anglers who either fished without obtaining a license or obtained a license too recently to be included in the ALDTS sampling frame. If either of these undercoverage issues prove to be significant, then it may be necessary to assess such undercoverage by asking questions about license acquisition and date of acquisition in the corresponding field intercept surveys.

We expect to find that mean fishing effort reported by licensed anglers will be similar for the ALDTS and CHTS.

#### **Item 12d (Base Intercept Survey).**

Copies of the 2004 MRFSS Intercept Survey Questionnaires are provided as Attachments 3-3f. Only minor wording changes are anticipated in these questionnaires.

The target sample size for the Base Intercept Survey will be maintained at currently approved levels in the Northeast and Southeast regions. The Pacific target sample size has been increased from 33,000 to 36,000 angler interviews to improve precision of catch-per-

trip estimates generated from the collected data. Coast-wide (Gulf and Atlantic) response rates for the MRFSS Intercept survey for the past 3 years are as 88.55% in 2002, 91.65% in 2003 and 91.38 in 2004.

### **Items 12e (For-Hire Telephone Survey).**

The For-Hire Survey (FHS) differs from the MRFSS because it uses a telephone survey of boats, rather than households, as the primary method for estimating fishing effort. The FHS telephone survey (included as Attachment 4) is a weekly survey that uses a directory of charter boats and/or party/headboats as its sampling frame. Samples of boats are selected at random, and the operators of those boats are contacted for telephone interviews to collect information on the number of boat trips and the numbers of anglers who fished. Advance notification is sent one week prior to the week they are selected for, alerting them that they have been randomly selected for an interview and letting them know when they will be contacted. Included with the pre-contact letter is an optional logsheet (Attachment 4a) to record their data, and a webcard, with a website address and 7-digit Personal Identification Number (PIN).

The telephone survey estimates the number of trips by boats included in the sampling frames. A dockside survey of boat slips is used to validate the phone-reported effort data and estimate appropriate corrections for any reporting errors. The total catch of any one species is calculated as the product of the adjusted estimate of total angler trips and the estimated mean catch per trip. Separate estimates are generated for charter boat and party/headboat fishing.

A pilot study conducted in South Carolina in 2000 compared the new For-Hire Survey methodology with a mandatory logbook census program run by the South Carolina Department of Natural Resources. In that pilot study it was possible to compare FHS respondents and nonrespondents in terms of what they reported in their logbooks for the time periods when they were selected for the FHS sampling. This analysis indicated evidence of a significant, but small, negative non-response bias during periods of peak fishing activity (June-August). FHS nonrespondents reported a higher mean number of fishing trips than FHS respondents during these high activity periods, suggesting that operators of boats taking more trips tended to be harder to reach by phone. We will continue to work on ways to further reduce non-response rates to minimize the effects of any possible non-response biases. The fax and website reporting options have been added to increase response rates and to reduce the likelihood that non-response is positively correlated with the level of fishing activity.

### **12g (Add-On Economic Telephone Survey) and 12h (Add-On Economic Intercept Survey).**

Fishery managers are required by law to report the economic consequences of their decisions regarding the allocations of limited fish resources between commercial and recreational fishing sectors. High quality economic data are needed to evaluate the economic claims of constituents and to resolve potential political conflicts between the

commercial and recreational fishing constituents as they compete for the limited fish resources. However, fishery managers do not currently have access to much economic information about recreational fisheries. These surveys are intended to help fill the data and research gaps in our knowledge of the economics of marine recreational fishing.

The objectives of the Supplemental MRFSS Economic Surveys, broadly characterized, are as follows:

1. to collect demographic, social and economic data on the people who participate in marine recreational fishing in the various regions of the continental United States
2. to collect data needed for the statistical estimation of models to assess the net values of marine recreational fishing for specific finfish species that are highly sought by marine recreational anglers and are either currently managed by the Fishery Management Councils and/or the Interstate Marine Fisheries Commissions, or are expected to come under management in the near future;
3. to collect data needed for construction of models to assess the economic impacts of management actions on communities and both fishery-dependent and fishery-independent businesses.

#### Economic Telephone Survey

A series of questions will be added to the Base Telephone Survey to obtain demographic and participation data. For the 2004-2006 Surveys, the telephone add-on interview will obtain data (Attachment 5) from experienced saltwater anglers that reside in households contacted by the Base Telephone Survey. No more than one experienced angler in each contacted household will be asked to respond. The extended telephone interview will first ask questions needed to categorize the respondent as one of the following:

- (1) an experienced saltwater angler who has not fished within the last 12 months.
- (2) an experienced saltwater angler who fished within the last 12 months, but not within the last 2 months,
- (3) an experienced saltwater angler who fished within the last two months, Saltwater anglers who have not fished within the last 2 months (categories 1 and 2) will be asked the questions in Version A of the questionnaire, and saltwater anglers who fished within the last 2 months (category 3) will be asked the questions in Version B of the questionnaire.

#### Economic Intercept Survey

The questionnaires in Attachments 5, 5a, and 5b are the questionnaires that will be added to the base intercept and telephone surveys in each Region. The economic data collections will be conducted in each region no more than once during the three-year period from 2004 through 2006. The supplemental MRFSS Economic Surveys for 2004-

2006 will focus on both the economic impacts and the economic valuation of the sportfishing.

For the 2004-2006 Economic Surveys, a series of questions (Attachments 5a-5b) will be added to the base intercept survey questionnaire to obtain economic data on trip duration, travel costs, distance traveled, and on site expenditures associated with the intercepted trip. These data will be used to develop angler or trip profiles and in the development of statistical behavioral models to estimate saltwater fishing values. The intercept survey economic questions will only be asked of anglers who are at least 16 years of age (regardless of target species), and who complete all key data items preceding the catch inspection questions. The economic questions to be added to the MRFSS intercept field interview are shown on the form in Attachment 5a.

The economic intercept follow-up telephone survey questionnaires will be administered to obtain additional information from anglers who responded to the economic questions asked during the intercept survey. Based on experience from similar surveys conducted in 1998-2000, only about 35 percent of the anglers who complete an intercept interview are expected to complete a follow-up telephone interview. The telephone follow-up questionnaire shown in Attachment 5b is designed to obtain both further data needed for economic valuation and detailed data on trip-related and annual expenditures. The follow-up interview will consist of three sets of questions. The first set of questions (Q1-Q9) will obtain information needed for valuation of recreational fishing for specific species. The second set of questions (Q9-Q21) will be asked to obtain detailed information on fishing trip-related expenditures. The last set of telephone follow-up questions (Q22-Q43) are used to obtain detailed information on annual fishing-related expenditures.

#### **Item 12j (Add-On Economic Intercept/Mail Survey).**

Analyzing the effects of policies that may be enacted in a recreational fisheries setting, such as bag and size limits, requires further refinements in the valuation models. To date, data collection and models were designed to measure anglers' value of access to recreational fishing resources, and to measure their value for catching an additional fish. These models are not ideally suited for measuring the change in value from changes in bag or size limits. This data collection effort and resulting research is intended to get at several key issues relating to bag and size limit changes. The objectives of this Supplemental MRFSS data collection effort and resulting research product, broadly characterized, are as follows:

- (a) to collect data needed for the statistical estimation of models to assess the net values of marine recreational fishing for specific species;
- (b) to collect data needed to assess the change in net values with changes in likely management policies, such as bag and size limits, for those species;
- (c) to evaluate the reliability of stated preference (SP) compared with models that use information on the actual choices made by recreational anglers (revealed preference [RP]);

An example mail survey questionnaire is provided as Attachment 6. The Follow-Up Mail Survey will be administered to each intercepted angler who volunteers or in the case of the Pacific Region, to anglers on the each state's license frame that agree to participate. In the Northeast and Southeast Regions, the intercept survey interview will close with a question asking the intercepted angler if he/she would be willing to cooperate with a subsequent mail survey. In the Pacific Region, a random sample of anglers will be drawn from the state license lists and screened by telephone for participation in saltwater angling and willingness to participate in a follow-up mail survey. The mail survey will ask ten to twenty questions to obtain additional social and/or economic information from cooperating intercepted or license frame anglers. Specifically, the questionnaire will ask the respondent five to ten questions about their attitudes about motivations for fishing, attitudes about catch and release fishing, and attitudes about regulations. Finally, each respondent will be presented an additional series of five to ten discrete choice paired comparisons. Each one of these questions will ask respondents to make a comparison between two hypothetical trips. Each trip will have associated with it attributes (such as cost of traveling to the recreation site, number of fish of selected species the angler expects to catch, the bag limit, the size limit, the expected number of legal size fish, and the expected success of fishing for other species). For each trip comparison, the fisherman will also be given the choice of not taking a saltwater angling recreational fishing trip.

Systematic repeated mailings to non-respondents will be used in an attempt to keep the response rate for the mail survey above 60 percent. A variation of Dillman's Total Design method will be used<sup>1</sup>. The major steps of the method are as follows:

- (a) First, each respondent eligible for the mail survey must have agreed to participate in the survey at the time of the base intercept survey interview or the license frame screening.
- (b) The mail survey will be sent to respondents within two weeks of their intercept interview. The survey packet will contain a cover letter (designed by NMFS) and the questionnaire. It is expected that the packet will be folded in the way described by Dillman (so that the cover letter is easily accessible and the first thing the respondent sees). The questionnaire will be in a booklet format and will not exceed a total of three to five pages.
- (c) One week after this mailing, a postcard will be sent to all volunteers. It will promote the study, thank respondents who have already responded, and remind those that did not to respond.
- (d) Three weeks after the initial mailing, another follow-up mailing will be sent, but only to non-respondents. This will have the complete packet with a slightly modified cover letter and questionnaire. It should also be folded in a manner consistent with Dillman.

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<sup>1</sup> See Don A. Dillman, Mail and Telephone Surveys: The Total Design Method. John Wiley and Sons, NY. 1978.



## **Item 12k (FHS Economic Add-On Surveys).**

The universe for these sampling surveys will be all headboats, partyboats, and charter boats that actively participate in the marine recreational fishery. The for-hire boat fishery is expected to be the focus of increased fishery management. Both the federal fishery management councils and the National Marine Fisheries Service (NMFS) have been faced with increasingly difficult management decisions that have significant implications for the for-hire boat industry, as well as numerous fish stocks.

The cost-and-earnings information collected from this fleet will be used in support of analyses needed to comply with the National Environmental Policy Act, the Regulatory Flexibility Act, the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act and other applicable federal laws. These analyses will be conducted and reviewed by economists and other fishery management staff affiliated with the Councils and the Fisheries Science Centers of NMFS.

The data collected will be used for four general purposes. First, the data will be used to predict potential effects on the head, party, and charter boat fleets of alternative regulatory actions to be considered by the Councils. Examples would be the setting of allocations or bag limits for the recreational fisheries for certain species, and creation of marine reserves. The need for economic data to conduct regulatory analysis has been heightened by a 1996 amendment to the Regulatory Flexibility Act, which allows agencies to be sued for inadequately considering the effects of regulations on small businesses.

Second, the data will be used to estimate the extent of overcapacity in the for-hire boat fleets and to help identify reasonable alternative approaches to reducing capacity, should such reduction be deemed necessary. Overcapacity has been identified by the federal fishery management councils as a high priority management issue requiring immediate attention.

Third, the data – in combination with other available information on the fishing efforts and harvests of headboat, partyboat, and charter boats - will be used to measure and monitor the economic performance of the fishery. Such routine monitoring is important for anticipating fishery management problems before they become severe and difficult to address.

Finally, the data will be used to help evaluate the effects of restrictions imposed by NMFS to protect species stocks listed under the Endangered Species Act. Currently NMFS is engaged in consultations with the Pacific coast states regarding changes in salmon hatchery practices to protect wild stocks. Because most of the salmon caught on the Pacific coast originate from hatcheries, such changes are expected to have significant effects on commercial and sport fisheries.

Without this survey data, significant gaps in knowledge of the for-hire boat industry would occur and the quality of the required analyses would be impaired. This would make it difficult for the Councils and NMFS to make informed fishery management decisions, and cause NMFS to be much more vulnerable to lawsuits under the Regulatory Flexibility Act.

The questionnaires and sampling methods were cooperatively developed by representatives of NMFS, the interstate marine fisheries commissions, the state agencies that conduct data collections for the MRFSS, and the for-hire boat industry. Industry views on the availability of data, the frequency of collection, the clarity of instructions, the amount of burden to be imposed, and ways to minimize the burden were integral to the consultation process.

Communications from industry representatives as well as preliminary data analyses indicate that for-hire boat fishing activity varies significantly by vessel size. Larger vessels, which typically carry more passengers and travel to more distant fishing grounds (often for multi-day trips), tend to generate higher revenues and costs than smaller vessels. Because of these size-related differences, as well as differences in target species and species availability at different locations along the coast, it was decided that sampling of vessels would be uniform among vessel size categories and principal port areas and random within those size/area strata.

In order to obtain comprehensive economic profiles of the headboat, partyboat, and charter boat fleets, the questionnaires cover both fishing and non-fishing (e.g., whale watching) activities of boats. The questions were designed to be sufficiently broad in scope to accommodate all the general types of analyses discussed above. An explanation of the elements of each of the survey instruments follows.

#### In-Person Survey Instrument:

The instrument used for the in-person interviews (Attachment 7) describes questions that will be asked in a one-time survey of headboat, partyboat, and charter boat operators regarding the volume and types of activities engaged in during the year, as well as annual economic revenues, costs and employment.

#### Telephone Survey Instrument:

The telephone add-on survey instrument is provided as Attachment 7a. This survey will be conducted as an add-on to the ongoing, weekly telephone survey of party and charter boat fishing effort. The economic add-on to the MRFSS directory telephone survey of operators of headboats, partyboats, and charter boats will be conducted weekly over the course of one full year to ensure that the range and seasonality of for-hire boat activity are captured. The responses of boat operators to Q1-Q16 are needed to estimate individual trip costs and to evaluate how those costs vary with passenger load, trip duration, trip location and target species.

Using the contact information contained in the sampling frame, the MRFSS will send a letter to 10 percent of vessels that actively fish in each week, notifying them that they have been selected to participate in a survey of their fishing effort during that week and that they will be contacted within one week after receipt of the letter for a telephone interview. A form that describes the information to be collected in the telephone interview and allows them to record their information will accompany the letter. Respondents will be asked to consider returning a completed form via

fax if repeated dialing attempts by survey interviewers fail to reach them for an interview within the designated sampling week.

**16. For collections whose results will be published, outline the plans for tabulation and publication.**

All data collected and analyzed will be included in table format available on the web page of the Fisheries Statistics Division, Office of Science and Technology, National Marine Fisheries Service. The web address is <http://www.st.nmfs.gov/st1/recreational>. Additional summaries of data will be included in the annual publication "Fisheries of the United States."

**17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.**

N/A.

**18. Explain each exception to the certification statement identified in Item 19 of the OMB 83-I.**

There are no exceptions.

**B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS**

**1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g. establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.**

Attached is a copy of a general description of the MRFSS Methodology which currently appears on NMFS Fisheries Statistics Division website at: <http://www.st.nmfs.gov/recreational/survey/survey/overview.html> (Attachment 8). Also provided is a copy of a technical report which details the calculations used to estimate catch, effort and participation (Attachment 9). The Survey utilizes a "complemented surveys" approach, which includes both a telephone survey of coastal county households (about 35 million potential respondents) to estimate fishing effort and an intercept survey of recreational anglers (about 17 million potential respondents) at fishing sites to obtain catch per unit effort data and biological data. This approach was developed and tested over a period of several years to minimize response and sampling errors for the different data elements. Conducted since 1979, both the telephone and intercept survey portions of the MRFSS have maintained refusal rates of less than 10 percent. NMFS is a leader in the field of survey sampling of marine recreational fishermen.

**2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

Survey procedures described in Attachments 8 and 9 are briefly summarized below:

Coastal Household Telephone Survey (CHTS): Random-digit-dialing procedures are used to screen coastal county telephone exchanges for working blocks of telephone numbers that are then screened for eligible households. Households are screened to identify anglers eligible for interview. The interview obtains data on the frequency of fishing trips by both mode and area of fishing over a two-month recall period. The telephone household survey instrument is included as Attachment 2.

MRFSS Intercept Survey: Intercept survey interviewing has been assigned to specific sites and fishing modes in coastal states on the basis of seasonal fishing activity. Site lists have been generated during the study to establish sampling strata, and fishing pressure estimates have been used to allocate assignments among sites. Data obtained has included descriptive information on the fishing trip, catch by species and associated biological data. Intercept survey instrument are included as Attachments 3-3f.

Estimation: Telephone data are combined with U. S. Census data on number of households and telephone ownership in coastal counties to estimate the number of in-state fishing trips by coastal county residents in each state/mode/area/2-month-wave combination. The proportions of trips made by anglers not covered by the telephone survey (non-coastal-county state residents and out-of-state residents) are obtained from intercept survey data and used to estimate the total number of trips taken within each state. Estimates of catch for each species are derived by multiplying the estimates of catch per trip obtained from the intercept survey by the estimate of total trips.

Variances, standard errors and coefficients of variation are estimated for each estimate of effort and catch. Estimates fall within the confidence limit goals established for 95 percent reliability at the Regional Council level of aggregation.

Control of response biases such as time-related recall error, telescoping, fish misidentification and prestige bias have resulted in the choice of the unique complemented surveys approach.

Supplemental Economic Telephone and Intercept Surveys: Attachments 5, 5a, and 5b are copies of survey instruments similar to those which will be used for the 2002-2004 add-on surveys to collect economic impact and/or value data. Minimal economic data collections will be conducted annually by extending base intercept survey interviews, but full-scale economic surveys, including follow-up telephone interviews of intercept survey

respondents and extended interviews of base telephone survey respondents, will be conducted only once every three years in each Region to minimize respondent burden.

Supplemental Economic Mail Survey: Attachment 6 is an example of a survey instrument to be used for the 2002-2004 add-on intercept mail survey to collect economic value data regarding alternative bag and size limits for federally managed species. Economic questionnaires will be mailed to cooperative base intercept survey respondents only once every three years in each Region to minimize respondent burden.

For-Hire Telephone Survey (FHS): Attachment 4 is the telephone survey instrument used to collect fishing effort data by sampling operators of party and charter boats. The effort data collected by this weekly telephone survey are used to estimate the mean number of angler trips per boat. This mean estimate is expanded by the number of boats included in the sampling frame to estimate the total number of angler trips made by in-frame boats each week. The proportions of fishing trips made by anglers on out-of-frame charter and head boats are obtained from intercept survey data and used to calculate estimates of total angler trips on charter and head boats. Catch-per-trip estimates obtained from the base intercept survey sample are expanded by the estimate of total trips to get estimates of catch for different finfish species.

Response rates of approximately 65 percent were maintained for the 2003 Atlantic FHS through concerted efforts to maximize contact rates. By mailing a letter to each potential respondent in advance of attempted telephone contacts and by spreading the contact attempts over different days and times throughout the sampling week, contact rates above 60 percent have been consistently achieved. Refusal rates for successful contacts have rarely exceeded five percent in each wave. Cooperation with the survey has been encouraged through the distribution of a brochure describing the survey, as well as through the distribution of periodic newsletters that answer questions about the survey and provide summaries of survey results.

For-Hire Economic Add-On Telephone Survey: Attachment 7a is a copy of the instrument to be used for the cost-earnings survey of party and charter boat businesses. Extended interviews of the party and charter boat operators contacted by the weekly directory telephone survey of fishing effort will be conducted to collect trip-level cost and earnings data only once every three years in each Region. Independent, in-person interviews of a sample of party and charter boat operators to collect annual cost and earnings data will be conducted on the same 3-year schedule in each Region.

**3. Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses. For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.**

Intensive interviewer training and tested methodological approaches are employed to maximize response rates. Interviewers are tested for skills in fish identification, effective communication with potential respondents, and/or accurate coding of responses before they are hired for training. Training familiarizes interviewers with a procedures manual and develops their interviewing skills through role-playing exercises. Supervision and additional training of interviewers occurs during the conduct of all telephone and intercept surveys. Field supervisors visit intercept survey interviewers periodically to observe their performance and provide additional training as needed. Refusal rates for both the telephone and intercept surveys have rarely exceeded five percent during the 23 years of the Survey. The current refusal rate for the FHS telephone portion is less than eight percent.

Response rates to the Supplemental Economic Survey of the Party/Charter Boat Industry are expected to be enhanced by a number of FHS features, such as advance notification and alternate response options (fax). The fax option is intended to increase opportunities for survey participation, particularly during those times of year when vessel operators are at sea for long hours and less likely to be available for a telephone interview.

Consolidating effort and economic questions into a single interview was deemed advantageous for several reasons: (1) minimizing the burden on industry, (2) enhancing the ability of industry to recall details of the trip because of the MRFSS strategy of conducting interviews shortly after completion of the trip, (3) allowing the data analyst to link the economic details of the trip with trip-specific fishing effort information, and (4) reducing economic survey costs. In addition, the MRFSS also agreed to allow use of its sampling frame as a basis for identifying and contacting vessels for the annual economic survey, which would be conducted separately from the weekly effort survey.

The trip-level data will also be used to estimate a type of discrete choice model known as multinomial logit to predict how for-hire boat effort is likely to shift from one activity to another in response to regulatory changes. The model will be estimated using maximum likelihood techniques, with t-statistics used to evaluate the statistical significance of individual model parameters and a likelihood ratio test used to evaluate the overall fit of the model. A statistical package such as LIMDEP will be used for model estimation.

Generalizing survey results to the entire population: The annual economic survey will be based on a stratified random sampling procedure that ensures that each area/vessel size stratum is represented in the sample in adequate numbers to derive statistically valid estimates of revenue and cost by stratum. Once completed, the MRFSS sampling frame will allow determination of the population of boats in each stratum. This population information will allow results of the annual economic survey to be generalized from the sample to the population by weighing the data points in each stratum by the proportion of the population represented by that stratum.

**4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.**

More than 24 years of testing, methodological research and professional experience in survey work were used in formulating the present methodology.

**5. Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

Dave Van Voorhees (301-713-2328) is Chief of the Fisheries Statistics Division, which administers the MRFS Program. The present contractor for the telephone survey is Macro International, Inc., of Burlington, Vermont. The present contractor for the FHS telephone portion is NuStats. A new contract for the 2005-2007 FHS will be awarded by November 30, 2004. The intercept survey is currently conducted in Georgia through Maine under another contract with Macro International. A new contract for the 2006-2008 MRFSS intercept survey in those states will be awarded by November 30, 2005.

The Pacific States Marine Fisheries Commission and the state marine fishery agencies of California, Oregon, and Washington conduct the intercept survey on the Pacific coast under a cooperative agreement. The Gulf States Marine Fisheries Commission and the respective state marine fishery agencies currently conduct the intercept survey in Louisiana, Mississippi, Alabama, and Florida under a cooperative agreement. Although data collections are performed either under contract or cooperative agreement, analyses are performed entirely by NMFS.

## ATTACHMENT 1



## Attachment 1 – Burden Estimates

The collection of surveys that comprise the Marine Recreational Fisheries Statistics Survey (OMB No. 0648-0052) are being conducted primarily to obtain accurate representation of marine recreational fishing effort and catch. The information collected will be used to calculate unbiased estimates of the numbers of fishing trips taken, as well as the numbers and species composition of finfish caught, by marine recreational anglers. Supplemental surveys are being conducted to collect biological data needed to determine the size, age, and gender composition of catch of certain species, as well as economic data needed to accurately assess both the economic values and economic impacts of marine recreational fishing for certain finfish species. Such statistics are required for accurate assessment and effective management of marine fishery stocks.

Your participation in these surveys is voluntary and your responses will be treated as confidential records under Section 402(b) of the Magnuson-Stevens Fishery Conservation and Management Act and NOAA Administrative Order 216-100. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Public reporting burdens for the different components of the Marine Recreational Fishery Statistics Survey (OMB No. 0648-0052) are estimated as shown in the following table:

Survey Component	Estimated Burden per Response
Household Telephone Survey - Fishing Households	7.0 minutes
Household Telephone Survey - Non-Fishing Households	1.0 minute
Household Telephone Survey - Non-Household Contacts	0.5 minute
Intercept Survey of Catch per Unit Effort	4.5 minutes
Intercept Survey Interview Verification Calls	1.5 minutes
Economic Household Telephone Survey	3.0 minutes
Economic Intercept & Telephone Follow-Up Survey	8.0 minutes
Economic Intercept & Mail Follow-Up Survey	15.0 minutes

For-Hire Telephone Survey of Angler Fishing	7.0 minutes
Economic For-Hire In-Person Survey	60.0 minutes
Economic Telephone Survey of For-Hire Businesses	8.0 minutes
Biological Data Collection	1.0 minutes

Estimated burdens include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding these burden estimates or any other aspect of this collection of information, including suggestions for reducing the burdens, to:

Fisheries Statistics Division, F/ST1  
Office of Science and Technology  
National Marine Fisheries Service  
1315 East-West Highway, Room 12455  
Silver Spring, MD 20910

## ATTACHMENT 2

ATTACHMENT 2

RECREATIONAL FISHING QUESTIONNAIRE  
Revised Questionnaire for 2002

----- Household Introduction-----  
---

Intro *{If state of residence ne HI}*

Hello, I'm calling to conduct a survey for the National Marine Fisheries Service of the U.S. Department of Commerce. We are collecting information for use in conservation of coastal resources and we would appreciate your help with this important study. Before we begin, I want to assure you that your answers will be kept confidential, and this call may be monitored for quality assurance. [As needed: May I please speak with an adult in the household?]

*{If state of residence=HI}*

Hello. I'm calling to conduct a survey for the State of Hawaii's Division of Aquatic Resources and the U.S. National Marine Fisheries Service. We are collecting information for use in conservation of coastal resources. We would appreciate your help with this important study. Before we begin, I want to assure you that your answers will be kept confidential, this call may be monitored for quality assurance, and that no information will be provided to any kind of tele-marketing firm. [As needed: May I please speak with an adult in the household?]

-----End Household Introduction-----  
-

-----Household Quality Control Screeners-----

Q1-Q4 are for sample quality control - Ask quality control statements of initial household respondent for all states.

If no instructions are specified next to a response, continue to the next question.

Q1 How many people in this household go fishing?

1 {total response, range 1-20}

0 none

99 Refused {go to termination screen, code as resistant}

[INTERVIEWER: If response is greater than 15, please prompt to confirm total number of people fishing in household.]

Q2 Have I reached you in *{restore county name}* county / parish / island / municipality?

- 1 Yes
- 2 No {go to Q7 - GENDER}
- 98 DK {go to termination screen and code as resistant}
- 99 R {go to termination screen and code as resistant}

[If State is not Louisiana, Puerto Rico, U.S. Virgin Islands or Hawaii, use county.  
 If State is Louisiana, use parish.  
 If State is Puerto Rico, ask the municipality - it cannot be determined ahead of time.  
 "What municipality do you live in?"  
 If State is U.S. Virgin Islands or Hawaii, ask the island - it cannot be determined ahead of time, except that Hawaii telephone prefixes have some relationships to groups of islands.  
 "What Island do you live on?"

- Q3 Is this your permanent residence?
- 1 Yes
  - 2 No {go to Q7 - GENDER}
  - 99 R {go to terminate screen and code as resistant}

[Interviewer prompt if needed: Where you live at least 6 months out of the year.]

- Q4 How many people in total, including yourself, live in your household? Please include those people who fish and those who don't fish. [Maximum = 20]
- 1 {record response}
  - 98 DK
  - 99 R {go to terminate screen and code as resistant}

[INTERVIEWER: If response is greater than 15, please prompt to confirm total number of people living in household.]

[Interviewer: If response is less than answer to Q1, this indicates that there are fewer people *living* in the household than there are *fishers* in the household. Please clarify with the respondent as needed.]

[If response to Q1 is zero, then go to Q7 - GENDER.  
 Otherwise continue.]

-----**End of Household Quality Control Screeners**-----

--

-----**Eligible Household Screener**-----

--

We want to gather information from people who have been recreational saltwater fishing. Saltwater fishing includes fishing in oceans, sounds, or bays, or in brackish portions of rivers.

This does not include fishing in freshwater, or for shellfish, such as crabbing. Recreational fishing means the primary purpose of the fishing is for fun or relaxation, as opposed to providing income from the sale of fish.

Q5 How many people in your household, including children and adults, have been recreational saltwater fishing in the last 12 months anywhere in the US or in a US territory?

1-20 {record response}  
0 ZERO {go to GENDER }  
98 DK  
99 R {go to terminate screen and code as resistant}

[INTERVIEWER: If Response is greater than 10, please prompt to confirm total number of people that are 12 month fishers.]

[Total fishermen in household - Q1 - must be greater than or equal to 12 Month Fishermen]

[Wording varies slightly if the answer to Q5 is 1. "Has the person who fishes been recreational saltwater fishing in the last 12 months in the US or a US territory?"]

Q6 Thinking just about the past 2 months, how many of the people living in your household, including children and adults, have been recreational saltwater fishing in the last 2 months in the US or a US territory? [Maximum = 20]

1-20 {record response}  
0 NONE {record response and go to Q7 - GENDER }  
98 DK {ask for someone else -  
read intro & continue or terminate with scheduled call back }  
99 R {ask for someone else -  
read intro & continue or terminate with scheduled call back }

[If response is greater than 10, prompt to confirm the number of people in the household that have been recreational saltwater fishing in the past 2 months.]

[12 Month Fishermen must be greater than or equal to 2 Month fishermen]

[Wording varies slightly if the answer to Q5 is 1. "Thinking just about the past 2 months, has the person who fishes been recreational saltwater fishing in the last 2 months in the US or a US territory?"]

{LABEL GENDER }

Q7 INTERVIEWER: Record gender of respondent (based on voice - not asked)

1 male  
2 female

[If response to Q1 is zero (no fishermen in household) or response to Q6 is zero (no 2-

month fishermen), then go to terminate screen.]

[If Q6>0 then continue.]

Q8a I'd like to ask each person who has been recreational saltwater fishing in the last 2 months a few questions about their fishing trip(s). What are the first names of the people in your household who have been saltwater fishing in the past 2 months?

1 {record names - up to 20}

98 DK

99 R {suspend with "resistant" message}

[If number of 2-month recreational saltwater fishermen=1, use: "I'd like to ask the person who has been recreational saltwater fishing in the last 2 months a few questions about his/her fishing trip(s). What is the first name of the person in your household who has been saltwater fishing in the past 2 months?"]

[NOTE TO INTERVIEWER: If respondent won't give you names, ask for identifiers such as mother, father, oldest child , second oldest child , etc.]

Q8b Are you [one of the people {the person, *if one angler*}] in your household who has been saltwater fishing in the last 2 months?

1 yes

2 no {transfer to someone else}

3 no - no one is available {suspend schedule callback}

9 R {suspend with "resistant" message}

-----End of household eligibility screening -----

-----Angler screening questionnaire-----

-

The angler screener should be repeated for each new respondent in the household in order to define their eligibility for the survey.

Hello, I'm conducting a survey on recreational saltwater fishing for the National Marine Fisheries Service. We want to gather information from people who have been recreational saltwater fishing. Saltwater fishing includes fishing in oceans, bays, and brackish portions of rivers. This does not include fishing in freshwater, or for shellfish, such as crabbing. Recreational fishing means the primary purpose of the fishing is for fun or relaxation, as opposed to providing income from the sale of fish.

I understand that you've been recreational saltwater fishing in the past 2 months.

I'd like to ask you a few questions about your most recent fishing trips. Of course, all of your answers will be kept confidential. This survey is conducted in accordance with the Privacy

Act of 1974. You are not required to answer any question that you feel is an intrusion of your privacy.

- Q1 {Ask of first eligible respondent if more than one eligible fishermen in the household}  
First, did all of the fisherman in your household take all of their fishing trips together over the last 2 months?
- 1 yes {program should repeat trip information for all eligible respondents}
  - 2 no {interviewer should attempt to interview all eligible respondents}
  - 98 DK {interviewer should attempt to interview all eligible respondents}
  - 99 R {interviewer should attempt to interview all eligible respondents}

If state of residence ne Hawaii go to Trip Profiling Questionnaire.

If state of residence eq Hawaii, continue with fisherman categorization questions.

----- **Fisherman Categorization Questions - Hawaii only** -----

H1 Which of the following three categories best represents your fishing activities?

- 1. You never sell any of your catch
- 2. You sometimes sell fish to help cover fishing expenses
- 3. You sell fish for profit to pay your living expenses

H2 [If H1=3] Do you consider yourself a full-time commercial fisherman?

- 1 Yes
- 2 No

{Fishermen categorization codes}

If H1=1, then category=1 (pure recreational)

If H1=2, then category=2 (recreational expense)

If H1=3 and H2=no, then category=3 (part-time commercial)

If H1=3 and H2=yes, then category=4 (full-time commercial)}

H3 [If category=3 or 4] How many of the {total trips} trips that you mentioned were commercial fishing trips? [As needed: For this survey, any trip where you sold some of the catch for profit beyond expenses is considered to be a commercial fishing trip.]

- 00 None
- 01 {record number of trips}
- 98 DK
- 99 R

H4 [If H3 < total trips] Were the other {total trips-H3} trips purely recreational trips (where you sold none of the catch)?

- 1 Yes
- 2 No
- 98 DK



99 R

H5 [If H4=2] How many were purely recreational?

00 None

01 {record number of trips}

98 DK

99 R

[Interviewer: If the respondent's total trips don't add up, please probe for the correct information.]

You entered:

## - Total in-state trips

## - Total out-of-state trips

## - Commercial trips

## - Recreational trips }

[If total trips (all commercial), fisherman interview ends as non-2 month fisher.]

[If respondent has recreational trips: We'd like to ask you about just those recreational fishing trips. Continue with trip profiling.]

----- **End of Fisherman Categorization Questions - Hawaii only** -----

----- **End of angler screening questionnaire** -----

----- **Trip profiling questionnaire** -----

*{First, determine the number of trips}*

Q1 On how many days in the past two months, between {restore TODAY- days in wave } AND {restore TODAY-1 }, did you (s/he) go recreational saltwater fishing in {restore state} or in a boat launched from {restore state}?

1-62 {record response}

0 NONE

98 DK

99 R

[If response is greater than 5 trips, prompt to confirm. ]

[for answers of 98 or 99: Try to get an estimate before using this response category]

Q2 On how many days in the past two months, between {restore TODAY- days in wave } and {restore TODAY-1 }, did you (s/he) go saltwater fishing in any coastal state or territory of the US other than {restore state} or from a boat launched from another coastal state or territory of the US?

1-62 {record response}

0 NONE

98 DK  
99 R

[If response is greater than 5, prompt to confirm. ]  
[for answers of 98 or 99: Try to get an estimate before using this response category]  
[if answers to both Q1 and Q2 are 0, then this is not an eligible fisherman]  
[if answers to both Q1 and Q2 are 98 and/or 99, then suspend with resistant message for callback]

*{Begin the loop of questions to be asked of each trip. Note: Often as the interviewer and respondent are profiling the trips, at some point the respondent will say that “all of the trips were the same”. E.g. an angler who fishes off of his dock twenty days. The interviewer should be able to exit the loop and, after confirmation, code remaining trips as “all the same.”}*

----- **Trip loop questionnaire** -----

**The following questions are asked for each of the days indicated in Q1 and Q2.**

Q3 [Ask for 1<sup>st</sup> trip] When did you (s/he) last go saltwater fishing? I have a calendar with me in case we need to look up some of the specific dates.  
1 {record Month & Day}  
77 Stop recording trip details {Go to Q3a}  
99 R {go to end triploop}

[Ask if not 1<sup>st</sup> trip] Can you tell me the date of the saltwater fishing trip prior to that one?  
1 {record Month & Day}  
66 no more trips during the time period {go to end triploop}  
77 Stop recording trip details {Go to Q3a}  
99 R {go to end triploop}

Q3a [If respondent can't remember the date in Q3, ask] Was that a weekday or weekend?  
2 If weekday, enter WD {record WD}  
3 If weekend, enter WE {record WE}  
77 Stop recording trip details {go to end triploop}  
98 If DK, enter DK {record DK}  
99 R {go to end triploop}

Q4 On that day, did you (he/she) fish from a boat?  
1 yes  
2 no {go to Q6 - SHORE}  
7 Stop recording trip details {go to end triploop}  
8 DK  
9 Refused {go to end triploop}

- Q5 [Ask if Q4 =1] Was that from a ... [read]
- 1 Party or head boat -- CATEGORY B
  - 2 Charter boat -- CATEGORY B
  - 3 Private boat -- CATEGORY C
  - 4 Rental boat -- CATEGORY C
  - 5 Boat – don't know what type -- CATEGORY C
- [Interviewer: Using mode definitions, probe before choosing this answer]
- 7 Stop recording trip details {go to end triploop}
  - 8 DK
  - 9 Refused {go to end triploop}

[Interviewer: A respondent may choose up to two responses for the day but the two responses CAN NOT be from the same category - i.e. Allow the following boat mode combinations: (1&3) OR (2&3) OR (1&4) OR (2&4) OR (1&5) OR (2&5)]

- Q5a [If party/head boat, ask:] Are you the captain or mate of a party or head boat?  
 [If charter boat, ask:] Are you the captain or member of the crew of a charter boat?
- 1 yes {record answer and read instructions}
  - 2 no (record answer and continue)
  - 7 stop recording details {go to end triploop}
  - 8 DK
  - 9 R {go to end triploop}

If Q5a=1 then say: For this study, we are only interested in those trips you might have taken for your own enjoyment where you did NOT have paying customers. From now on, please only tell me about trips where you did NOT have paying customers. On the trip you just mentioned, did you have paying customers?

{LABEL SHORE}

- Q6 [If state of residence ne HI] On that day, did you (he/she) {also} fish from the shore?  
 [If state of residence=HI] On that day, did you (he/she) {also} fish from the shoreline or reef?

{**Note:** If the angler responded in Q4 that “yes” he did fish from a boat, then Q6 should include the word “also”. If an angler fishes from a boat and from the shore on the same day, that is considered to be two trips, and each should be profiled in the trip loop. }

- 1 yes
- 2 no
- 7 Stop recording trip details {go to end triploop}

- 8 DK
- 9 Refused {go to end triploop}

[also means piers, docks, jetties, etc.]

- Q7 [Ask if Q6=1] Was that from ... [read]
- 1 Pier
  - 2 Dock
  - 3 Jetty / Breakwater / Beachway
  - 4 Bridge / Causeway
  - 5 Other manmade structure
  - 6 Bank / Beach
  - 7 STOP RECORDING TRIP DETAILS {go to end triploop}
  - 8 DK
  - 9 REFUSED {go to end triploop}

[If respondent fished from more than one of the following on the same day, ask for the last place he/she fished from that day]

----- **Individual Trip Details** -----

{ The following questions are asked for each trip/mode combination within a day. Individual questions depend upon the mode of the trip. }

Now I'd like to ask you a series of questions about the {restore mode} trip you (s/he) took on that day.

- Q8a [For boat trips, use:] Did the boat return to {restore state or territory}?
- [For shore trips, use:] Were you fishing in {restore state or territory}?
- 1 yes {record response and go to Q9}
  - 2 no {record response and go to Q8b}
  - 7 Stop recording trip details {go to end triploop}
  - 8 DK
  - 9 R {go to end triploop}

- Q8b [For boat trips, use:] To what coastal state or US territory did the boat return?
- [For shore trips, use:] In what state or U.S. territory were you fishing?
- [Prompt as needed.]
- 1 Alabama
  - 2 Alaska
  - 6 California
  - 9 Connecticut
  - 10 Delaware

- 12 Florida
- 13 Georgia
- 15 Hawaii
- 22 Louisiana
- 23 Maine
- 24 Maryland
- 25 Massachusetts
- 28 Mississippi
- 33 New Hampshire
- 34 New Jersey
- 36 New York
- 37 North Carolina
- 41 Oregon
- 43 Puerto Rico
- 44 Rhode Island
- 45 South Carolina
- 48 Texas
- 51 Virginia
- 52 U.S. Virgin Islands
- 53 Washington
- 55 Other - only allowable answers here are any of the Western Pacific territories and protectorates (Guam, American Samoa, American Marianas)
- 77 Stop recording trip details {go to end triploop}
- 98 DK
- 99 R {go to end triploop}

Q9 [For boat trips, use:] To what coastal county/parish/island/municipality did the boat return?  
 [If there seems to be confusion, this probe may be used: “What county were you in when the boat landed and you stepped off of the boat?”]  
 [For shore trips, use:] In what coastal county/parish/island/municipality were you fishing?  
 1 {record return county/parish/island/municipality/}  
 {record response and continue}  
 77 Stop recording trip details {go to end triploop}  
 98 DK  
 99 R {go to end  
 triploop}

[Coastal county is used for all areas except: Louisiana where parish is used, Hawaii and Virgin Islands where island is used, and Puerto Rico where municipality is used.]

A list of allowable coastal counties that actually have salt water fishing sites will be provided.

{Q9a is only asked if the county response is not included on the list of saltwater counties}

Q9a Just to confirm, you were saltwater fishing that day. Is that correct?

- 1 Yes
- 2 No {go to end triploop}
- 8 DK
- 9 R {go to end triploop}

{Q9b is only asked if the respondent did not know the county of the trip - probe for a city or town}

Q9b Do you know the name of the city or town that you (he/she) returned to?

- 1 {record response}
- 7 Stop recording trip details {go to end triploop}
- 8 DK
- 9 R {go to end triploop}

{Q9c is only asked if the respondent fished in California, and did not know the county or city}

Q9c Was that north of Santa Barbara County?

- 1 Yes
- 2 No
- 8 DK
- 9 R {go to end triploop}

{Q9d is only asked if the respondent fished in Florida, and did not know the county or city}

Q9d Was that on the Gulf of Mexico side or the Atlantic Side?

- 1 Gulf of Mexico
- 2 Atlantic
- 8 DK
- 9 R {go to end triploop}

Q10 Was most of your fishing effort that day in the ocean, a sound, a river, a bay or an inlet?

- 1 Ocean/ gulf
- 2 Sound
- 3 River
- 4 Bay
- 5 Inlet
- 6 Other {specify}
- 7 Stop recording trip details {go to end triploop}
- 8 DK
- 9 R {go to end triploop}

- Q11 [{ Ask if Q10=3 (river) and state of return is not CA or WA or OR } Was that in the lower part of the river which is brackish or affected by the tide?
- |   |                             |  |
|---|-----------------------------|--|
| 1 | yes                         | {if state of trip not HI then go to end triploop}<br>{if state of trip is HI then go to HI trip details} |
| 2 | no                          | {trip ineligible - go to end triploop}   |
| 3 | both                        | {go to end triploop}   |
| 7 | Stop recording trip details | {go to end triploop}   |
| 8 | DK                          |  |
| 9 | R                           | {go to end triploop}   |

**{Note: All states have been asked to provide similar lists of saltwater cut-off points for their rivers. These will be provided and incorporated into this question as it is for CA, WA, and OR. If a list is not provided by a state, then the general question should be asked.}**

- Q11a [Ask if Q10=3 (river) and state of return = 6 (CA)] And what river was that? Were you (was s/he) upstream or downstream of the cutoff point, which is {restore cutoff}?
- |    |                             |  |
|----|-----------------------------|--|
| 1  | the Albion river            | {cutoff=at the upper dock}                                   |
| 2  | the Big river               | {cutoff= the mid-2nd turn upstream}                          |
| 3  | the Eel river               | {cutoff= at the upper end cockrobin island}                  |
| 4  | the Klamath river           | {cutoff= at the 101 bridge}                                  |
| 5  | the Mad river               | {cutoff=1/2-way between the river mouth and 101 bridge}      |
| 6  | the Napa river              | {cutoff= south of hwy 37 bridge}                             |
| 7  | the Navaro river            | {cutoff= at the hwy 1 bridge}                                |
| 8  | the Noyo river              | {cutoff= at the end of dolphin cove marina}                  |
| 9  | the Redwood creek           | {cutoff= 1/4-way between river mouth and 101 bridge}         |
| 10 | the Sacramento river        | {cutoff= the Carquinez bridge at crockett}                   |
| 11 | the San Gabriel river       | {cutoff= Pacific coast highway bridge / Highway 1}           |
| 12 | the Smith river             | {cutoff=1/2-way between river mouth and 101 bridge}          |
| 13 | the Ten Mile river          | {cutoff= the old dock 100 yards upstream from hwy 1 bridge } |
| 14 | or another river            | {go to boatloop}   |
| 77 | Stop recording trip details | {go to end triploop}   |
| 98 | DK                          |  |
| 99 | R                           | {go to end triploop}   |

[Above the cutoff is freshwater and thus the trip is ineligible, go back to start of next trip.  
Below the cutoff is saltwater, therefore skip to Q15]

- Q11b [Ask Q10=3 (river) and state of return = 44 (OR)] And what river was that? Were you (was s/he) upstream or downstream of the cutoff point, which is {restore cutoff}?
- |   |                    |                                 |
|---|--------------------|---------------------------------|
| 1 | Alea river         | {cutoff=Mouth of Eckman Slough} |
| 2 | Beaver creek       | {go to boatloop}                |
| 3 | Big Nestucca River | {cutoff=Pacific City Bridge}    |
| 4 | Chetco river       | {cutoff=Hwy 101 bridge}         |

5	Columbia river	{cutoff=Astoria-Megler Bridge (Hwy 101)}
6	Coos Bay	{set ORnocutoff=1}
7	Coos Esuary	{set ORnocutoff=1}
8	Coos river	{go to boatloop}
9	Coquilla river	{cutoff=Hwy 101 Bridge}
10	D river	{go to boatloop}
11	Elk river	{go to boatloop}
12	Isthmus Slough	{set ORnocutoff=1}
13	Kilchis river	{go to boatloop}
14	Little Nestucca River	{cutoff=Hwy 101 Bridge}
15	Miami river	{go to boatloop}
16	Neconicum river	{cutoff=12th Avenue bridge in town of Seaside}
17	Nehalem river	{cutoff=Hwy 101 Bridge}
18	Netats river/Estuary	{set ORnocutoff=1}
19	Pistol river	{go to boatloop}
20	Rogue river	{cutoff=Hwy 101 bridge}
21	Salmon Habor	{set ORnocutoff=1}
22	Salmon river	{cutoff=Hwy 101 bridge}
23	Sand Lake	{set ORnocutoff=1}
24	Siletz river	{cutoff=Hwy 101 bridge}
25	Siuslau river	{cutoff=town of Florence}
26	Sixes river	{go to boatloop}
27	South Slough	{set ORnocutoff=1}
28	Tillamook Estuary/Bay	{set ORnocutoff=1}
29	Tillamook river	{go to boatloop}
30	Trask river	{go to boatloop}
31	Umpqua river	{cutoff=town of Gardiner}
32	Wilson river	{go to boatloop}
33	Winchester Bay	{set ORnocutoff=1}
34	Winchuck river	{go to boatloop}
35	Yachats river	{go to boatloop}
36	Yaquina Bay	{cutoff=Butler Bridge}
37	other	
77	Stop recording trip details	{go to end triploop}
98	DK	
99	R	{go to end triploop}

[Above the cutoff is freshwater and thus the trip is ineligible, go back to start of next trip.  
Below the cutoff is saltwater, therefore skip to Q15]

- Q11c [Ask Q10=3 (river) and state of return = 53 (WA)] And what river was that? Were you (was s/he) upstream or downstream of the cutoff point, which is {restore cutoff}?
- |   |                    |   |
|---|--------------------|---|
| 1 | the Chehalis river | {cutoff=Hwy 7 Bridge at Montesano}        |
| 2 | the Columbia river | {cutoff= Astoria-Megler bridge (Hwy 101)} |



- 3 the Dosewallips river {cutoff= Dosewallips State Park, where river leaves  
camping area}
- 4 the Duwamish river {cutoff= Spokane Street bridge is west seattle}
- 5 the Elk river {cutoff=Hwy 105 Bridge}
- 6 the Naselle river {cutoff= Hwy 101 bridge}
- 7 the Nemah river {cutoff = Hwy 101 bridge}
- 8 the Nisqually river {cutoff= ½ mile below I-5 bridge}
- 9 the Nooksack river {cutoff= Lummi Shore Drive Bridge}
- 10 the Palix creek {cutoff= Hwy 101 bridge}
- 11 the Payullup river {cutoff= 11th Street bridge in Tacoma (Hwy 509)}
- 12 the Skagit river {cutoff= junction of North and South forks}
- 13 the Snohomish river {cutoff=Old Hwy 99 Bridge}
- 14 the Stillaguamish river {cutoff= Hwy 529 bridge}
- 15 the Willapa river {cutoff=South bend}
- 16 or another river {skip to LABEL BoatCLoop}
- 77 STOP RECORDING TRIP DETAILS {go to end triploop}
- 98 DK
- 99 R {go to end triploop}

[Above the cutoff is freshwater and thus the trip is ineligible, go back to start of next trip.  
Below the cutoff is saltwater, therefore skip to Q15]

Q11d [Ask if Q10=3 (river) and state of return = 24 (MD) or 51 (VA)] Was this trip in the Potomac River, downstream of Washington DC?

- 1 Yes
- 2 No
- 98 DK
- 99 R {go to end triploop}

Q11e [Ask if Q10 ne 1 (Ocean/Gulf) and state of return = 53 (WA)] Which Marine Catch Area were you fishing in on that trip?

- 01 Area 1 (Ilwaco)
- 02 Area 2 (Westport-Ocean Shores)
- 21 Area 2-1 (Willapa Bay)
- 22 Area 2-2 (Gray's Harbor)
- 03 Area 3 (LaPush)
- 04 Area 4 (Neah Bay)
- 05 Area 5 (Sekiu, Pillar Point)
- 06 Area 6 (East Juan de Fuca Strait)
- 07 Area 7 (San Juan Islands)
- 81 Area 8-1 (Deception Pass, Hope Island, Skagit Bay)
- 82 Area 8-2 (Port Susan, Port Gardner)
- 09 Area 9 (Admiralty Inlet)
- 10 Area 10 (Seattle/Bremerton Area)

- 11 Area 11 (Tacoma-Vashon Island)
  - 12 Area 12 (Hood Canal)
  - 13 Area 13 (South Puget Sound)
  - 77 Stop recording trip details {go to end triploop}
  - 98 DK
  - 99 R {go to end triploop}
- Q11e2 [Ask if Q11c = 02] Were you fishing in...
- 21 Willapa Bay (Area 2-1)
  - 22 Gray's Harbor (Area 2-2)
  - 02 Or in other area's of the Westport-Ocean Shore's area
  - 77 Stop recording trip details {go to end triploop}
  - 98 DK
  - 99 R {go to end triploop}
- Q11e3 [Ask if Q11c=98] Were you fishing...
- 1 In the Strait of Juan de Fuca
  - 2 Or in Puget Sound
  - 3 No, Was fishing outside these areas
  - 98 DK
  - 99 R {go to end triploop}
- Q12a [Ask if state of return = 53 (WA)] Were you fishing for any particular kinds of fish on that trip?
- 1 SALMON (includes SteelHead, Trout, Chinook, Coho, Silver, King)
  - 2 HALIBUT
  - 3 ROCKFISH (includes Rock Bass, Sea Bass)
  - 4 SMELT
  - 5 "Anything"/"Whatever I could catch"/"Nothing in particular"
  - 6 OTHER {specify}
  - 77 STOP RECORDING TRIP DETAILS {go to end triploop}
  - 98 DK
  - 99 REFUSED/NO MORE SPECIES TARGETED {go to end triploop}
- Q12b [Ask if state of return = 44 (OR)]What kinds of fish did you try to catch that day?
- 01 "Anything"/"Whatever I could catch"/"Nothing in particular"
  - 02 Bottomfish
  - 03 Cabezon
  - 04 Flounder, Sole, SandDab, FlatFish
  - 05 GreenLing, Sea Trout
  - 06 Herring, Pacific Herring
  - 07 LingCod, Ling
  - 08 Pacific Halibut
  - 09 RockFish, Rock Bass, Sea Bass

- 10 Salmon, SteelHead, Trout, Chinook, Coho, Silver, King
- 11 Sturgeon
- 12 SurfPerch, Sea Perch, Perch
- 13 Tuna, Albacore
- 77 STOP RECORDING TRIP DETAILS {go to end triploop}
- 97 OTHER {specify}
- 98 DK
- 99 REFUSED/NO MORE SPECIES TARGETED {go to end triploop}
- Q12c [Ask if state of return=6 (CA), 44(OR), or 53(WA) and SALMON not in any position of Q12a or Q12b]  
Were you (was s/he) targeting salmon?
- 1 YES
- 2 NO
- 77 STOP RECORDING TRIP DETAILS {go to end triploop}
- 98 DK
- 99 R {go to end triploop}
- Q13a [Ask if [Q10 = Ocean/Gulf (1)] AND [state of return is NOT Puerto Rico or West Florida]]  
Was most of the fishing less than or greater than THREE miles from shore?
- 1 THREE miles or less from shore
- 2 Greater than THREE miles from shore
- 77 STOP RECORDING TRIP DETAILS {go to end triploop}
- 98 DK
- 99 R {go to end triploop}
- Q13b [Ask if [Q10 = Ocean/Gulf (1)] AND [state of return is Puerto Rico or West Florida]]  
Was most of the fishing less than or greater than TEN miles from shore?
- 5 TEN miles or less from shore
- 6 Greater than TEN miles from shore
- 77 STOP RECORDING TRIP DETAILS {go to end triploop}
- 98 DK
- 99 R {go to end triploop}
- Q14 [Ask if statereturn\_a=CA and countyreturn\_a=San Diego] OR [Ask if statereturn\_a=WA and countyreturn\_a={Clallam or Watcom or Skagit or Snohomish}] OR [Ask if statereturn\_a=ME and countyreturn\_a=Washington]  
Did you (s/he) fish in foreign waters **AND RETURN TO A US PORT?**
- 1 yes
- 2 no
- 7 Stop recording trip details {go to end triploop}
- 8 DK
- 9 R {go to end triploop}

{ Return to beginning of trip loop to profile next trip, if trips remain. Go to the end of the trip loop if no trips remain. }

----- Trip Questions - Hawaii only -----  
---

QH1. Were you targeting any particular kinds of fish on this trip?

- 1 A'awa (ah-ah-vah)" or Table Boss
- 2 A=u (pronounced ow)
- 3 Ahi (ah-hee)
- 4 Aholehole (ay-ho-lay-ho-lay)
- 5 Aku (ah-koo)
- 6 Akule (ah-koo-lee)
- 7 Albacore (albacore tuna)
- 8 Amberjack
- 9 Barracuda
- 10 Bigeye (bigeye tuna)
- 11 Billfish
- 12 Blue marlin
- 13 Bonfish
- 14 Convict tang
- 15 deep water bottomfish
- 16 Ehu (ay-hoo)
- 17 Gindai (gin-dye)
- 18 Goat fish
- 19 Hahalalu (ha-ha-la-loo)
- 20 Hapu=upu=u (ha-poo-oo-poo-oo, or ha-pa-poo for short)
- 21 Hinalea (he-na-lay-ah)
- 22 Ina (ee-na)
- 23 Kaku (ka-koo)
- 24 Kawakawa (kava-kava)
- 25 Kumu (koo-moo)
- 26 Mahi (mahimahi)
- 27 Malu (ma-loo)
- 28 Manini (ma-nee-nee)
- 29 Marlin
- 30 Menpachi
- 31 Moana (mo-ah-na)
- 32 Moi
- 33 Moonfish
- 34 Mu (moo or mo-ee)

- 35 Nabeta (na-beh-ta)
- 36 Nehu (nay-hoo)
- 37 Oama (oh-ah-mah)
- 38 Oio (oh-ee-oh)
- 39 Omilu (oh-me-loo)
- 40 Onaga or naga (oh-na-gah or na-gah)
- 41 Ono ( oh-no)
- 42 Opah (oh-pah)
- 43 Opakapaka (oh-pa-ka-pa-ka or paka)
- 44 Opelu (oh-pell-oo)
- 45 Opihi (oh-pee-hee)
- 46 Palani (pah-lah-nee)
- 47 Papio (pa-pee-oh or pah-pee-oh)
- 48 Parrot fish
- 49 reef fish
- 50 Sailfish
- 51 Sea bass
- 52 Skipjack (skipjack tuna)
- 53 Spearfish (short nosed spearfish)
- 54 Striped marlin
- 55 Taapae (Ta-ah-pay or tah-ah-pay)
- 56 Tako (ta-co)
- 57 Tombo
- 58 Tunas
- 59 Uhu
- 60 Ulua (oo-loo-ah)
- 61 Wahoo (wah-who)
- 62 Weke (ve-kee)
- 63 Yellowfin (yellowfin tuna)
- 64 No particular target
- 65 Other [record response]
- 77 Stop recording trip details { go to end triploop}
- 98 DK
- 99 R

QH What kind of fishing did you do on this trip? Was it trolling, hand-lining, bottom-fishing, casting with a rod and reel or pole and line, netting, scuba or spear-fishing or something else?

- 01 Trolling
- 02 Hand-lining
- 03 Bottom-fishing
- 04 Casting [Rod and reel or pole and line]
- 05 Netting
- 06 Spear-fishing [scuba or free-diving]

- 07 Other {record response}
- 77 Stop recording trip details {go to end triploop}
- 98 DK
- 99 R

QH {if gear\_1a=2}

And what method of hand-lining was that? Tuna hand-lining, deep water bottom-fishing, or shallow water bottom-fishing or something else?

- 1 Tuna hand-lining [includes palu ahi or ika shibi]
- 2 Deep water bottom-fishing
- 3 Shallow water bottom-fishing
- 4 Other {record response}
- 7 Stop recording trip details {go to end triploop}
- 8 DK
- 9 R

{if gear\_1a=3}

And what method of bottom-fishing was that? Deep water bottom-fishing, shallow water bottom-fishing, both deep and shallow or something else?

- 1 Deep water bottom-fishing
- 2 Shallow water bottom-fishing
- 3 Both deep and shallow
- 4 Other {record response}
- 7 Stop recording trip details {go to end triploop}
- 8 DK
- 9 R

QH Did you sell any of your catch on this particular trip?

- 1 Yes
- 2 No
- 7 stop recording trip details {goto end triploop}
- 8 DK
- 9 R

----- End of Trip Questions - Hawaii only -----

----- End of individual trip details -----

----- End of trip loop questionnaire -----

-----End of trip profiling questionnaire -----

END TRIPLOOP: This point may be reached by 1) refusals during the screening process, 2) refusals or attempted terminations during the trip profiling, or 3) at the end of a successful interview.

For 1) interviewers should attempt to interview someone else in the household, or schedule a callback.

For 2) Interviewers should indicate ...

- 1 the respondent does not remember any more details about ANY trips; or
- 2 the respondent refuses to continue; or
- 3 proxy respondent does not know trip details;
- 4 all of the remaining trips were like the one we just talked about.
- 5 respondent needs to change number of trips.

The interviewer should ask: For the remaining {restore number of remaining trips not discussed} days, could you at least please tell me how many times and in what state and county or US territorial island you fished from a party/charter boat, a private/rental boat, and the shore?

For unfinished interviews, unfinished proxy interviews, and hard refusals at this point, the interviewer should attempt to schedule a call-back.

For response 4, the total number of trips remains the same and a variable noting all trips the same is recorded.

For response 5, make the necessary adjustments to the interview and complete the interview.

For 3) Okay. That concludes the questions that I have about your fishing. Thank you very much for your time and assistance.

[COMPARE LIST OF COMPLETED NAMES WITH FISHERMEN NAMES AND ASK FOR THE PEOPLE WHO HAVE NOT YET BEEN COMPLETED.]

If there are additional anglers in the household who still need to be interviewed, ask:  
“Now, may I please speak to... “

[If respondent indicates that one or more of the people list are children, ask current respondent to continue with you answering the questions based on the child’s fishing activities]

Continue with individual interview.

ATTACHMENT 2a



**Washington State RecFin Survey**  
**Wave 3, 2004**  
**(Fishing From May 1<sup>st</sup> to June 30<sup>th</sup>)**  
(Revised 7/2/04)

---

Hello, I'm calling on behalf of the Washington Department of Fish and Wildlife. May I speak to \_\_\_\_\_. (CONTINUE) My name is \_\_\_\_\_ (and I'm calling on behalf of the Washington Department of Fish and Wildlife). We're surveying recreational fishermen in the State of Washington for use in conservation of coastal resources. (ARRANGE A CB IF NECESSARY; IF FISHERMAN WILL NOT BE AVAILABLE DURING SURVEY PERIOD OR IS A YOUNG CHILD, SCREEN FOR A PROXY.)

S1. First, can I confirm that you purchased a (TYPE OF LICENSE) fishing license this year? (THE LICENSE TYPE IS RECORDED ON THE YELLOW VALIDATION STICKER)

1. Yes, license type(s) is correct (SKIP TO INTRO AFTER QS2)
2. No, purchased different type of license (GO TO QS2)
3. No, didn't purchase any fishing license this year (THANK & TERMINATE)
4. DK, respondent is a proxy (SKIP TO INTRO AFTER QS2)

S2. Please read me your WILD ID number. It is listed on the yellow validation sticker on your license.

1. Correct WILD ID (CONTINUE)
2. Incorrect WILD ID (CONFIRM ADDRESS AND ASK FOR OTHER INDIVIDUAL AT SAME ADDRESS WITH SAME NAME; IF NONE, THANK & TERMINATE)

We want to gather information from people who have been saltwater sportfishing for fish in May and June. Saltwater fishing includes fishing in the ocean, the sound, bays and in the brackish portions of rivers. This survey does not include fishing in freshwater, **or** fishing for shellfish, such as crabs, clams or shrimp **or** any trips you made in Canadian waters. Recreational fishing means the primary purpose of the fishing is for fun, relaxation, or personal consumption, as opposed to providing income from the sale of fish. Before we begin, I want to assure you that your participation in this survey is voluntary, and your answers will be kept strictly confidential. This should only take a few minutes.

Q1. Did you make any recreational saltwater fishing trips in Washington in the 2-month period between May 1<sup>st</sup> and June 30<sup>th</sup>?

1. Yes (CONTINUE)
2. No [THANK & TERMINATE. THIS IS A COMPLETE]
3. Don't know [THANK & TERMINATE. THIS IS NOT A COMPLETE]
4. Refused [THANK & TERMINATE. THIS IS NOT A COMPLETE]

Q2. How many saltwater recreational fishing trips did you take in Washington waters between May 1<sup>st</sup> and June 30<sup>th</sup>?

\_\_\_\_\_ trips  
98 Don't Know (ASK FOR BEST GUESS)

99 Refused (THANK & TERMINATE)

Q3. Can you recall the dates of those (#) trips? (I have a calendar here in case you need help with the dates.) [RECORD MONTH AND DAY FOR EACH TRIP; IF DK, RECORD MONTH & WEEKDAY OR WEEKEND.]

(IF Q2=1, SAY:) Now I'd like to ask for a little more information about that trip.

(IF Q2>1, SAY:) Now I'd like to ask for a little more information about each trip, starting with the most recent.

Q4. Please think about the trip you took on (date). On that trip, were you fishing from . . . (READ CHOICES)

1. A private or rental boat (ASK Q5)
2. A charter or party boat (ASK Q7 & Q10, THEN SKIP TO Q14)
3. The shore, or
4. A jetty, pier or other structure
5. Other (SPECIFY) \_\_\_\_\_
98. Don't know/cannot remember [DO NOT READ;]
99. Refused [DO NOT READ;]

Q5. (P/R BOATS ONLY:) How many other anglers were fishing with you in the same boat on that trip?

You + \_\_\_\_\_ anglers

98 Don't Know

99 Refused

(NOTE: DO NOT COUNT THE ANGLER BEING INTERVIEWED AND DO NOT INCLUDE NON-ANGLERS. THIS SHOULD BE THE NUMBER OF ANGLERS WHO FISHED IN THE BOAT IN ADDITION TO THE ANGLER BEING INTERVIEWED.)

Q6. Was most of your fishing that day in the ocean, sound, river, or bay?

1. ocean
2. sound or straight
3. river
4. bay
5. other (SPECIFY) \_\_\_\_\_

Q7. Which Marine Catch Area were you fishing in on that trip? (I have a map here if you need help determining the area.)

- |                                      |  |
|--------------------------------------|--|
| 1. Area 1 (Ilwaco)                   | 10. Area 8-1 (Deception Pass, Hope Island, Skagit Bay) |
| 2. Area 2 (Westport-Ocean Shores)    | 11. Area 8-2 (Port Susan and Port Gardner)             |
| 3. Area 2-1 (Willapa Bay)            | 12. Area 9 (Admiralty Inlet)                           |
| 4. Area 2-2 (Gray's Harbor)          | 13. Area 10 (Seattle/Bremerton Area)                   |
| 5. Area 3 - (LaPush)                 | 14. Area 11 (Tacoma-Vashon Island)                     |
| 6. Area 4 (Neah Bay)                 | 15. Area 12 (Hood Canal)                               |
| 7. Area 5 (Sekiu and Pillar Point)   | 16. Area 13 (South Puget Sound)                        |
| 8. Area 6 (East Juan de Fuca Strait) | 98. Don't know/cannot remember                         |
| 9. Area 7 (San Juan Islands)         | 99. Refused  |

Q8. What type of fishing gear did you personally use during this trip? Was it a rod and reel, a spear, a dip net, or something else?

1. Rod and reel
2. Spear
3. Dip net
4. Other [SPECIFY] \_\_\_\_\_
98. Don't remember
99. Refused

Q9. Were you fishing for any particular kinds of fish on that trip? [DON'T READ LIST OR PROMPT; CHECK ALL THAT APPLY]

- |                                     |                           |
|-------------------------------------|---------------------------|
| 1. Anything, whatever I could catch | 8. Flounder               |
| 2. Salmon                           | 9. Bottomfish (PROBE)     |
| 3. Halibut                          | 10. Other [SPECIFY] _____ |
| 4. Rockfish (ANY KIND OF ROCKFISH)  | 98. DK                    |
| 5. Smelt                            | 99. Refused               |
| 6. Lingcod                          |                           |
| 7. Sturgeon                         |                           |

Q10a. What was the name of the launch site that your boat returned to?

Q10b. Which marina or launch location did the charter or party boat return to? (SKIP TO Q14)

Q10c. Where specifically did you fish?

Record Site Name: \_\_\_\_\_

Q11. What county is that in?

1. Clallam (Strait of Juan de Fuca)
2. Grays Harbor (Ocean Shores / Aberdeen)
3. Island (Whidbey Island / Camano Island)
4. Jefferson (Port Townsend)
5. King (Seattle)
6. Kitsap (Bremerton)
7. Mason (South Hood Canal)
8. Pacific (Willapa Bay / South Coast)
9. Pierce (Tacoma)
10. San Juan (San Juan Islands)
11. Skagit (Anacortes / La Connor)
12. Snohomish (Everett)
13. Thurston (Olympia / South Puget Sound)
14. Whatcom (Bellingham / North Puget Sound)
15. Other (SPECIFY) \_\_\_\_\_
98. Don't Know (ASK Q11a)
99. Refused

Q11a. Can you tell me a nearby town or landmark?

\_\_\_\_\_

Q12a. (BOATS:) Does the public have access to the place from which the boat left, or is it private access?

Q12b. (SHORE:) Does the public have access to this site?

[IF RESPONDENT ASKS, SAY:] Public access sites are those where everyone in the general public has access, even though you may or may not have to pay a fee to use the site. Private access sites often have restricted access, such as gates or guards to keep out non-members. Personal (private) residences are also private access sites.

1. Public has access
2. Private access only
3. Military
8. Don't know / Can't remember
9. Refused

Q13. About what time of day did you complete this trip?

1. before 9 AM
2. 9 AM to 11 AM
3. 11AM to 1 PM
4. 1 PM to 3 PM
5. 3 to 7 PM
6. after 7 PM
98. DK
99. Refused

(Note: Some anglers may make more than one trip in a single day. For instance, folks may come in for lunch and go out after lunch and do more fishing, or folks may change modes (go out on a boat, come in for lunch and do a little shore fishing in the same area after lunch before leaving). In other words, folks may make two or more trips (return to port / leave fishing grounds twice) in a single day. We need to count these as separate trips.)

Q14. Did you do any other recreational saltwater fishing **that day**?

1. Yes [ASK Q4-13 FOR THAT TRIP]
2. No (GO TO NEXT TRIP OR IF LAST TRIP, CONTINUE WITH Q15)
3. Uncertain

(ASK AFTER ALL TRIP INFORMATION HAS BEEN COLLECTED)

Q15. Did you make any other saltwater fishing trips between May 1<sup>st</sup> and June 30<sup>th</sup>?

1. Yes [RETURN TO Q3]
2. No [THANK AND TERMINATE]
3. Uncertain [THANK AND TERMINATE]

On behalf of the Washington Department of Fish and Wildlife, I want to thank you very much for taking the time to complete this survey. You have been very helpful. Thanks again, and good luck on your next fishing trip.

---

Q15. (INTERVIEWER, DID YOU INTERVIEW THE FISHERMAN OR A PROXY?)

1. fisherman
2. proxy (CONTINUE)

Q16. *Interviewer: Record reason for proxy data*

1. *Parent prefers to complete interview*
2. *Language barrier*
3. *Fisherman is unavailable during study period*
4. *Other (SPECIFY)* \_\_\_\_\_

ATTACHMENT 2b

## Attachment 02b

# Oregon License-Frame Telephone Survey Instrument

---

*A "complete" interview captures the number of fishing episodes during the two-month period, or wave in saltwater in Oregon. A "fishing episode" is the total time spent fishing during a day from a major mode: man-made structure (MM), beach/bank (BB), charter boat (PC), or private/rental boat (PR). Most license holders will have only one fishing episode per day, so throughout the interview "day" is used in place of "fishing episode" because the latter is likely to confuse license holders. The term "fishing trip" is not used because a license holder might lump several fishing episodes (days) into one multi-day trip away from home. If a license holder refuses to continue with the interview anytime after the number of quantified fishing episodes has been recorded (Q1), then the interview is considered "complete." However, the interviewer should encourage license holders to answer every question for each fishing episode. At a minimum, if possible, the interviewer should try to ascertain the mode and area of each fishing episode before the license holder ends the conversation. Proxies will not be used to answer questions for license holders.*

*Key: Intro = introductory element, Def = definition, Q=base question, B = boat question, and S = shore question*

---

**Intro1.** Hello, my name is \_\_\_\_\_, and I'm calling for the Oregon Department of Fish and Wildlife, which is collecting information about saltwater sport fishing for use in conservation of coastal resources.

**Intro2.** May I please speak to <license holder> ?

1. Yes (speaking)
  2. Yes (person who answered phone gets license holder) [repeat Intro1, then go to Intro3]
  3. Not now (license holder will be available later during the survey period)  
[schedule a callback and thank]
  4. No (will not be available later during the survey period) [terminate; not complete]
  9. Refused [terminate; not complete]
- 

*The survey period is the first 3 or 4 weeks of the calling month or until the required number of completed interviews is obtained.*

---

**Intro3.** May I please ask you some questions about your fishing activities?

1. Yes
2. Not now (license holder will participate later during the survey period) [schedule a callback and thank]
9. Refused [terminate; not complete]

Before we begin, I want to assure you that your participation in this survey is voluntary, and your answers will be kept strictly confidential. This should only take a few minutes.

---

*If license holder wants to know how we got his/her phone number, explain that his/her name was randomly drawn from the Oregon sport fishing license database; the phone number was either in the database or was looked up.*

---

**Def.** Our focus is on saltwater sport fishing in Oregon. By "sport fishing" I mean the primary purpose of fishing or spearfishing was for fun, relaxation or personal consumption—not for income. By "saltwater" I mean ocean, bays, estuaries and salty areas of rivers.

**Q1.** In <June and July> how many days did you go saltwater sport fishing or spearfishing for fish—not crabs—in Oregon?

1. Zero [close; complete]
2. More than zero [record number of days, actual or approximate]
98. Don't know (no. of days not established) [close; not complete]
99. Refused (no. of days not established) [terminate; not complete]

---

*Fishing can be done with any kind of equipment including hook & line, net, spear (by divers, for example), etc.*

---

**Q2.** Can you recall the approximate date(s)? I have a calendar here in case you need help.

1. [record date(s)]
2. Not sure [record as much information as possible: month, type of day (weekday, weekend or holiday), frequency (e.g., every other Tuesday), etc.]
98. Don't know [close; complete]
99. Refused [terminate; not complete]

---

*We are interested in the fishing dates as a means of minimizing the possibility of a license holder over- or underestimating the number of fishing days. We use the term "approximate" in order to make the question seem less demanding.*

---

*Any refusal after this point will be "complete" although the interviewer should try to ascertain the mode and area of all fishing days before the license holder exits the conversation.*

---

**Q3.** (If Days>1, then start with the most recent date: Regarding <date>,) was most of your saltwater sport fishing that day done from a boat, beach, bank, jetty, dock, pier or bridge?

1. Boat [go to B1]
2. Beach or bank (=BB) [go to S1]
3. Jetty, dock, pier, bridge (=MM) [go to S1]
4. Other [record] [go to S1]
8. Don't know [close; complete]
9. Refused [terminate; complete]

---

*"Breakwater" can be coded as jetty (3). "Rocks" might be either a bank (2) or a jetty (3).*

---



---

*If license holder fished from more than one major mode (MM, BB, PC and PR) during a day, then we want to go through the question loop for each mode of fishing.*

---

---

## BOATS

**B1.** (Boat) Was that on a charter boat or a private or rental boat?

1. Charter or guide boat (=PC)
2. Private or rental boat (=PR) [go to B3]
8. Don't know [go to B3]
9. Refused [close; complete]

---

*Provide license holder with definitions if needed: A charter (or guide) boat is a boat available for hire and includes the services of a skipper or guide, a private boat is privately owned, and a rental boat comes without the services of a skipper or guide. Both boat types (PC and PR) fish in both the ocean and inland (bay, river) waters.*

---

**B2.** (Boat, charter or guide) Are you the captain or crew member of a charter (or guide) boat?

1. yes [remind license holder that the survey is only interested in fishing done for recreation, not during work; response to Q1 may need to be adjusted]
2. no
9. Refused [close; complete]

**B3.** (Boat) Was most of that fishing in the ocean, a bay or a river?

1. Ocean [go to B4]
2. Bay or estuary [go to Q4]
3. River [go to Q4]
4. Other [record] [go to Q4]
8. Don't know [go to Q5]
9. Refused [close; complete]

---

*License holder may respond with "inlet" or "sound," despite the absence of these geographical areas in Oregon.*

---

*If license holder replies "50:50" ocean and bay/estuary/river, interviewer should attempt to get him/her to commit to one or the other; otherwise, use the "other" code.*

---

**B4.** (Boat) What is the name of the port you went out of?

1. [record name] [go to Q6]
  8. Don't know [go to Q6]
  9. Refused [close; complete]
-

---

## SHORE

- S1.** (Shore) Was most of that fishing in the ocean, a bay or a river?
1. Ocean [if MM (Q3), go to Q5; otherwise continue to S2]
  2. Bay or estuary [go to Q4]
  3. River [go to Q4]
  4. Other [record] [go to Q4]
  8. Don't know [go to Q5]
  9. Refused [close; complete]

---

*License holder may respond with "inlet" or "sound," despite the absence of these geographical areas in Oregon.*

---

*If license holder replies "50:50" ocean and bay/estuary/river, interviewer should attempt to get him/her to commit to one or the other; otherwise, use the "other" code.*

---

- S2.** (Shore) Do you know the name of the beach or area where you did most of that fishing?
1. [record name] [go to Q5]
  8. Don't know [go to Q5]
  9. Refused [close; complete]
-

- Q4.** What is the name of that <bay, estuary, river>?
1. [record name of water body]
  8. Don't know
  9. Refused [terminate; complete]
- Q5.** What is the nearest town to where you did most of that fishing?
1. [record name of nearest town]
  2. Not sure [record name of nearest state park, landmark, etc.]
  8. Don't know
  9. Refused [terminate; complete]
- Q6.** What kinds of fish did you try to catch that day? [record all that apply]
1. Anything (or nothing in particular) [go to Q8]
  2. Bottomfish [go to Q8]
  3. Cabezon [go to Q8]
  4. Flounder, sole, sanddab or flatfish [go to Q8]
  5. Greenling (also called "sea trout") [go to Q8]
  6. Herring (or Pacific herring) [go to Q8]
  7. Lingcod (or "ling") [go to Q8]
  8. Pacific halibut [go to Q8]
  9. Rockfish (also called "sea bass" or "rock bass") [go to Q8]
  10. Salmon (includes steelhead, trout, chinook, coho, silver and king) [go to Q7]
  11. Sturgeon [go to Q7]
  12. Surfperch (also called "sea perch" or "perch") [go to Q8]
  13. Tuna (or albacore) [go to Q8]
  97. Other [specify] [go to Q8]
  98. Don't know
  99. Refused [terminate; complete]

---

*The interviewer should not lump specific targets with the larger group; so if the license holder says she targeted "kelp greenling" then the interviewer will use the "other" code (97)—not the "greenling" code (5)—and record the fish name.*

---

- Q7.** [If this is the first fishing day being discussed AND days >5 (Q1) AND area = non-ocean (B2 or S1)] AND target = ONLY salmon (10) and/or sturgeon (11) (Q6), then: Were the other {restore number of days minus one} days of fishing also for {restore target(s)} from {restore mode} in {restore area}?
1. Yes [close; complete]
  2. No
  8. Don't know
  9. Refused [close; complete]
- Q8.** Did you do any other saltwater sport fishing that day, for example from {restore opposite of current mode, i.e. "a boat" or "shore"}?
1. Yes [go to Q3 with modified wording: Was most of that fishing done from a boat, beach...?, then S1 or B1 for another mode of fishing; skip Q7]
  2. No [if number of days (Q1) is more than one and not all days have been discussed, then go to Q3 for another day of fishing; otherwise, go to Q9]
  8. Don't know
  9. Refused [close; complete]
- Q9.** While we were talking, did you think of any other saltwater sport fishing you did in Oregon in <June and July> that we have not discussed?
1. Yes [return to Q2 for the date, then continue loop with Q3]
  2. No [close]
  8. Don't know [close; complete]
  9. Refused [close; complete]

### **Terminate**

*(this is somewhat less generous than "close" below)*

Thank you very much for your time.

---

***The interviewer should code the reason for the termination or close: language barrier, rest of trips the same, late for doctor appointment, all questions answered, etc.***

---

***If the license holder tries to bail out of survey before answering all the question for each fishing episode, then the interviewer should try to ascertain the mode and type of water body for the remaining episodes before losing the license holder.***

---

### **Close**

On behalf of the Oregon Department of Fish and Wildlife, I want to thank you very much for taking the time to answer these questions. You have been very helpful (interviewer can use discretion with wording). Thanks again, and good luck on your next fishing trip.

---

*If license holder asks for more information about the survey or has questions, please refer to Supplement D. Thank you, Interviewer!*

---

ATTACHMENT 2c

**Attachment 2c**  
**California License-Frame Telephone Survey**

Hello. May I please speak to (license holder)? (ARRANGE CALLBACK OR CONTINUE) Hello, my name is \_\_\_\_\_, and I'm calling for the California Department of Fish and Game, to collect information about saltwater sportfishing. Your phone number was selected at random from all sport fishing license holders. May I ask you a few questions?

(cont)

Before we begin, I want to assure you that the information you provide will be kept confidential, and that this survey is being conducted in accordance with the Privacy Act of 1974, therefore, your participation is voluntary.

Q1. First, in what state is your permanent residence?

State \_\_\_\_\_  
or foreign country (specify) \_\_\_\_\_ (SKIP TO Q2)

Q1a. In what California County is your permanent residence?

California County \_\_\_\_\_ (SKIP TO Q2)  
Don't Know (CONTINUE)

Q1a. What city do you live in? \_\_\_\_\_

Q2. This is a very important study on sportfishing in California. By "sportfishing" I mean the primary purpose of fishing was for personal fun, relaxation or food – not for income or employment. For this entire study please exclude any non-sport fishing trips and trips outside of California. In the past 12 months, have you gone freshwater or saltwater sportfishing, including finfish and shellfish, in the state of California?

Yes (CONTINUE)

No (THANK & TERMINATE. COUNTS AS A COMPLETED INTERVIEW)

Q3. In the past 12 months, what percent of your California sportfishing trips have been freshwater and what percent have been saltwater?

\_\_\_\_\_ % freshwater (IF 100%, ASK Q4 &5, THEN THANK &  
TERMINATE; COUNTS AS A COMPLETED INTERVIEW)

\_\_\_\_\_ % saltwater (IF 100%, SKIP TO Q6)

100%

Q4. I'd like to ask you about your most recent **freshwater** fishing, which includes fishing in ponds, lakes, reservoirs, and freshwater portions of rivers and streams. In May and June, did you go **freshwater** sportfishing for fish in California?

Yes (CONTINUE)

No (SKIP TO Q6)

Q5. How many times did you go **freshwater** sportfishing for fish in California in May and June?

\_\_\_\_\_ Times

Q6. Now I'd like to talk about your most recent **saltwater** sportfishing. By "saltwater" I mean ocean, bays, estuaries and salty areas of rivers. In May and June, did you go **saltwater** sportfishing or spearfishing for fish, not shellfish, in California?

Yes (CONTINUE)

No (GO TO LOBSTER QUESTIONNAIRE. COUNTS AS A COMPLETED INTERVIEW)

Q7. How many times did you go **saltwater** sportfishing for fish in California in May and June?

\_\_\_\_\_ Times

98 Don't Know (no. of days not established) (PROBE WELL FOR THEIR BEST GUESS AND CONTINUE. IF ABSOLUTELY CANNOT REMEMBER ANYTHING, THANK & TERMINATE; NOT A COMPLETE)

99 Refused (no. of days not established) (THANK & TERMINATE; NOT A COMPLETE)

Q8. Can you recall the approximate dates? I have a calendar here with me in case you need help. (IF RESPONDENT CANNOT REMEMBER SPECIFIC DATES, PROMPT FOR MONTH AND WHETHER WEEKDAY OR WEEKEND)

Dates: \_\_\_\_\_

(IF Q7 = 1, SAY:) Now I'd like to ask for a little more information about your fishing on that day.

(IF Q7>1, SAY:) Now I'd like to ask for a little more information about your fishing on each of those days, starting with the most recent.

Q9. Thinking about your saltwater fishing on (date), did you fish from a boat that day? . . . Did you (also) fish from the shore that day? (CHECK ALL THAT APPLY & ANSWER "B" AND/OR "S" SECTIONS AS APPROPRIATE. IF MORE THAN ONE SHORE MODE, ASK ABOUT THE ONE USED LAST THAT DAY)

1. boat (GO TO BOAT SECTION)

2. beach or bank (GO TO SHORE SECTION)



3. jetty, dock, pier, bridge or other man-made structure (GO TO SHORE SECTION)
4. other (SPECIFY) \_\_\_\_\_(GO TO SHORE SECTION)
8. don't know (PROBE FOR DESCRIPTION AND RECORD UNDER "OTHER")  
(Note: Man-made banks are 'beach and bank' unless the bank is surrounded by water on 3 sides, which are considered jetty 'structures'.

## BOAT SECTION

B1. Was that on a charter, party or guide boat or a private or rental boat? (IF MORE THAN ONE BOAT MODE, ASK ABOUT THE ONE USED LAST THAT DAY)  
[NOTE: PARTY, CHARTER AND GUIDE BOATS HAVE PAID PASSENGERS WHOSE OPERATORS GENERATE INCOME OR EMPLOYMENT.]

1. charter or party boat (CONTINUE)
2. private boat (SKIP TO B3)
3. rental boat (SKIP TO B3)
4. don't know (SKIP TO B3)
5. refused (SKIP TO B3)

B2. Were you the captain or a crew member of the charter or party boat on that trip?

1. yes (GO TO NEXT TRIP)
2. no (CONTINUE)
3. refused (CONTINUE)

B3. Was most of that fishing in the ocean, a bay, an estuary or a river?

1. ocean (SKIP TO B7)
2. bay or estuary (CONTINUE)
3. river (SKIP TO B5)
4. other (SPECIFY) \_\_\_\_\_ (SKIP TO B7)
5. don't know (SKIP TO B7)
6. refused (SKIP TO B7)

B4. Which bay/estuary were you fishing in?

- |                              |                         |
|------------------------------|-------------------------|
| 1. Anaheim Bay               | 13. Mission Bay         |
| 2. Arcata Bay                | 14. Monterey Bay        |
| 3. Balboa Bay                | 15. Morro Bay           |
| 4. Bodega Bay                | 16. Newport Bay         |
| 5. Bolinas Bay               | 17. Noyo Bay            |
| 6. Crescent City             | 18. Pierpoint Bay       |
| 7. Drakes Bay                | 19. Richardson Bay      |
| 8. Estero Bay                | 20. San Diego Bay       |
| 9. Grizzley Bay (fresh only) | 21. San Francisco Bay   |
| 10. Half Moon Bay            | 22. San Leandro Bay     |
| 11. Honker Bay (fresh only)  | 23. San Luis Obispo Bay |
| 12. Humboldt Bay             | 24. San Pablo Bay       |

- 25. San Pedro Bay
- 26. San Rafael Bay
- 27. Suisun Bay (fresh only)  
(NOW SKIP TOQB7)

- 28. Tomales Bay
- 29. Trinidad Bay (ocean)
- 30. Other (SPECIFY) \_\_\_\_\_

B5. What was the name of the river you were fishing in?

- 1. Albion River (Mendocino)
- 2. Big River (Mendocino)
- 3. Eel River (Humboldt)
- 4. Kalmath River (Del Norte)
- 5. Mad River (Humboldt)
- 6. Napa River (Napa)
- 7. Navaro River (Mendocino)
- 8. Noyo River (Mendocino)
- 9. Redwood Creek (Humboldt)
- 10. Sacramento River (Solano/Contra Costa)
- 11. San Gabriel River (Los Angeles)
- 12. Smith River (Del Norte)
- 13. Ten Mile River (Mendocino)
- 14. Other (SPECIFY) \_\_\_\_\_(SKIP TO B7)

B6. Were you fishing upstream or downstream of (cutoff point)?

- 1. upstream (DELETE TRIP; GO TO NEXT TRIP)
- 2. downstream (CONTINUE)
- 3. both (CONTINUE)
- 4. DK
- 5. Refused

(ASK B7 OF PRIVATE BOATS ONLY; PASSENGER BOATS SKIP TO Q9)

B7. Does the public have access to the place from which the boat left, or is it private access? (Public access sites are those where everyone in the general public has access, even though you may or may not have to pay a fee to use the site.

Private access sites often have restricted access, such as gates or guards like you find in clubs. Personal residences are also private access sites.)

- 1. public has access (CONTINUE)
- 2. private access only (the public does not have access) (CONTINUE)
- 3. military (do not read) (CONTINUE)
- 4. DK (CONTINUE)
- 5. Refused (CONTINUE)

B8. Did you leave from a launch ramp, a hoist, or something else?

- 1. launch ramp
- 2. hoist
- 3. slip/moored/berth/dock
- 4. beach launch

5. something else (SPECIFY) \_\_\_\_\_

(IF B7 = 2 (PRIVATE) AND B8 = 1 (LAUNCH RAMP), ASK B8A; OTHERWISE SKIP TO B9)

B8a. What was the name of the launch ramp? \_\_\_\_\_

B9 Did the boat depart and return on the same calendar day? (ONE DAY TRIP).

1. Yes (SKIP TO B13)
2. No

B10. What date did the boat depart?

\_\_\_\_\_ Date

B11. What date did the boat return?

\_\_\_\_\_ Date

B12. During that trip, on how many calendar days did you actually fish?

\_\_\_\_\_ Days

B13. What time did the boat leave?

- |         |           |           |             |
|---------|-----------|-----------|-------------|
| 1. 1 am | 9. 9 am   | 16. 4 pm  | 24. 12 am   |
| 2. 2 am | 10. 10 am | 17. 5 pm  | (midnight)  |
| 3. 3 am | 11. 11 am | 18. 6 pm  | 25. DK (ASK |
| 4. 4 am | 12. 12 pm | 19. 7 pm  | B14)        |
| 5. 5 am | (noon)    | 20. 8 pm  | 26. Refused |
| 6. 6 am | 13. 1 pm  | 21. 9 pm  | (ASK B14)   |
| 7. 7 am | 14. 2 pm  | 22. 10 pm |             |
| 8. 8 am | 15. 3 pm  | 23. 11 pm |             |

B14. Did your boat leave after sunset?

1. Yes
2. No

B15. And what time did the boat return?

- |         |           |           |             |
|---------|-----------|-----------|-------------|
| 1. 1 am | 9. 9 am   | 16. 4 pm  | 24. 12 am   |
| 2. 2 am | 10. 10 am | 17. 5 pm  | (midnight)  |
| 3. 3 am | 11. 11 am | 18. 6 pm  | 25. DK (ASK |
| 4. 4 am | 12. 12 pm | 19. 7 pm  | B16)        |
| 5. 5 am | (noon)    | 20. 8 pm  | 26. Refused |
| 6. 6 am | 13. 1 pm  | 21. 9 pm  | (ASK B16)   |
| 7. 7 am | 14. 2 pm  | 22. 10 pm |             |
| 8. 8 am | 15. 3 pm  | 23. 11 pm |             |

B16. Did your boat return before sunrise?

1. Yes
2. No

- B17. Was most of your fishing that day more or less than 3 miles from the mainland or an island?
1. more than 3 miles (inc. 3 miles) (SKIP TO B19)
  2. less than 3 miles (CONTINUE)
- B18. Were you fishing off the mainland or off an island?
1. off the mainland
  2. off an island
- B19. What kinds of fish were you trying to catch that day? (IF ANGLER LISTS MORE THAN TWO KINDS OF FISH, ASK WHAT WERE THE TWO MAIN KINDS OF FISH YOU TARGETED THAT DAY.)
1. anything/nothing in particular (*ask B19a*)
  2. salmon
  3. rockfish (blue, black, yellowtail, chilipepper, bacaccio, widow, canary, olive, gopher, brown, vermilion)
  4. lingcod
  5. tuna (albacore, bluefin, yellowfin, skipjack), sharks, billfish
  6. yellowtail
  7. white seabass
  8. bass (kelp or calico, barred sandbass), barracuda, bonita
  9. halibut
  10. croakers (white, yellowfin, spotfin)
  11. perches (barred, redbtail, shiner)
  12. corbina
  13. smelt (surf, jacksmelt, longfin, nightmelt)
  14. sturgeon
  15. striped bass
  16. other (SPECIFY) \_\_\_\_\_

- 19a. Were you bottom fishing or troll/drift fishing?
1. bottom fishing
  2. troll/drift fishing

- B20. When your fishing trip ended, to what county did your boat return to shore?
- |                 |                     |                  |
|-----------------|---------------------|------------------|
| 1. Alameda      | 10. Orange          | 19. Solano       |
| 2. Contra Costa | 11. Sacramento      | 20. Sonoma       |
| 3. Del Norte    | 12. San Diego       | 21. Ventura      |
| 4. Humboldt     | 13. San Francisco   | 22. Other        |
| 5. Los Angeles  | 14. San Luis Obispo | _____ (ASK B21)  |
| 6. Marin        | 15. San Mateo       |                  |
| 7. Mendocino    | 16. Santa Barbara   | 23. DK (ASK B21) |
| 8. Monterey     | 17. Santa Clara     |                  |
| 9. Napa         | 18. Santa Cruz      |                  |

(ALL EXCEPT DK & OTHER SKIP TO B22)

B21. What town was nearest to where your boat returned to shore?

Town \_\_\_\_\_

B22. (IF SAN DIEGO, ORANGE, OR LOS ANGELES COUNTY, ASK:) Did you fish in Mexican waters on that trip?

1. yes (ASK B23)
2. no (SKIP TO NEXT SECTION)
3. DK (SKIP TO NEXT SECTION)
4. Ref (SKIP TO NEXT SECTION)

B23. Did you do some fishing in both Mexican and U.S. waters or were you fishing only in Mexican waters?

1. Both Mexican & U.S. waters
2. Mexican waters only

### SHORE SECTION

S1. Was most of your fishing that day in the ocean, a bay, an estuary, or a river?

1. ocean (SKIP TO S5)
2. bay or estuary ( CONTINUE)
3. river ( SKIP TO S3))
4. other (SPECIFY) \_\_\_\_\_ (SKIP TO S5)
5. don't know (SKIP TO S5)
6. refused (SKIP TO S5)

S2. Which bay or estuary were you fishing in?

- |                              |                             |
|------------------------------|-----------------------------|
| 1. Anahiem Bay               | 16. Newport Bay             |
| 2. Arcata Bay                | 17. Noyo Bay                |
| 3. Balboa Bay                | 18. Pierpoint Bay           |
| 4. Bodega Bay                | 19. Richardson Bay          |
| 5. Bolinas Bay               | 20. San Diego Bay           |
| 6. Crescent City             | 21. San Francisco Bay       |
| 7. Drakes Bay                | 22. San Leandro Bay         |
| 8. Estero Bay                | 23. San Luis Obispo Bay     |
| 9. Grizzley Bay (fresh only) | 24. San Pablo Bay           |
| 10. Half Moon Bay            | 25. San Pedro Bay           |
| 11. Honker Bay (fresh only)  | 26. San Rafael Bay          |
| 12. Humboldt Bay             | 27. Suisun Bay (fresh only) |
| 13. Mission Bay              | 28. Tomales Bay             |
| 14. Monterey Bay             | 29. Trinidad Bay (ocean)    |
| 15. Morro Bay                | 30. Other (SPECIFY) _____   |

(NOW SKIP TO S5)

- S3. What was the name of the river you were fishing in?
- |                              |                                |
|------------------------------|--------------------------------|
| 1. Albion River (Mendocino)  | 9. Redwood Creek (Humboldt)    |
| 2. Big River (Mendocino)     | 10. Sacramento River           |
| 3. Eel River (Humboldt)      | (Solano/Contra Costa)          |
| 4. Kalmath River (Del Norte) | 11. San Gabriel River (L.A.)   |
| 5. Mad River (Humboldt)      | 12. Smith River (Del Norte)    |
| 6. Napa River (Napa)         | 13. Ten Mile River (Mendocino) |
| 7. Navarro River (Mendocino) | 14. Other (SPECIFY) _____      |
| 8. Noyo River (Mendocino)    |                                |

- S4. Were you fishing upstream or downstream of (cutoff point)?
1. upstream (GO TO NEXT TRIP)
  2. downstream (CONTINUE)
  3. both (CONTINUE)
  4. DK
  5. Refused

- S5. Does the public have access to the place where you were fishing, or is it private? (Public access sites are those where everyone in the general public has access, even though you may or may not have to pay a fee to use the site. Private access sites often have restricted access, such as gates or guards like you find in clubs. Personal residences are also private access sites.)
1. public has access
  2. private access only (the public does not have access)
  3. military (DO NOT READ)
  4. DK
  5. Ref

- S6. In what county were you fishing?
- |                 |                   |                         |
|-----------------|-------------------|-------------------------|
| 1. Alameda      | 9. Napa           | 16. Santa Barbara       |
| 2. Contra Costa | 10. Orange        | 17. Santa Clara         |
| 3. Del Norte    | 11. Sacramento    | 18. Santa Cruz          |
| 4. Humboldt     | 12. San Diego     | 19. Solano              |
| 5. Los Angeles  | 13. San Francisco | 20. Sonoma              |
| 6. Marin        | 14. San Luis      | 21. Ventura             |
| 7. Mendocino    | Obispo            | 22. Other ____ (ASK S7) |
| 8. Monterey     | 15. San Mateo     | 23. DK (ASK S7)         |

(ALL EXCEPT DK & OTHER, SKIP TO S8)

- S7. What is the nearest town to where you did most of that fishing?  
Town \_\_\_\_\_

- S8. What kinds of fish were you trying to catch that day? (IF ANGLER LISTS MORE THAN TWO KINDS OF FISH, ASK WHAT WERE THE TWO MAIN KINDS OF FISH YOU TARGETED THAT DAY).

1. anything/nothing in particular
2. salmon
3. rockfish (blue, black, yellowtail, chilipepper, bacaccio, widow, canary, olive, gopher, brown, vermilion)
4. lingcod
5. tuna (albacore, bluefin, yellowfin, skipjack), sharks, billfish
6. yellowtail
7. white seabass
8. bass (kelp or calico, barred sandbass), barracuda, bonita
9. halibut
10. croakers (white, yellowfin, spotfin)
11. perches (barred, redtail, shiner)
12. corbina
13. smelt (surf, jacksmelt, longfin, night smelt)
14. sturgeon
15. striped bass
16. other (SPECIFY) \_\_\_\_\_

S9. What time did you start fishing?

- |         |           |           |                  |
|---------|-----------|-----------|------------------|
| 1. 1 am | 9. 9 am   | 16. 4 pm  | 24. 12 am        |
| 2. 2 am | 10. 10 am | 17. 5 pm  | (midnight)       |
| 3. 3 am | 11. 11 am | 18. 6 pm  | 25. DK (ASK S11) |
| 4. 4 am | 12. 12 pm | 19. 7 pm  | 26. Refused      |
| 5. 5 am | (noon)    | 20. 8 pm  | (ASK S11)        |
| 6. 6 am | 13. 1 pm  | 21. 9 pm  |                  |
| 7. 7 am | 14. 2 pm  | 22. 10 pm |                  |
| 8. 8 am | 15. 3 pm  | 23. 11 pm |                  |

S10. At what time did you stop fishing?

- |         |           |           |                  |
|---------|-----------|-----------|------------------|
| 1. 1 am | 9. 9 am   | 16. 4 pm  | 24. 12 am        |
| 2. 2 am | 10. 10 am | 17. 5 pm  | (midnight)       |
| 3. 3 am | 11. 11 am | 18. 6 pm  | 25. DK (ASK S11) |
| 4. 4 am | 12. 12 pm | 19. 7 pm  | S11)             |
| 5. 5 am | (noon)    | 20. 8 pm  | 26. Refused      |
| 6. 6 am | 13. 1 pm  | 21. 9 pm  | (ASK S11)        |
| 7. 7 am | 14. 2 pm  | 22. 10 pm |                  |
| 8. 8 am | 15. 3 pm  | 23. 11 pm |                  |

(IF S9 OR S10 = DK OR REFUSED, ASK S11; OTHERWISE SKIP TO S12)

S11. Did your fishing trip take place entirely at night?

1. Yes
2. No

S12. Did you finish fishing on the same calendar day that you started?  
yes ( GO TO NEXT TRIP OR Q10)

no (ASK S13)

S13. How many hours was your total trip duration? \_\_\_\_\_ hours

## ALL

Q10. While we were talking, did you think of any other saltwater sportfishing you did in California in May or June that we have not discussed?

1. yes (RETURN TO Q4 FOR THE DATE, THEN CONTINUE LOOP WITH Q5)
2. No (GO TO LOBSTER Q)
3. DK (GO TO LOBSTER Q)
4. Ref (GO TO LOBSTER Q)

## LOBSTER QUESTIONNAIRE

L1. Did you do any lobster fishing in California this past season, that is, between October 4<sup>th</sup> and March 17? (Lobster season is 10/4/03 - 3/17/04)

1. Yes (CONTINUE)
2. No (THANK & TERMINATE)

L3. How many lobster **trips** did you make this past season? (NOTE: ONE TRIP CAN LAST MULTIPLE DAYS)

\_\_\_\_\_ trips

L2. How many **days** did you fish for lobster this past season?

\_\_\_\_\_ days

L3. How many lobsters did you keep this past season? \_\_\_\_\_ lobsters

L4. In what geographic area did you take most of your lobster this past season?

\_\_\_\_\_

L5. What method do you usually use in your pursuit of lobster? Do you dive, use a hoop net or something else?

1. Dive
2. Hoop net
- 3 Other (SPECIFY)\_\_\_\_\_

L6. What percent of the time do you use a boat or kayak to get lobster?

\_\_\_\_\_ % of the time



Those are all my questions. On behalf of the California Department of Fish & Game, I want to thank you very much for taking the time to answer these questions. You have been very helpful. Thanks again, and good luck on your next fishing trip.

## ATTACHMENT 3

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

3. INTERVIEWER ID

4. YR/MO/DAY  2  0  0  4

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE     9. SITE CODE

10. INTERVIEW STATUS 1  Questionnaire Complete  
 2  Refused Non-Key Item  
 5  Refused Key Item

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

**\*11. Would you say you were fishing from ...**

- 0  Pier
  - 1  Dock
  - 2  Jetty, Breakwater, Breachway
  - 3  Bridge, Causeway
  - 4  Other Man-made Structure (Specify)
  - 5  Beach or Bank
  - 6  Head Boat
  - 7  Charter Boat
  - 8  Private Boat
  - 9  Rental Boat
- SH / HB / CH / PR

**\*12. Was most of your (specify mode) fishing effort today in the ...**

- 1  Ocean/gulf/open bay
- 2  Sound (Other than those specified)
- 3  River (Other than those specified)
- 4  Bay (Other than those specified)
- 5  Other (Specify) \_\_\_\_\_
- A  Narragansett Estuary
- B  Buzzards Bay Estuary
- C  Long Island Estuary
- D  Hudson/Raritan Estuary
- E  Delaware Estuary
- F  Chesapeake Estuary
- G  Albemarle/Pamlico Estuary

Code Q13 as "8."

**BOX A.** If response to Q11 is SH mode AND response to Q12 is "ocean/gulf/open bay" code Q13 as "1," 3 miles or less. (If response to Q 12 is "2" through "G," code Q13 as "Not Applicable")

**\*13. Was that**

- 1  Three Miles or Less from Shore
- 2  More than Three Miles
- 8  Does not apply.

**14. What type of gear was primarily used?**

- 01  Hook and Line
- 02  Dip Net, A-frame
- 03  Cast Net
- 04  Gill Net
- 05  Seine
- 06  Trawl
- 07  Trap
- 08  Spear
- 09  Hand
- 10  Other (Specify) \_\_\_\_\_
- 98  Unknown
- 99  Refused

**15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?**

.  Code as "99.9" if DK or Refused

**15b. [PC and PR only] To the nearest half-hour, how many hours have you spent on the boat, away from the dock, today?**

.  Code as "99.9" if DK or Refused

Not Applicable – SH mode

**16. (Ask if Beach or Bank) How many additional hours do you expect to fish from shore today? That is, how many more will you actually have your gear in the water?**

.  Additional BB Hours

Not fishing from beach or bank

**17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?**

No Particular Species/Anything

1st Target \_\_\_\_\_

2nd Target \_\_\_\_\_

**18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finishing in this state or from a boat launched in this state?**

No. of Days

998  Don't Know

999  Refused

**19. Not counting today, within the past 2 months, how many days?**

No. of Days

998  Don't Know

999  Refused

**\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?**

State Code; Name \_\_\_\_\_

County Code; Name \_\_\_\_\_

**21. What is the zip code of your residence?**

Zip Code

99997  Foreign Country

99998  Don't Know

99999  Refused

**22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?**

- 1  Private Residence
- 2  Institutional Housing – Code Q23 as "8".
- 8  Don't Know
- 9  Refused

**23. Does your home have a telephone?**

- 1  Yes
- 2  No
- 8  Don't Know/Not Applicable
- 9  Refused



ATTACHMENT 3a

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

3. INTERVIEWER ID

4. YR/MO/DAY

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE     9. SITE CODE

10. INTERVIEW STATUS 1  Questionnaire Complete  
 2  Refused Non-Key Item  
 5  Refused Key Item

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

\*11. Would you say you were fishing from ...

SH  0 Pier  
 1 Dock  
 2 Jetty, Breakwater, Breachway  
 3 Bridge, Causeway  
 4 Other Man-made Structure (Specify)  
 5 Beach or Bank

HB  6 Head Boat

CH  7 Charter Boat

PR  8 Private Boat  
 9 Rental Boat

\*12. Was most of your (specify mode) fishing effort today in the ...

1  Ocean/gulf/open bay  
 2  Sound (Other than those specified)  
 3  River (Other than those specified)  
 4  Bay (Other than those specified)  
 5  Other (Specify) \_\_\_\_\_  
 G  Albemarle/Pamlico Estuary  
 H  Biscayne Estuary  
 I  Whitewater Estuary  
 J  Sarasota Estuary  
 K  Tampa Estuary  
 L  Mobile Estuary  
 M  Atchafalaya Estuary

Code Q13 as "8."

**BOX A.** If response to Q11 is SH mode AND response to Q12 is "ocean/gulf/open bay" code Q13 as "1," 3 miles or less. (If response to Q 12 is "2" through "M," code Q13 as "Not Applicable")

\*13. Was that

1  Three Miles or Less from Shore 8  Does not apply.  
 2  More than Three Miles

14. What type of gear was primarily used?

01  Hook and Line 07  Trap  
 02  Dip Net, A-frame 08  Spear  
 03  Cast Net 09  Hand  
 04  Gill Net 10  Other (Specify) \_\_\_\_\_  
 05  Seine 98  Unknown  
 06  Trawl 99  Refused

15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?

.  Code as "99.9" if DK or Refused

15b. [PC and PR only] To the nearest half-hour, how many hours have you spent on the boat, away from the dock, today?

.  Code as "99.9" if DK or Refused

Not Applicable – SH mode

16. (Ask if Beach or Bank) How many additional hours do you expect to fish from shore today? That is, how many more will you actually have your gear in the water?

.  Additional BB Hours  
 Not fishing from beach or bank

17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?

No Particular Species/Anything

1st Target \_\_\_\_\_

2nd Target \_\_\_\_\_

18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finfishing in this state or from a boat launched in this state?

No. of Days  
 998  Don't Know  
 999  Refused

19. Not counting today, within the past 2 months, how many days?

No. of Days  
 998  Don't Know  
 999  Refused

\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?

State Code; Name \_\_\_\_\_  
   County Code; Name \_\_\_\_\_

21. What is the zip code of your residence?

Zip Code

99997  Foreign Country  
 99998  Don't Know  
 99999  Refused

22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?

1  Private Residence  
 2  Institutional Housing – Code Q23 as "8".  
 8  Don't Know  
 9  Refused

23. Does your home have a telephone?

1  Yes  
 2  No  
 8  Don't Know/Not Applicable  
 9  Refused

24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?

ANGLER'S NAME

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Name and/or phone number not given

D or N  
PHONE # (    )    -

\*25 **UNAVAILABLE CATCH.** Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, **NOT GROUP CATCH.** NOTE: FILLETS ARE UNAVAILABLE CATCH.

<p style="text-align:center;"><u>DISPOSITION CODES FOR Q25</u></p> <table style="width:100%;"> <tr> <td style="width:50%;">1 Thrown back alive/legal</td> <td style="width:50%;">5 Sold/plan to sell</td> </tr> <tr> <td>3 Eaten/plan to eat</td> <td>6 Thrown back dead/plan to throw away</td> </tr> <tr> <td>4 Used for bait/plan to use for bait</td> <td>7 Some other purpose</td> </tr> </table>	1 Thrown back alive/legal	5 Sold/plan to sell	3 Eaten/plan to eat	6 Thrown back dead/plan to throw away	4 Used for bait/plan to use for bait	7 Some other purpose	<p>BOX B. Is the type 2 catch grouped?</p> <p><input type="checkbox"/> Yes    <input type="checkbox"/> No</p> <p>(If YES – please remember that you cannot group type 2 catch!)</p>
1 Thrown back alive/legal	5 Sold/plan to sell						
3 Eaten/plan to eat	6 Thrown back dead/plan to throw away						
4 Used for bait/plan to use for bait	7 Some other purpose						

**TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	DISP
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

\*26. Did you catch any fish while you were fishing that I might be able to look at?

1  Yes

2  No – Code Q27, Q28, Q29 as "Not Applicable"

3  Yes, **BUT** fish on another angler's form –  
Fill in interview # where fish are listed

\*   – Code Q27, Q28, Q29 as "Not Applicable"

\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those who have their catch here.

No. of Contributors    88  Not Applicable

BOX C. If q. 11 is SH mode, code q. 30 as "88," and Code Box D as "8."

\*30. How many people fished on your boat today?

No. of People    888  Shore Mode

\*BOX D. If response to Q30 is 1, code as "Not Applicable." Otherwise, is this the first angler from this boat that I have interviewed?

1  Yes    8  Not Applicable

2  No – Record interview # of 1<sup>st</sup> angler in the fishing party. \*

\*27. Did you catch these yourself or did someone else catch some of them?

1  All Caught by Angler – Code Q28, Q29 as "Not Applicable"

2  Other Contributors    8  Not Applicable

\*28. Can you separate out your individual catch?

1  Yes – Code 29 as "Not Applicable"

2  No    8  Not Applicable

\*BOX E: IS THIS VESSEL ON LIST? YES / NO    WHAT IS THE NAME OF THE VESSEL? \_\_\_\_\_

(Note: This question **must** be completed for **all** charter and head boat interviews, regardless of mode of assignment).

\*31. **AVAILABLE CATCH** – ASK: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?

<u>DISPOSITION CODES FOR Q 31</u>	
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	8 Don't know/Didn't ask
5 Sold/plan to sell	9 Refused
6 Thrown back dead/plan to thrown away	

NOTES/COMMENTS:

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**TYPE 3 RECORDS: (INDIVIDUAL CATCH AVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	LENGTH (mm)	WEIGHT (kg)	DISP
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
13. _____					
14. _____					
15. _____					

ATTACHMENT 3b



2. ASSIGNMENT NO.	1	Cross the '1' out & write in a '2' if this is your second assignment today	6. INTERVIEW TIME (use 2400 clock)			Time the interview was completed
3. INTERVIEWER ID.						
4. YR/MO/DAY			7. STATE CODE	8. COUNTY CODE	9. SITE CODE	
5. INTERCEPT NO.			10. INTERVIEW STATUS (Key Item = *)	1	Questionnaire Complete	
				2	Refused Non-Key Item	
				5	Refused Key Item	

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

**\*11. Would you say you were fishing from.....**

SH	1	Pier, Dock	BOX B. Refer to q. 11.
	2	Jetty, Breakwater, Breachway	
	3	Bridge, Causeway	
	4	Other Man-made Structure (Specify)	
	5	Beach or Bank	16. How many additional hours do you expect to fish from shore today? That is, how many <u>more</u> hours will you actually have your gear in the water?
PC	6	Headboat	
	7	Charterboat	
PR	8	Private or Rental Boat	Additional BB Hours

**\*12. Was most of your (specify mode) fishing effort today in the.....**

	1	Ocean/gulf/open bay	17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?
	2	A sound (Other than those specified)	
	3	River (Other than those specified)	
	4	Bay (Other than those specified)	
	5	Other (Specify)	
	G	Abermarle/Pamlico	
	H	Biscayne Estuary	
	I	Whitewater Estuary	
	J	Sarasota Estuary	
	K	Tampa Estuary	
	L	Mobile Estuary	
	M	Atchafalaya Estuary	

Code q.13='8'

18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finfishing in this state or from a boat launched in this state?

	998	Don't know	999	Refused
--	-----	------------	-----	---------

19. Not counting today, within the past 2 months, how many days?

	98	Don't Know	99	Refused
--	----	------------	----	---------

BOX A. Refer to q. 12. If response is NOT "1" code q. 13 as "8", Not applicable

**\*13. Was that**

	1	Three Miles or Less from Shore	8	Not applicable
	2	More than Three Miles		

**13b. Did you spend the majority of your fishing trip today fishing within 200 feet of:**

	1	a standing oil & gas structure	8	Neither/Not applicable (shore mode)
	2	a submerged artificial reef	9	Refused

**\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?**

		State Code; Name
		County Code; Name

**21. What is the zip code of your residence?**

		Zip Code
--	--	----------

**14. What type of gear was primarily used?**

01	Hook and Line	07	Trap
02	Dip Net, A-frame	08	Spear
03	Cast Net	09	Hand
04	Gill Net	10	Other
05	Seine	98	Unknown
06	Trawl	99	Refused

**22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?**

	1	Private Residence
	2	Institutional Housing - Skip to q. 25
	8	Don't know
	9	Refused

**15. To the nearest half-hour, how many hours have you spent (specify mode) fishing today?**

That is, how many hours have you actually spent with your gear in the water?

		No. of hours
--	--	--------------

**23. Does your home have a telephone?**

	1	Yes	8	Don't know
	2	No	9	Refused

**24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?**

ANGLER'S NAME

	Name and Phone Number Not Given
D or N	
PHONE #	(    ) -    -

**\*25. UNAVAILABLE CATCH.** Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE.

DISPOSITION CODES FOR Q. 25	
1 Thrown back alive/legal	5 Sold/plan to sell
2 Thrown back alive/not legal/legality refused	6 Thrown back dead/plan to throw away
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	

**TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	DISP.
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			

**\*26. Did you catch any fish while you were fishing that I might be able to look at?**

1  Yes

2  No Code q. 27, 28, 29 as "8's," Not applicable

3  Yes, BUT fish are on another angler's form - Fill in interview # where fish are listed \*  
Code q. 27, 28, 29 as "8's," Not applicable

**\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those anglers who have their catch here.**

No. of Contributors    88  Not applicable

**\*30. How many people fished on your boat today?**

No. of People

888  Shore Mode

**\*27. Did you catch these yourself or did someone else catch some of them?**

1  All caught by Angler - Code q. 28, 29, as "8's," Not applicable

2  Other Contributors    8  Not applicable

**\*BOX D. If response to q. 30 is 1 angler or "88" Shore Mode, check not applicable and skip to q. 31. Otherwise, is this the first angler from this boat that I have interviewed?**

1  Yes    8  Not applicable

2  No - Record interview # of 1<sup>st</sup> angler in the fishing party \*

**\*28. Can you separate out your individual catch?**

1  Yes - Code q. 29 as "88"

2  No    8  Not applicable

**\*31. AVAILABLE CATCH. COMPLETE TYPE 3 RECORD BY ASKING: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?**

DISPOSITION CODES FOR Q 31	
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	8 Don't know/Didn't ask
5 Sold/plan to sell	9 Refused
6 Thrown back dead/plan to throw away	

	SPECIES CODE	# OF FISH	LENGTH (mm)	WEIGHT (kg)	DISP.
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					

12. _____																							
13. _____																							
14. _____																							
15. _____																							

ATTACHMENT 3c

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

3. INTERVIEWER ID

4. YR/MO/DAY

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE    9. SITE CODE

10. INTERVIEW STATUS 1  Questionnaire Complete  
 2  Refused Non-Key Item  
 5  Refused Key Item

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

\*11. Would you say you were fishing from ...

SH 0  Pier  
 1  Dock  
 2  Jetty, Breakwater, Breachway  
 3  Bridge, Causeway  
 4  Other Man-made Structure (Specify)  
 5  Beach or Bank

HB 6  Head Boat

CH 7  Charter Boat

PR 8  Private Boat  
 9  Rental Boat

\*12. Was most of your (specify mode) fishing effort today in the ...

1  Ocean/gulf/open bay  
 2  Sound (Other than those specified)  
 3  River (Other than those specified)  
 4  Bay (Other than those specified)  
 5  Other (Specify) \_\_\_\_\_  
 G  Albemarle/Pamlico Estuary  
 H  Biscayne Estuary  
 I  Whitewater Estuary  
 J  Sarasota Estuary  
 K  Tampa Estuary  
 L  Mobile Estuary  
 M  Atchafalaya Estuary

Code Q13 as "8."

**BOX A.** If response to Q11 is SH mode AND response to Q12 is "ocean/gulf/open bay" code Q13 as "1," 3 miles or less. (If response to Q 12 is "2" through "M," code Q13 as "Not Applicable")

\*13. Was that

1  Three Miles or Less from Shore 8  Does not apply.  
 2  More than Three Miles

14. What type of gear was primarily used?

01  Hook and Line 07  Trap  
 02  Dip Net, A-frame 08  Spear  
 03  Cast Net 09  Hand  
 04  Gill Net 10  Other (Specify) \_\_\_\_\_  
 05  Seine 98  Unknown  
 06  Trawl 99  Refused

15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?

.  Code as "99.9" if DK or Refused

15b. [PC and PR only] To the nearest half-hour, how many hours have you spent on the boat, away from the dock, today?

.  Code as "99.9" if DK or Refused

Not Applicable – SH mode

16. (Ask if Beach or Bank) How many additional hours do you expect to fish from shore today? That is, how many more will you actually have your gear in the water?

.  Additional BB Hours  
 Not fishing from beach or bank

17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?

No Particular Species/Anything

1st Target \_\_\_\_\_

2nd Target \_\_\_\_\_

18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finishing in this state or from a boat launched in this state?

No. of Days  
 998  Don't Know  
 999  Refused

19. Not counting today, within the past 2 months, how many days?

No. of Days  
 998  Don't Know  
 999  Refused

\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?

State Code; Name \_\_\_\_\_  
   County Code; Name \_\_\_\_\_

21. What is the zip code of your residence?

Zip Code

99997  Foreign Country  
 99998  Don't Know  
 99999  Refused

22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?

1  Private Residence  
 2  Institutional Housing – Code Q23 as "8".  
 8  Don't Know  
 9  Refused

23. Does your home have a telephone?

1  Yes  
 2  No  
 8  Don't Know/Not Applicable  
 9  Refused

24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?

ANGLER'S NAME

[Name input grid]

[ ] Name and/or phone number not given

D or N PHONE # ( [ ] [ ] [ ] ) [ ] [ ] [ ] - [ ] [ ] [ ] [ ]

\*25 UNAVAILABLE CATCH. Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE CATCH.

DISPOSITION CODES FOR Q25
1 Thrown back alive/legal
3 Eaten/plan to eat
4 Used for bait/plan to use for bait
5 Sold/plan to sell
6 Thrown back dead/plan to throw away
7 Some other purpose

BOX B. Is the type 2 catch grouped?
[ ] Yes [ ] No
(If YES - please remember that you cannot group type 2 catch!)

TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)

Table with columns: SPECIES CODE, # OF FISH, DISP. Rows 1-7.

\*26. Did you catch any fish while you were fishing that I might be able to look at?

- 1 [ ] Yes
2 [ ] No - Code Q27, Q28, Q29 as "Not Applicable"
3 [ ] Yes, BUT fish on another angler's form - Fill in interview # where fish are listed
\* [ ] [ ] - Code Q27, Q28, Q29 as "Not Applicable"

\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those who have their catch here.

[ ] [ ] No. of Contributors 88 [ ] Not Applicable

BOX C. If q. 11 is SH mode, code q. 30 as "88," and Code Box D as "8."

\*30. How many people fished on your boat today?

[ ] [ ] [ ] No. of People 888 [ ] Shore Mode

\*BOX D. If response to Q30 is 1, code as "Not Applicable." Otherwise, is this the first angler from this boat that I have interviewed?

- 1 [ ] Yes 8 [ ] Not Applicable
2 [ ] No - Record interview # of 1st angler in the fishing party. \* [ ] [ ]

\*BOX E: IS THIS VESSEL ON LIST? YES / NO WHAT IS THE NAME OF THE VESSEL?

(Note: This question must be completed for all charter and head boat interviews, regardless of mode of assignment).

\*31. AVAILABLE CATCH - ASK: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?

DISPOSITION CODES FOR Q 31
3 Eaten/plan to eat
4 Used for bait/plan to use for bait
5 Sold/plan to sell
6 Thrown back dead/plan to thrown away
7 Some other purpose
8 Don't know/Didn't ask
9 Refused

NOTES/COMMENTS:

TYPE 3 RECORDS: (INDIVIDUAL CATCH AVAILABLE IN WHOLE FORM)

Table with columns: SPECIES CODE, # OF FISH, LENGTH (mm), WEIGHT (kg), DISP. Rows 1-15.

ATTACHMENT 3d

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

3. INTERVIEWER ID

4. YR/MO/DAY

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE     9. SITE CODE

10. INTERVIEW STATUS 1  Questionnaire Complete  
 2  Refused Non-Key Item  
 5  Refused Key Item

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

\*11. Would you say you were fishing from ...

SH  0 Pier  
 1 Dock  
 2 Jetty, Breakwater, Breachway  
 3 Bridge, Causeway  
 4 Other Man-made Structure (Specify) \_\_\_\_\_  
 5 Beach or Bank

PC  6 Headboat  
 7 Charterboat

PR  Private Boat  
 Rental Boat

\*12. Was most of your (specify mode) fishing effort today in the ...

1  Ocean/gulf/open bay

2  Sound (Other than those specified)  
 3  River (Other than those specified)  
 4  Bay (Other than those specified)  
 5  Other Specify \_\_\_\_\_  
 N  Boqueron Estuary

O  Guanica Estuary  
 P  Guayanilla Estuary  
 Q  Humacao Estuary  
 R  Jobos Estuary  
 S  San Juan Estuary  
 T  Tortuguero Estuary

Code Q13 as "8."

12a. Please indicate the area where you hooked the majority of the fish you caught today.

Area:

9998  Don't Know – Skip to Q. 12c  
 9999  Refused – Skip to Q. 12c

12b. Is this the area where you spent most of your time fishing today?

If Yes, code same as 12a and skip to Q. 13 If No, go to Q. 12c.

Area:

9998  Don't Know – Skip to Q. 13  
 9999  Refused – Skip to Q. 13

12c. Please indicate the area where you spent most of your time fishing today.

Area:

9998  Don't Know  
 9999  Refused

**BOX A.** If response to Q11 is SH mode AND response to Q12 is "ocean/gulf/open bay" code Q13 as "3," 10 miles or less. (If response to Q 12 is "2" through "T," code Q13 as "Not Applicable".)

\*13. Was that

3  10 Miles or Less from Shore 8  Does not apply.  
 4  More than 10 Miles

14. What type of gear was primarily used?

01  Hook and Line 07  Trap  
 02  Dip Net, A-frame 08  Spear  
 03  Cast Net 09  Hand  
 04  Gill Net 10  Other (Specify) \_\_\_\_\_  
 05  Seine 11  YoYo  
 06  Trawl 98  Unknown 99  Refused

15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?

.  Code as "99.9" if DK or Refused

15b. [PC and PR only] To the nearest half-hour, how many hours have you spent on the boat, away from the dock, today?

.  Code as "99.9" if DK or Refused

Not Applicable – SH mode

16. (Ask if Beach or Bank) How many additional hours do you expect to fish from shore today? That is, how many more will you actually have your gear in the water?

.  Additional BB Hours  
 Not fishing from beach or bank

17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?

No Particular Species/Anything

1st Target \_\_\_\_\_

2nd Target \_\_\_\_\_

18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finishing in this state or from a boat launched in this state?

No. of Days

998  Don't Know  
 999  Refused

19. Not counting today, within the past 2 months, how many days?

No. of Days

998  Don't Know  
 999  Refused

\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?

State Code; Name \_\_\_\_\_  
  County Code; Name \_\_\_\_\_

21. What is the zip code of your residence?

Zip Code

99997  Foreign Country  
 99998  Don't Know  
 99999  Refused

22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?

1  Private Residence  
 2  Institutional Housing – Code Q23 as "8".  
 8  Don't Know  
 9  Refused

23. Does your home have a telephone?

1  Yes  
 2  No  
 8  Don't Know/Not Applicable  
 9  Refused



24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?

ANGLER'S NAME

Grid for angler's name (15 boxes)

☐ Name and/or phone number not given

D or N PHONE # ( ) -

\*25 UNAVAILABLE CATCH. Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE CATCH.

DISPOSITION CODES FOR Q25 and BOX B. Is the type 2 catch grouped?

TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)

Table with columns: SPECIES CODE, # OF FISH, DISP. Rows 1-7.

\*26. Did you catch any fish while you were fishing that I might be able to look at?

1 Yes, 2 No - Code Q27, Q28, Q29 as "Not Applicable", 3 Yes, BUT fish on another angler's form - Fill in interview # where fish are listed

\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those who have their catch here.

No. of Contributors 88 Not Applicable

BOX C. If q. 11 is SH mode, code q. 30 as "88," and Code Box D as "8."

\*30. How many people fished on your boat today?

No. of People 888 Shore Mode

\*Box D. If response to Q30 is 1, code as "Not Applicable." Otherwise, is this the first angler from this boat that I have interviewed?

1 Yes, 8 Not Applicable

2 No - Record interview # of 1st angler in the fishing party. \*

\*31. AVAILABLE CATCH - ASK: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?

DISPOSITION CODES FOR Q 31

NOTES/COMMENTS:

TYPE 3 RECORDS: (INDIVIDUAL CATCH AVAILABLE IN WHOLE FORM)

Table with columns: SPECIES CODE, # OF FISH, LENGTH (mm), WEIGHT (kg), DISP. Rows 1-15.

ATTACHMENT 3e

## 2004 CRFS PR1 Intercept Questionnaire - California Coast v20040213

SCREENING INSTRUCTIONS: Hello, my name is \_\_\_\_\_ and I represent (PSMFC / CDFG). We are interviewing marine recreational anglers for a study sponsored by the National Marine Fisheries Service.

Screening question: Have you completed a saltwater sport fin-fishing trip today?

Yes →GO TO QUESTIONNAIRE No: Not eligible for interview.

**PRIVACY ACT STATEMENT: This study is being conducted in accordance with the Privacy Act of 1974.**

**You are not required to answer any question that you consider to be an invasion of your privacy.**

CRFS PR1 Intercept Questionnaire

pre interview

1 Self-explanatory. See intercept coding form
2 Weather Basic weather information: %Cloud cover, Temperature, Wind speed, etc.
3 Assignment # The Assignment ID number
4-6. Self-explanatory. See intercept coding form
7-8. Trailer count in trailer count area upon arrival and departure
9 CRFS # in sequence, number of vessel with catch data No number if non-fishing vessel or if vessel missed or if you did not get catch records.
10 Time Enter the time in military format when you started the interview.

11a How many of you fished today? (on vessel)

Enter the total number of individuals on the vessel that fished

11b What type of license do each of you have?

Enter the total number of individuals on the vessel without a current license

12a What is your county(random angler on vessel) of residence

If known \_\_\_\_\_ 3 letter alpha code

If unknown \_\_\_\_\_ 2 letter postal code

If refused \_\_\_\_\_ 999

12b Not counting today, how many days within the past 12 months have you been saltwater fin-fishing in this state/subregion.

Don't know \_\_\_\_\_ 998

Refused \_\_\_\_\_ 999

13a Were you fishing for any particular type of fish today? ? If yes, ask, "what kind"

Unidentified Tuna \_\_\_\_\_ TNASG Don't know \_\_\_\_\_ 998

Unidentified shark \_\_\_\_\_ SHUNI Refused \_\_\_\_\_ 999

Unidentified fish \_\_\_\_\_ UNIFH Not fishing \_\_\_\_\_ NF

Bottomfish \_\_\_\_\_ BOTOM

13b Were you targeting any other species?

Unidentified Tuna \_\_\_\_\_ TNASG Don't know \_\_\_\_\_ 998

Unidentified shark \_\_\_\_\_ SHUNI Refused \_\_\_\_\_ 999

Unidentified fish \_\_\_\_\_ UNIFH Not fishing \_\_\_\_\_ NF

Bottomfish \_\_\_\_\_ BOTOM

13c Did you, at any time, try for salmon today?

Check box if angler fished, at any time that day, for salmon

14a What type of gear were you using primarily today?

Hook & Line \_\_\_\_\_ H Troll \_\_\_\_\_ T

Spear \_\_\_\_\_ S Mooch \_\_\_\_\_ M

Pot \_\_\_\_\_ P

14b Did you use any other type of gear today?

Hook & Line \_\_\_\_\_ H                      Troll \_\_\_\_\_ T  
Spear \_\_\_\_\_ S                              Mooch \_\_\_\_\_ M  
Pot \_\_\_\_\_ P

15 Where did you fish today? Show angler CRFS map (if available) or obtain GPS position from angler

CRFS map \_\_\_\_\_ Block and Box #      Don't know \_\_\_\_\_ 998  
GPS \_\_\_\_\_ Latitude / Longitude      Refused \_\_\_\_\_ 999  
with grid size

16 What was the bottom depth where you fished?

Known \_\_\_\_\_ enter in feet  
Don't know \_\_\_\_\_ 998  
Refused \_\_\_\_\_ 999

17 Did you catch any fish today? May I examine your catch?

Refused \_\_\_\_\_ 999  
Yes \_\_\_\_\_ list species by 5 letter alpha code

18 How many fish did you keep (land) today

Refused \_\_\_\_\_ 999  
Amount \_\_\_\_\_ List by number of fish to corresponding species from 18  
\*attempt to verify

18a Did you observe a seal/sea lion take fish from your line today?

Amount \_\_\_\_\_ List number              Refused \_\_\_\_\_ 999  
by species                                      Not Sure \_\_\_\_\_ 998

\*angler saw seal/sea lion during fishing and suspects animal took fish but did not observe animal take fish.

19a How many fish did you throw back alive today?

Amount \_\_\_\_\_ List number              Refused \_\_\_\_\_ 999  
by species                                      Not Sure \_\_\_\_\_ 998

19b How many fish did you throw back dead today?

Amount \_\_\_\_\_ List number              Refused \_\_\_\_\_ 999  
by species                                      Not Sure \_\_\_\_\_ 998

Angler independent

20a Fish lengths

Enter, on top of the dashed line, the fork length in mm of each measured fish

20b Fish weights

Enter, below the length, the weight in kg of the fish

20c Head tag number

If the angler caught a adipose fin clipped salmon, take head and attach head tag to fish head  
Circle head tag # on form

21 Missed boats

Enter the number of vessels that you did not sample while you were sampling another vessel. i.e. vessels that left

ATTACHMENT 3f



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

3. INTERVIEWER ID

4. YR/MO/DAY

5. INTERCEPT NO.

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

7. STATE CODE  8. COUNTY CODE  9. SITE CODE   
10. INTERVIEW STATUS (Key Item = \*)  
1  Questionnaire Complete  
2  Refused Non-Key Item  
5  Refused Key Item

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

\*11. Would you say you were fishing from a..  
SH 1.  Pier/Dock  
2.  Jetty, Breakwater, Breachway  
3.  Bridge, Causeway  
4.  Other Man-made Structure (Specify) \_\_\_\_\_  
5.  Natural Shoreline (beach, cliffs, etc..)  
CH 7.  Charterboat  
PR 8.  Private Boat

\*12. Was most of your (specify mode) fishing effort today in the..  
1.  Ocean  
4.  Bay  
5.  Other (Specify) \_\_\_\_\_ Code q. 13 as "8"

\*13. Was that 1.  Three Miles or Less from Shore (always for SH mode)  
2.  More than Three Miles 8.  Does not apply.

13a. If 13 = "More than Three Miles", then:  
Were you fishing at or near a Fish Attracting Device (FAD) today?  
 Yes  No  
At which FAD(s) did you fish today?  
\_\_\_\_\_

14. What type of gear was primarily used?  
01  Rod & Reel  → Go to 14a.  
02  Hand Line  → Go to 14b.  
03  Hand Pole 15  Other (Specify) \_\_\_\_\_  
04  Scoop Net  
05  Throw Net 98  Unknown  
06  Gill Net 99  Refused  
07  Cross Net  
08  Hukilau  
09  Surround Net  
10  Trawl  
11  Trap  
12  Spear  
13  Hand  
14  Crab Net

14a. What METHOD was primarily used?  
 1. Trolling  2. Casting  
Go to 15  
 3. Bottom Fishing  4. Hand Lining

14b. If bottom fishing or hand lining were you  
1.  Shallow Water (-20 ftms)  
2.  Deep Water (+ 20 ftms)  
3.  Tuna Handling (Hand Line Only)

15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?  
.

15b. (Only ask if natural shoreline mode [#11. SH=5]) How many additional hours do you expect to fish from shore today? That is, how many more hours will you actually have your gear in the water?  
.

16. Were you fishing for any particular kinds of fish today? If Yes, what kinds?  
 No particular species/Anything  
1st Target \_\_\_\_\_  
  
2nd Target \_\_\_\_\_

16a. Were you fishing for finfish today?  
1. If Yes  2.  No, continue to 16b  
16b. Did you catch any finfish today?  
 Yes  No

17. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone recreational saltwater fin fishing in Hawaii?  
 No. of Days, Code 998 Don't Know  
Code 999 If Refused

18. Not counting today, within the past 2 months, how many days have you gone recreational saltwater fin fishing in Hawaii?  
 No. of Days, Code 98 Don't Know  
Code 99 If Refused

19. Do you ever sell any of the fish you catch?  
1  Yes 2  No, Go to 20

19a. When you sell your fish, do you consider yourself a commercial fisherman, trying to make some income or do you sell only to cover your fishing expenses?  
1  For Income 2  Trip Costs Only, Go to 20

19b. Do you consider yourself a full-time commercial fisherman?  
1  Yes 2  No

\*20. What is your state and island or county of residence? If county unknown ask: What city or town do you live in?  
 State Code; Name \_\_\_\_\_  
 County - Island Code; Name \_\_\_\_\_

21. What is the zip code of your residence?  
 Zip Code  
Code: 99997 Foreign Country  
Code: 99998 Don't Know  
Code: 99999 Refused

22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?  
1  Private Residence 8  Don't Know  
2  Institutional Housing 9  Refused  
Go to verification box

23. Does your home have a land line telephone?  
1  Yes 8  Don't Know  
2  No 9  Refused

**VERIFICATION BOX**

In the event my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?  
Angler's First & Last Name  
  
  
 Name and phone number not given  
D or N (Cell) () -  
Phone #

\*24. UNAVAILABLE CATCH. Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL FISHERMEN, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE CATCH.

DISPOSITION CODES FOR Q24

- 1 Thrown back alive / legal
- 2 Thrown back alive / not legal / legality refused
- 3 Eaten / plan to eat
- 4 Used for bait / plan to use for bait
- 5 Sold / plan to sell
- 6 Thrown back dead / plan to throw away
- 7 Some other purpose, *Write in margin* > \_\_\_\_\_
- 9 Refused
- 0 Exchange, Trade

TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)

NAME	SPECIES CODE	#OF FISH	DISP	NAME	SPECIES CODE	#OF FISH	DISP
1. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	2. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	4. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
5. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	6. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
7. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	8. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
9. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	10. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>

\*25. Did you catch any fish I can look at?

- 1  Yes
- 2  No - Code q. 26, 27, 28 as "8's," Not Applicable
- 3  Yes, BUT fish on another fishermen's form -  
Fill in Interview # where fish are listed  
 - Code q. 26, 27, 28 as "8's," Not Applicable

\*28. How many fishermen including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those who have their catch here.

- No. of Contributors      88  Not Applicable

\*26. Did you catch these yourself or did someone else catch some of them?

- 1  All Caught by fishermen - - Code q. 27, 28, as "8's," Not Applicable
- 2  Other Contributors      8  Not Applicable

\*29. How many people fished on your boat today?

- No. of People      88  N/A or Shore Mode

\*27. Can you separate out your Individual catch?

- 1  Yes - Code 28 as "88's"
- 2  No      8  Not Applicable

BOX D. If response to q. 29 is 01 or Shore Mode code as 8 = N/A or Shore Mode. Otherwise, is this the first fishermen from this boat that I have interviewed?

- 1  Yes      8  N/A or Shore Mode
- 2  No - Record interview # of 1<sup>st</sup> fishermen in the fishing party. \*

\*30. AVAILABLE CATCH. COMPLETE TYPE 3 RECORD BY ASKING: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?

DISPOSITION CODES FOR Q30

- 3 Eaten / plan to eat
- 4 Used for bait / plan to use for bait
- 5 Sold / plan to sell
- 6 Thrown back dead / plan to throw away
- 7 Some other purpose
- 8 Dont' know / Didn't ask
- 9 Refused
- 0 Exchange, Trade

TYPE 3 RECORDS: (INDIVIDUAL CATCH AVAILABLE IN WHOLE IDENTIFIABLE FORM)

SPECIES NAME	CODE	#OF FISH	PLAN TO SELL	LENGTH (mm)	WEIGHT (kg)	DISP
1. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

31. If Charter boat mode, is the vessel on the ACTIVE Charter Boat List: \_\_\_ Yes \_\_\_ No

(Please fill in Charter boat name)

31a. Charter Boat Name: \_\_\_\_\_ Captain: \_\_\_\_\_  
Address: \_\_\_\_\_ Phone: \_\_\_\_\_ Cell: \_\_\_\_\_



ATTACHMENT 4



B. Sachau  
15 Elm Street  
Florham Park, NJ 07932

Dear M. Sachau:

I am writing in response to your comment, re: US DOC NOAA ID 061804g - Information Collection – Marine Recreational Statistics, submitted on July 2, 2004.

Federal law mandates our collection of marine recreational fishing data and the required frequency. Data are used annually by the National Marine Fisheries Service (NOAA Fisheries), regional fishery management councils, interstate marine fisheries commissions, and state fishery agencies in developing, implementing and monitoring fishery management programs. Failure to conduct these data collections would prevent the Secretary from meeting statutory requirements of the Magnuson-Stevens Act of 1996.

There is not currently a national license requirement either for recreational anglers, or boat owners, that would allow us to estimate fishery participation, much less recreational landings. Many states do not have license requirements, and therefore, a pool of eligible anglers cannot be established. The methodological approach for the MRFSS has been developed and refined over 23 years, employing the experience of NMFS statisticians and contractors in statistical sampling and survey methods. It is the approved method for estimating marine recreational catch and effort by every regional council, interstate commission and participating state.

Consultations with other Federal and State agencies occur continuously throughout the survey year. Regional Councils, Interstate Marine Fisheries Commissions and the Marine Fishery Advisory Committee (a Federally-chartered advisory group) receive regular briefings on the MRFSS and make recommendations as appropriate. In addition, in 2004 the MRFSS team hosted its first annual Constituent Data Review, to allow stakeholders (anglers, for-hire captains) to ask questions about the MRFSS program, learn how the data is used to create annual estimates of landings, and discuss ongoing concerns with the various data collections. Because all participants deemed the two-day meeting a great success, NMFS plans to hold an annual review every spring prior to the release of final estimates.

Individual respondents are provided with the name and telephone number of the MRFSS team leader if they wish to comment or receive additional information. The attached document provides mean individual response times for the conduct of our surveys.

I hope you find this information helpful. Thank you for your comments.

Sincerely,

Nicole Bartlett  
Statistician

ATTACHMENT 4a

# FOR-HIRE LOGSHEET

(Instructions on reverse)

Check here if you have a current HMS permit

TRIP #	TRIP SPECIFICS			ORIGIN OF TRIP			EFFORT						FISHING TARGET		
	DATE	DAYS FISHED	TOTAL ANGLERS (no crew)	STATE	COUNTY	SITE NAME	TRIP START TIME	TRIP END TIME	TOTAL HOURS FISHED	FISHING METHOD (Up to 2)		FISHING AREA	DISTANCE FROM SHORE	TARGET SPECIES (Up to 2)	
1										1.	2.			1.	2.
2										1.	2.			1.	2.
3										1.	2.			1.	2.
4										1.	2.			1.	2.
5										1.	2.			1.	2.
6										1.	2.			1.	2.
7										1.	2.			1.	2.
8										1.	2.			1.	2.
9										1.	2.			1.	2.
10										1.	2.			1.	2.
11										1.	2.			1.	2.
12										1.	2.			1.	2.
13										1.	2.			1.	2.
14										1.	2.			1.	2.
15										1.	2.			1.	2.
16										1.	2.			1.	2.

# INSTRUCTIONS FOR FILLING IN PHONE SURVEY FORM

Use the following codes to complete this form. You may keep it handy for use during your telephone interview, or simply fax it toll-free to **1-800-518-8249**.

## Trip Specifics:

**Date** - The date of the trip (month/day).

**Days Fished** - The number of days on which fishing occurred during the trip. (This will be "1" unless the trip was a multi-day trip).

**Number of Anglers** - The number of people who fished on the trip (excluding captain and crew).

## Origin of Trip:

**State** - The state to which the fishing trip returned (use two letter abbreviation).

**County** - The county to which the fishing trip returned.

**Site Name** - of the marina, dock, or launch ramp to which the trip returned. (If private dock, just record "PRIVATE")

## Effort:

**Trip Start Time** - Time of day vessel departed the dock or ramp for the fishing trip.

**Trip End Time** - Time of day vessel arrived back at the dock or ramp.

**Hours Fished** - The amount of time spent actively fishing with gear in the water to the nearest half-hour.

**Fishing Method** - The method of fishing on this trip as defined below. Up to two methods can be entered, with the primary method entered first.

**Trolling (T)** - Lines fished by pulling through the water while under power.

**Bottom (B)** - Lines fished straight down off the side of the boat while typically not under power.

**Casting (C)** - Lines fished by using a casting rod and reel.

**Fly fishing (F)** - Lines fished by using a fly rod and reel.

**Drifting (D)** - Lines fished while boat is passively (not under power) drifting.

**Other (O)**

**Primary Fishing Area:** The primary area of fishing on this trip as:

**Ocean (O)**

**Gulf, Open bay (G)** - Fishing in offshore waters or an open bay.

**Sound (S)** - Fishing in a semi-enclosed or enclosed embayment named "Sound."

**River (R)** - Saltwater fishing in rivers.

**Bay (B)** - Fishing in an enclosed bay (e.g. Mobile Bay).

**Distance From Shore** - Only to be used if fishing occurred in ocean, gulf or open bay. The distance from shore where fishing primarily took place as defined below.

≤ **3 miles** - Fishing from shore out to 3 miles.

> **3 miles** - Fishing greater than 3 miles out from shore.

**Fishing Target** - The fish species or species group targeted during the trip. Up to two targets can be entered, with the primary target entered first.

## Groundfish:

**COD** Atlantic Cod

**HADD** Haddock

**SHAK** Silver Hake / Whiting

**POLL** Pollack

**HAKE** Hake

## Flounders:

**FLBB** Blackback/Winter Flounder/ Channel

**FLSOU** Southern Flounder

**FLUKE** Summer Flounder/Fluke

**FLYT** Yellowtail Flounder

**HAL** Atlantic Halibut

## Other Finfish – Northern:

**BSB** Black Sea Bass

**PERW** White Perch

**RPG** Red Porgy

**SCUP** Scup / Porgy

**SPOT** Spot

**STB** Striped Bass/Rockfish

**TAU** Tautog

## Sharks:

**DGSM** Smooth Dogfish

**DGSP** Spiny Dogfish

**SHBL** Blue

**SHMS** Mako Shortfin

**SHSB** Sandbar

**SHST** Sand Tiger

**SHWH** White

## Other Finfish – Southern:

**BARRA** Great Barracuda

**COBIA** Cobia

**CREV** Crevalle Jack

**CRO** Atlantic Croaker

**DRUMB** Black Drum

**DRUMR** Red Drum / Redfish

**GRPR** Unknown Grouper

**GRPSN** Snowy Grouper

**LADY** Ladyfish

**SHEEP** Sheepshead

**SNAP** Snapper Family

**SNAPR** Red Snapper

**SNAPV** Vermillion Snapper

**WKSP** Spotted Sea Trout

**WKSQ** Weakfish/Squeteague/Gray Sea Trout

## Pelagics:

**BLUE** Bluefish

**BON** Bonito

**MACK** Atlantic Mackerel

**KGM** King Mackerel

**SSM** Spanish Mackerel

**DOL** Dolphinfish/Mahi-Mahi

**BUM** Blue Marlin

**WHM** White Marlin

**SWO** Swordfish

**WAH** Wahoo

**AMB** Amberjack

## Tunas:

**ALB** Albacore

**BET** Bigeye

**BFT** Bluefin

**BLKFT** Blackfin

**SKJ** Skipjack

**YFT** Yellowfin

**OTHER:** Write-in

ATTACHMENT 4b

## Attachment 04b

# 2004 For-Hire Telephone Survey Questionnaire

### LPS/HMS Questions

Hello, I'm calling for a survey being conducted for NOAA Fisheries and the State agency name. Can I please speak to name of contact? **If person sought is not available, ask if they will be available anytime this week. If yes, scheduled convenient time to call back to talk to that person, thank respondent, and terminate interview. If no, thank respondent and terminate interview.**

Are you still the captain, owner or designated representative of the vessel name?

**If "yes", ask:** Can you provide information on the activity of the vessel name during the last week (Monday through Sunday)?  
If "yes", continue to survey description.

**If "no", ask:** Is someone else currently operating the name of the vessel?  
**If "yes", then ask:** Do you know the name and telephone number of new contact?  
**If "yes", take name and telephone number, thank respondent and terminate interview.**  
**If "no", denote whatever information is given and terminate interview.**

We're surveying owners and operators of charter and headboats to collect data needed to estimate total marine recreational fishing trips by individual anglers. The vessel name has been selected at random from a directory of charter and headboats to be included in this week's survey of trips.

I would like to ask you a few questions about trips made last week by the vessel name. This data will remain confidential. This survey is being conducted in accordance with the Privacy Act of 1974, therefore your participation is voluntary. **(Continue with interview.)**

### **INTRO TWO: (for previously interviewed vessel reps)**

Hello this is [interviewer name] calling on behalf of NOAA Fisheries for the For-Hire Survey. May I speak with [contact name]?

### **Alternate survey description for re-contacts:**

The vessel name has been selected for this week's sample and I am calling to collect your effort information for this time period. As you know, this data will remain confidential, and this survey is being conducted in accordance with the Privacy Act of 1974, therefore your participation is voluntary.

**(Continue with interview.)**

- Q1. Does the [vessel name] hold a current HMS permit?  
 Yes – Go to 1A.  
 No – Go to Q3.
- Q1A. Do you ever sell fish like tunas or sharks caught from [vsl\_name]?  
 Yes –  
 No –
- Q2. Our records show your principal port as being located in [st\_port]. Is this still accurate?  
 Yes – Go to Q3  
 No – Got to Q2A
- Q2A. In what state do you usually launch or dock this vessel?  
 Record – Go to Q3
- Q3. During the last week (Monday through Sunday), how many saltwater fishing trips targeting finfish did the [vessel name]\_take?  
 Record –  
 If Q3=0, go to Q41.
- Q3 WITH HMS PERMIT (Q1=1) During the last week (Monday through Sunday), how many saltwater fishing trips targeting finfish did the [vessel name]\_take? Please remember to include ALL trips, not just those where you fished for a large pelagic species.  
 Record – Go to Q4
- Q4. How many of these trips were with paying passengers?  
 Record –
- Q5. On how many of these trips did you target a large pelagic species such as tunas, sharks, billfish, dolphin, wahoo, amberjack or similar offshore species?  
 Record – Go to Q6
- Q6. How many of these trips consisted of more than one day of fishing?  
 Record –
- Q7. During the last week (Monday through Sunday), how many additional non-fishing trips did your boat make? Please include any trips taken for fuel, bait, or other recreational activities.  
 Record – If Q7>0, go to 7A.  
 If Q7=0, go to Q8.
- Q7A. On what days did each of these additional boat trips occur?  
 Record –

Now that we have information on the total number of trips taken, we would like to obtain specific information about each of these trips. We will begin with the most recent recreational fishing trip and work backwards to last Monday. You reported \_\_\_\_ total trips and \_\_\_\_ LPS trips.

- Q8. Did your boat take any saltwater fishing trips that ended on day of week (starting with Sunday)? **If “yes”, obtain the total number of trips that day. Repeat this and the following questions for each day of the week. If more than one trip is made in one day, profile each trip separately for that day. (Trip Date)**  
 1=Monday  
 2=Tuesday  
 3=Wednesday  
 4=Thursday  
 5=Friday

6=Saturday

7=Sunday

- Q9. How many separate fishing trips did you take on [trip\_date]?  
Record –
- Q9A. Was this trip with paying passengers?  
Yes –  
No – If Q5=0, go to next trip; If Q5>0 – Go to 9B
- Q9B. On this trip, did you target large pelagic species such as tunas, sharks, billfish, dolphin, wahoo, amberjack or similar offshore species?  
Yes –  
No – Go to next trip/follow-up questions.
- Q10. We are only interested in collecting information about passengers who actively fished by having a line in the water. Excluding captain and crew, how many people actually fished during the trip? (Record number of people on trip.)  
Record –
- Q11. How many members of the crew, including the captain, fished during this trip?  
Record –
- Q12. Did this trip return to a [State where vessel was sampled] marina, dock, or launch ramp?  
Yes – Go to Q13  
No – Go to Q12A
- Q12A. To what state did your boat return from this trip?  
Record –
- Q13. To what county did this trip return? (**Record FIPS code for county of trip. See FIPS codes in Intercept Survey Training Manual.**)  
Record –
- Q14. Did this trip return to a marina, dock, or launch ramp to which the public normally has access? If so, to what particular marina, dock, or launch ramp did this trip return? (**Record MRFSS 4-digit site code.**)  
7777=private access site  
8888=unknown public access site  
9999=refused site information
- Q15. At what time (to the nearest half-hour) did your boat leave the dock for that trip? (**Record return time as military time.**)  
Record –
- Q16. At what time (to the nearest half-hour) did your boat return from that trip? (**Record return time as military time.**)  
Record –
- Q17. To the nearest half-hour, how much time was spent actively fishing with gear in the water? (**Record vessel fishing hours. If vessel fishing hours exceed 24 hours record “yes” for multi-day trip and split into individual day trips on consecutive days with equal fishing hours.**)  
Record –
- Q18. What fishing method or methods (read all options) were used on that trip? (**Record as many options as offered.**)



- 1=trolling
- 2=bottom fishing
- 3=casting
- 4=fly-fishing
- 5=drifting
- 6=chunking
- 7=chumming
- 8=other
- 97=don't know
- 99=refused

Q19. Was most of your fishing effort on that trip in the ocean, a gulf, a river, a sound, an inlet, or a bay?

- 1= ocean – Go to Q 19A
- 2= sound – Go to Q20
- 3= river – Go to Q20
- 4= bay – Go to Q20
- 5= inlet or other non-ocean water body – Go to Q20

Q19A. Was most of your fishing less than or greater than three miles from shore?

- 1=less than 3 miles
- 2=greater than 3 miles

If MD/VA, and Q19=3 or 4:

Was most of your fishing in the Chesapeake Bay or a river that empties into the Chesapeake Bay?

If no: Was most of your fishing in the Potomac River (above line between Point Lookout and Smith Point)?

If NY/CT/RI and Q19=2,3 or 4:

Was most of your fishing in Long Island Sound or a bay or river that opens into Long Island Sound?

Q20. Did this trip cover more than one day of fishing?

- Yes – Go to Q20A.
- No – Go to Q21.

Q20A: How many days of fishing occurred on this trip?

Record –

Q21. What species were targeted on that trip? That is, when you left the dock, what species were you planning on fishing for? **(Record 10-digit NMFS codes for up to two species or species groups; refer to state or regional short list of species and species groups).**

- [26] Other Species
- [98] Don't know/Don't remember
- [99] Refused

IF Target = LPS and is not bluefin, shark, billfish or tuna, go to Q22.

IF Target NE LPS Go to next trip.

QS1. **IF Q19 (TARGET) = "Shark" then ask:** What type of shark were you fishing for?

- 1=Mako
- 2=Blue
- 3=No Specific Shark
- 4=Other
- [1-4] – Got to Q22**

- QT1. **IF Q19 (TARGET) = “Tuna” then ask:** What type of Tuna were you fishing for?  
 1=Other Tuna – Go to Q22  
 2=Bluefin – Go to QT2  
 3=Bigeye – Go to Q22  
 4=Yellowfin – Go to Q22  
 5=No Specific Tuna – Go to Q22  
 8=DK– Go to Q22  
 9=Refuse– Go to Q22
- QT2. **IF QT1 = Bluefin then ask:** What size class of BLUEFIN Tuna were you fishing for?  
 1=School– Go to Q22  
 2=Medium– Go to Q22  
 3=Large– Go to Q22  
 5=No Specific Size Class – Go to Q22  
 8=DK– Go to Q22  
 9=Refuse– Go to Q22
- QB1. **IF Q21 (TARGET) = Billfish then ask:** What type of Billfish were you fishing for?  
 1=Blue Marlin– Go to Q22  
 2=White Marlin– Go to Q22  
 3=Sailfish– Go to Q22  
 4=Swordfish– Go to Q22  
 5=No Specific Billfish – Go to Q22  
 8=DK– Go to Q22  
 9=Refuse– Go to Q22
- Q22. Were you participating in a tournament on that day?  
 Yes – Go to Q22A  
 No – Go to Q23  
 DK – Go to Q23  
 Refused – Go to Q23
- Q22A. **IF Q22 =YES then ask:** What was the name of the tournament?  
 Record Name –
- Q23. Were you primarily using a rod and reel on this trip?  
 Yes – Go to Q24  
 No – Go to Q23A
- Q23A. **IF Q26 =NO then ask:** What type of gear was primarily used on the trip?  
 1 Rod and reel Go to Q24  
 2 Handline Go to Q24  
 3 Harpoon Go to next trip  
 4 Other: Specify Go to Q23B
- Q23B. Please specify what “other” fishing gear was used primarily on this trip.  
 Record – If not rod & reel type of gear, go to next trip.
- Q24. How many lines were used on that trip?  
 Record –
- Q25. What type of bait was used during that trip? Live?  
 Yes –  
 No –

- Q26. Dead?  
Yes –  
No –
- Q27. Artificial?  
Yes –  
No –
- Q28. Did you use any other type of bait during that trip?  
Yes –  
No –
- Q29. What is the name of the fishing grounds on which you did most of your fishing? (use lookup list, categorized by state)  
Record –
- Q30. How many miles were the fishing grounds from the nearest shoreline?  
Record –
- Q31. Do you know the latitude and longitude of the fishing ground?  
Yes – Go to Q31A  
No – Go to Q32
- Q31A. **IF Q31 = YES then ask:** To the nearest five minutes, at what latitude were you fishing?  
Record – Go to Q31B
- Q31B. **IF Q31 = YES then ask:** To the nearest five minutes, at what longitude were you fishing?  
Record – Go to Q32
- Q32. What was the average ocean depth, in feet, where you were fishing?  
Record –
- Q33. What was the average surface water temperature, in degrees Fahrenheit, where you were fishing?  
Record –
- Q34. Now I'd like to ask you a few questions about the fish you caught on this trip. Did you catch any Billfishes, Tunas or Sharks?  
Yes – Go to Q39  
No – Go to Next Trip
- Q35. **IF Q34 = "YES" then ask:** What type of fish did you catch?  
Not Tuna or Shark or White Marlin – Go to Next Trip  
Tuna (s) – Go to Q36 (If given Bluefin, Go to Q36a, if given other specific Tuna Go to Q38)  
Shark – Go to Q40 (If given specific Shark, Go to Q38)  
White Marlin – Go to Q38
- Q36. **IF Q35 = "TUNA" then ask:** What type of tuna did you catch?  
Bluefin – Go to Q36a  
Bigeye – Go to Q38  
Yellowfin – Go to Q38  
Other Tuna – Go to Q38
- Q36A. **IF Q35 = "BLUEFIN" then ask:** What size class of Bluefin Tuna?  
Young School – Go to Q38

School – Go to Q38  
Large School – Go to Q38  
Small Medium – Go to Q38  
Large Medium – Go to Q38  
Giant – Go to Q38  
DK – Go to Q38  
Refuse – Go to Q38

- Q37. **IF Q 34 = “SHARK” then ask:** Were any of the following species of Shark caught?  
Shortfin Mako – Go to Q38  
Blue Shark – Go to Q38  
Sandbar Shark – Go to Q38  
Dusky Shark – Go to Q38  
DK – Go to Q38  
Refuse – Go to Q38
- Q38. How many of those {species/bluefin class} did you keep?  
Record –
- Q39. How many of those {species/bluefin class} did you release alive?  
Record –
- Q40. How many of those {species/bluefin class} did you release dead?  
Record –

#### **FOLLOW-UP**

- Q41. Did you receive notification from us that we would contact you for this interview? **If “no”, ask for correct mailing address and briefly explain that notification will be sent prior to any later contacts and continue.**  
Yes – Go to Q42  
No – Record correct address. Go to Q42  
Don't know – Go to Q43  
Refused – Go to Q43
- Q42. **If Q41 is “yes”, then ask:** Did you choose to use the optional form included with the mailing to record data for the vessel name? **(Record form use.)**  
Yes –  
No –
- Q43. In case the vessel name is ever selected again for this survey, at what time of day would you prefer to be called? **(Record preferred time as military time.)**

Those are all of the questions that I have for you, thank you for your time and cooperation. Have a good day/evening. Goodbye.

## ATTACHMENT 5

ATTACHMENT 5

Example Instrument for Economic RDD Telephone Survey Add-On

Version A

IF CATEGORY 1 (NO ONE IN HOUSEHOLD) GO TO PART II.  
IF CATEGORY 2 OR 3, START WITH PART 1.

PART 1. Angler Screening

IF CATEGORY 3 (FISHED IN LAST YEAR BUT NOT LAST 2 MONTHS) GO TO SCREENING QUESTION 2.

- 1. Are you (the angler/one of the anglers) who goes saltwater fishing but has not within the past 12 months?  
     Yes           Go to Part II.  
     No            May I speak with that angler/one of those anglers? If successful, go to INTRODUCTION FOR NEW RESPONDENT.
  
- 2. Are you (the angler/one of the anglers) who goes saltwater fishing but has not within the past 2 months?  
     Yes           Go to Part II.  
     No            May I speak with that angler/one of those anglers?

(IF DESIRED FISHERMAN IS NOT IMMEDIATELY AVAILABLE, THANK RESPONDENT AND TERMINATE)

(INTRODUCTION FOR NEW RESPONDENT)

Hello, I'm conducting a survey on saltwater sport anglers for the National Marine Fisheries Service. We are collecting socio-demographic information on saltwater sport anglers. Your participation in this survey is voluntary. Your responses will be treated as confidential records under the Privacy Act of 1974 and NOAA Administrative Order 216-100. I understand that you participate in saltwater fishing, but have not done so within the past (2 or 12) months. Is this correct?

- Yes           Go to Part II.
- No            When was the last time you went saltwater sportfishing?

If within 2 months Go to **Version B** of the Economic Questionnaire.

If never thank and terminate.

PART II. Economic Questionnaire

(IF INTERVIEWER IS NOT CERTAIN RESPONDENT IS AT LEAST 16 YRS OF AGE, SIMPLY ASK RESPONDENT IF HE/SHE IS AT LEAST 16 YRS OF AGE. IF < 16 YRS OF AGE, THEN TERMINATE AND THANK RESPONDENT.)

- 1. How old were you on your last birthday? (IF RESPONDENT HESITATES, QUICKLY GO TO Q.1a.)           ENTER NUMBER           Go to Q.2.
- Don't Know                   888
- Refused                      999           Go to Q.1a.

- 1a. That is, in which of the following age groups do you belong:
- 16 to 25                   1                   26 to 35                   2
- 36 to 45                   3                   46 to 55                   4
- 56 to 65                   5                   66 and over               6
- Don't Know                8                   Refused                   9

- 2. Code Gender:           Male                   1

Female

2

IF UNCERTAIN, SIMPLY ASK WHAT IS YOUR GENDER?

- 3. Would you describe your ethnic background as Hispanic or Latino:
  - Yes - skip to question 4
  - No - go to question 3a.

3a. Would you describe your ethnic background as:  
 American Indian or Alaska Native,  
 Asian, Black or African American,  
 Native Hawaiian or Other Pacific Islander, and  
 White.

- 4. What was the last grade of formal education which you have completed?

(IF RESPONDENT HESITATES, READ LISTED ALTERNATIVES)

Less than a high school degree		1
High school graduate	2	
Vocational or community college	3	
Some college		4
College graduate	5	
Post-graduate/professional degree	6	
Don't know	8	
Refused	9	

\*

- 5. Are you personally employed outside the home?

Yes	1
No	2
Don't Know	8
Refused	9

\*

- 6. Is your total annual household income before taxes over or under \$45,000.

And is it over or under \$60,000?

And is it over or under \$30,000?

IF OVER And is it over or under \$85,000?

IF UNDER And is it over or under \$15,000?

IF OVER And is it over or under \$110,000?

IF OVER And is it over or under \$135,000?

IF OVER And is it over or under \$160,000?

Less than \$15,000	1
\$15,001 to 30,000	2
\$30,001 to \$45,000	3
\$45,001 to \$60,000	4
\$60,001 to \$85,000	5
\$85,001 to \$110,000	6
\$110,001 to \$135,000	7
\$135,001 to \$160,000 or more	10
Don't Know	8
Refused	9

Version B

FOR CATEGORY 4 RESPONDENTS.

QUESTION 1 SHALL BE ASKED FOR EACH TRIP FOLLOWING THE TRIP MODE QUESTION ON MRFSS TELEPHONE FISHERMAN QUESTIONNAIRE.

\*

- 1. Were you fishing for any particular kinds of fish on that trip?

Yes	1	What Kinds?	1st Target	_____
No	2		2nd Target	_____

DO NOT PROMPT FOR A SECOND SPECIES IF ONLY ONE SPECIES IS MENTIONED. "ANYTHING" IS A VALID ANSWER.

QUESTIONS 2-10 WILL BE ASKED AT THE END OF THE ROUTINE MRFSS TELEPHONE TRIP QUESTIONS

(IF INTERVIEWER IS NOT CERTAIN RESPONDENT IS AT LEAST 16 YRS OF AGE, SIMPLY ASK RESPONDENT IF HE/SHE IS AT LEAST 16 YRS OF AGE. IF < 16 YRS OF AGE, THEN THANK RESPONDENT AND TERMINATE.)

2. How many saltwater fishing trips did you take within the past 12 months?

ENTER NUMBER  
Don't Know 8  
Refused 9

3. On how many of those trips did you target either bluefish, striped bass, black sea bass, summer flounder, Atlantic cod, tautog or scup (substitute 'weakfish' for scup in the Middle Atlantic)?

ENTER NUMBER  
Don't Know 888  
Refused 999

4. Do you or does anyone living in your household own a boat that is ever used for recreational fishing?

Yes 1  
No 2  
Don't Know 8  
Refused 9

5. How old were you on your last birthday? (IF RESPONDENT HESITATES, QUICKLY GO TO Q.5A.)

ENTER NUMBER Go to Q.6.  
Don't Know 8  
Refused 9 Go to Q.5A.

5a. That is, in which of the following age groups do you belong?

16 to 25	1	26 to 35	2
36 to 45	3	46 to 55	4
56 to 65	5	66 and over	6
Don't Know	8	Refused	9

6. Code Gender: Male 1  
Female 2

IF UNCERTAIN, SIMPLY ASK WHAT IS YOUR GENDER?

7. Would you describe your ethnic background as Hispanic or Latino:  
Yes - skip to question 8  
No - go to question 3a.

7a. Would you describe your race as:  
American Indian or Alaska Native,  
Asian, Black or African American,  
Native Hawaiian or Other Pacific Islander, and  
White

8. What was the last grade of formal education which you have completed?

(IF RESPONDENT HESITATES, READ LISTED ALTERNATIVES)  
Less than a high school degree 1  
High school graduate 2  
Vocational or community college 3  
Some college 4  
College graduate 5  
Post-graduate/professional degree 6



	Don't know	8	
	Refused	9	
*			
9 .	Are you personally employed outside the home?		
	Yes	1	
	No	2	
	Don't Know	8	
	Refused	9	
*			
10 .	Is your total annual household income before taxes over or under \$45,000?		
	And is it over or under \$60,000?		And is it over or under \$30,000?
<b>IF OVER</b>	And is it over or under \$85,000?		
<b>IF UNDER</b>	And is it over or under \$15,000?		
<b>IF OVER</b>	And is it over or under \$110,000?		
<b>IF OVER</b>	And is it over or under \$135,000?		
<b>IF OVER</b>	And is it over or under \$160,000?		
	Less than \$15,000	1	
	\$15,001 to 30,000	2	
	\$30,001 to \$45,000	3	
	\$45,001 to \$60,000	4	
	\$60,001 to \$85,000	5	
	\$85,001 to \$110,000	6	
	\$110,001 to \$135,000	7	
	\$135,001 to \$160,000 or more	10	
	Don't Know	8	
	Refused	9	

ATTACHMENT 5a

**ATTACHMENT 5a: ECONOMIC INTERCEPT SURVEY ADD-ON – Southeast Region**

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

3. INTERVIEWER ID

4. YR/MO/DAY  1  9  9  9

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE    9. SITE CODE

10. INTERVIEW STATUS  
 1  Fully Complete 3  Initial Refusal  
 2  Partially Complete 4  Less than 16 Years

In order to qualify for this survey, respondent must be at least 16 years of age. If you are unable to determine respondent's age, please ask: Are you at least 16 years of age? If respondent is not at least 16 years of age, code q. 10 as 4 and terminate interview.

11. Is this fishing trip part of a longer trip in which you will spend at least one night away from your permanent residence, or is this a one-day fishing trip?  
 1  One Day – Code q. 12, 13 & 14 as 998 – Don't Know 8  Don't Know  
 2  Longer 9  Refused

18. How much did you, personally, spend on bait, tackle, licenses, food and ice for this trip? Please do not include charter/guide services and boat rental fees.  
 \$     .      
 -998  Don't Know/Not applicable  
 -999  Refused

12. How many nights will you be away from your residence on this trip?  
   No. of Nights  
 998  Don't Know/Not applicable  
 999  Refused

19. Did you take time off from work without pay in order to make this fishing trip?  
 1  Yes 8  Don't Know/Not applicable – Code q. 20 & 21 as 998  
 2  No – Code q. 20 & 21 as 998 9  Refused – Code q. 20 & 21 as 998

13. How many days of this trip will you go fishing?  
   No. of Nights  
 998  Don't Know/Not applicable  
 999  Refused

20. How many hours a week do you usually work?  
  .00 Hrs per week  
 998  Don't Know/Not applicable  
 999  Refused

14. Did you make this trip primarily to go fishing?  
 1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

21. Which of the following best describes your personal [NOT household] total annual income, before taxes? (Show income card.)

1  \$0 - \$15,599  
 2  \$15,600 – 31,199  
 3  \$31,200 – 46,799  
 4  \$46,800 – 62,399  
 5  \$62,400 – 77,999  
 6  \$78,000 – 93,599  
 7  \$93,600 – 109,199  
 8  \$109,200 – 124,799  
 9  \$124,800 – 139,999  
 10  >\$140,000  
 998  Don't know/Not applicable  
 999  Refused

15. Refer to q. 17 on the MRFSS survey. If the answer is NO particular species then code q. 15a as "98"; otherwise:

a. Counting today, within the last 2 months, how many days have you fished for (primary species) from (specify mode) in this state?

01  One Day – Code q. 15b & 16 as "98"  
  No. of Days (2-62) – Code q. 15b as "98"  
 98  Don't Know/Not applicable  
 99  Refused

b. Counting today, within the last 2 months, how many days have you fished from (specify mode) in this state?

01  One Day – Code q. 16 as "8"  
  No. of Days (2-62)  
 98  Don't Know/Not applicable  
 99  Refused

16. Did you fish at, or launch from, this city/town (or general area) on all of those days?

1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

22. Do you, or does anyone living in your household, own a boat that is ever used for marine recreational fishing?

1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

17. How would you rank your saltwater fishing ability on a scale of 1 to 5 – 1 being a novice and 5 being an expert?

1  2  3  4  5  
 8  Don't Know  
 9  Refused

23. I appreciate your time for this interview. Would you be willing to participate in a follow-up telephone survey?

1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

BOX A: Refer to q. 24 on MRFSS Intercept form. If angler did not release name and/or telephone number during MRFSS portion of survey (q. 24), state: To participate, may I please have your name and a telephone number?  Angler Released Number in q. 24 – Thank and Terminate

ANGLER'S NAME

Day or Night Telephone Number

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**ATTACHMENT 5b**

## ATTACHMENT 5b

### ECONOMIC INTERCEPT FOLLOW-UP TELEPHONE SURVEY QUESTIONNAIRE

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

I am calling to ask a few follow-up questions that could not be collected in the field.

Your participation in this survey is voluntary. Your responses will be treated as confidential records under the Privacy Act of 1974 and NOAA Administrative Order 216-100.

**Q1.** How many years have you been saltwater recreational fishing?

001 Record number of years

888 Don't know

999 Refused

**Q2. If mode of intercepted trip was "charter boat" or "partyboat" GO TO Q10.** Have you been saltwater fishing since [TRIPDATE], the day you were interviewed?

1 Yes

2 No **SKIPTO Q10.**

8 Don't know **SKIPTO Q10.**

9 Refused **SKIPTO Q10.**

**Q3.** Please think of your **most recent** day of saltwater fishing. Did you fish from a

1 Party/charter boat

2 Private boat

3 Rental boat

4 Shore (beach, bank, jetty, pier)

8 Don't know

9 Refused

**Q4.** Were you targeting or hoping to catch any particular species or kinds of fish?

**Accept up to two target species**

9997 Anything/no particular species

0001 Record species name and appropriate MRFSS code (*NMFS to provide species list with codes*)

9995 Other (specify)

9996 Other (specify)

9998 Don't know

9999 Refused

**Q5. If mode (Q3) is not private or rental boat, ask:** In what city and state did you fish?

**If mode (Q3) is private or rental boat, ask:** From which city and state did you launch your boat?

First, what was the state?

1 Record state name and appropriate FIPS code.

In what city?

1 Record city name

98 Don't Know

99 Refused

**Q6.** Was that day of fishing part of a longer trip in which you spent at least one night away from your residence?

- 1 Yes
- 2 No **SKIPTO Q10.**
- 8 Don't know **SKIPTO Q10.**
- 9 Refused **SKIPTO Q10.**

**Q7.** How many nights were you away from residence on that trip?

- 01 Record number of nights **If 0, SKIPTO Q10.**
- 98 Don't Know
- 99 Refused

**Q8.** How many days of the trip were spent fishing? I am asking about the number of days that were actually spent fishing on the most recent trip, and **not** the total number of days you were away.

- 01 Record number of days
- 98 Don't Know
- 99 Refused

**Q9.** Did you make the trip **primarily** to go fishing?

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

**Q10.** Now I would like to ask you about expenses you made for consumable items during your most recent trip. I'm interested in expenditures for the whole trip, not just for the time spent fishing. How many people, including yourself, contributed to expenses for the trip?

- 01 Record number of people
- 98 Don't Know
- 99 Refused

About how much did you individually spend for the following items? **If Q10 > 1, then ask:** If you can't recall how much you spent individually for each question, please tell me how much was spent by the group of people who went on the trip with you.

**Q11.** How much was spent for food, drink and refreshments?

- 00 Zero/Nothing **SKIP TO Q12**
- 01 Record amount
- 98 Don't Know **SKIP TO Q12**
- 99 Refused **SKIP TO Q12**

**Q11A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q12.** How much was spent for lodging at motels, cabins, lodges or campgrounds?

- 00 Zero/Nothing **SKIP TO Q13**
- 01 Record amount
- 98 Don't Know **SKIP TO Q13**
- 99 Refused **SKIP TO Q13**

**Q12A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q13.** How much was spent for transportation other than your own car, such as plane, train, bus or car rental?

- 00 Zero/Nothing **SKIP TO Q14**
- 01 Record amount
- 98 Don't Know **SKIP TO Q14**
- 99 Refused **SKIP TO Q14**

**Q13A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q14.** How much was spent for boat fuel?

- 00 Zero/Nothing **SKIP TO Q15**
- 01 Record amount
- 98 Don't Know **SKIP TO Q15**
- 99 Refused **SKIP TO Q15**

**Q14A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q15.** How much was spent on guide or package fees for party or charter boats?

- 00 Zero/Nothing **SKIP TO Q16**
- 01 Record amount
- 98 Don't Know **SKIP TO Q16**
- 99 Refused **SKIP TO Q16**

**Q15A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q16.** How much was spent for access and/or boat launching fees for access to pier, park, launch?

- 00 Zero/Nothing **SKIP TO Q17**
- 01 Record amount
- 98 Don't Know **SKIP TO Q17**
- 99 Refused **SKIP TO Q17**

**Q16A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q17.** How much was spent on equipment rental for boat, fishing or camping equipment?

- 00 Zero/Nothing **SKIP TO Q18**
- 01 Record amount
- 98 Don't Know **SKIP TO Q18**
- 99 Refused **SKIP TO Q18**

**Q17A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q18.** How much was spent on live, cut or prepared bait?

- 00 Zero/Nothing **SKIP TO Q19**
- 01 Record amount
- 98 Don't Know **SKIP TO Q19**
- 99 Refused **SKIP TO Q19**

**Q18A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q19.** How much was spent on ice?

- 00 Zero/Nothing **SKIP TO Q20**
- 01 Record amount
- 98 Don't Know **SKIP TO Q20**
- 99 Refused **SKIP TO Q20**

**Q19A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 03 Individual
- 04 Group

**Q20.** How much was spent on cleaning fees? [These are fees paid at the dock for filleting and cleaning fish]

- 00 Zero/Nothing **SKIP TO Q21**
- 01 Record amount
- 98 Don't Know **SKIP TO Q21**
- 99 Refused **SKIP TO Q21**

**Q20A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 05 Individual
- 06 Group

**Q21. IF RESPONSES TO Q11-Q20 ARE ALL "DON'T KNOW" OR "REFUSED", THEN ASK:** Could you estimate the **total** amount that was spent for the trip?

- 00 Zero/Nothing **SKIP TO Q22**
- 01 Record amount
- 98 Don't Know **SKIP TO Q22**
- 99 Refused **SKIP TO Q22**

**Q21A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 07 Individual
- 08 Group

**Q22.** On an annual basis, how much do you usually spend on mooring, storage, maintenance, and insurance for your fishing boat? [If the respondent owns more than one boat that is used for saltwater fishing, ask about the boat that is used the most.]

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



For the next several questions, I'd like you to think about fishing equipment that you purchased during the last 60 days.

**Q23.** How much did you spend on rods, poles, reels, and lines?

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

**Q24.** How much did you spend on tackle and gear (lures, hooks, leaders, sinkers, flies, and fly-tying supplies/tackle boxes, landing nets, bait containers, minnow seines, knives)?

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

**Q25. IF Q23 AND Q24 ARE "DON'T KNOW" OR "REFUSED" ASK:** Could you tell me the total amount that was spent for fishing equipment purchases during the last 60 days?

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

And we're interested in how much you spent for several items purchased during the last 60 days, where the items were purchased **primarily** for use in saltwater recreational fishing. Some of these next items that I'll ask about are multi-purpose items which could be used for other things in addition to salt water recreational fishing. Please limit your responses to items purchased **primarily** for saltwater recreational fishing, even if you use them for other things.

**Q26.** During the last 60 days, how much did you spend on camping equipment (such as sleeping bags, packs, tents) primarily used for saltwater recreational fishing?

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

**Q27.** During the last 60 days, how much did you spend for binoculars, field glasses, or similar equipment?

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

**Q28.** During the last 60 days, how much did you spend for special fishing clothing such as foul weather gear, boots, and waders?

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

**Q29.** During the last 60 days, how much did you spend on processing and taxidermy fees?

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

**Q30.** During the last 60 days, how much did you spend on subscriptions to magazines devoted to recreational fishing.

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

**Q31.** During the last 60 days, how much did you spend on dues or contributions to national, state or local recreational fishing clubs or organizations.

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

**Q32.** During the last 60 days, how much did you spend on saltwater fishing licenses or fees.

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

**Q33.** During the last 60 days, how much did you spend on any other miscellaneous expenses for items which you primarily use for saltwater recreational fishing that were not listed elsewhere?

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

**Q34. IF Q26-Q33 ARE ALL "DON'T KNOW" OR "REFUSED" ASK:** Could you tell me the total amount that was spent for these types of items during the last 60 days, where the items were purchased **primarily** for saltwater recreational fishing?

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

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

**Q35.** During the past 12 months, how much did you spend on new motor boats or motor boat accessories, including hull, motor and accessories?

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

**Q36.** During the past 12 months, how much did you spend to purchase a canoe or other non-motor boat?

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

**Q37.** During the past 12 months, how much did you spend to purchase a depth/fish finder or other electronic fishing devices?

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

**Q38.** During the past 12 months, how much did you spend to purchase vehicles (such as pickup, camper, RV, motor home, or trailer/hitch) used primarily for saltwater recreational fishing?

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

**Q39.** During the past 12 months, how much did you spend to purchase a second home used primarily for saltwater recreational fishing?

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

**Q40. IF Q35-Q39 ARE "DON'T KNOW" OR "REFUSED" THEN ASK:** Could you tell me the total amount that was spent for durable fishing equipment purchases such as these during the last twelve months?

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

**Q41.** Compared to your other recreational activities such as golfing, hiking, hunting and tennis, would you rate fishing as... [Read list]

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

**Q42.** Do you usually keep some of the fish you catch?

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

**Q43. IF STATE OF TRIP IS SAME AS STATE OF RESIDENCE, THEN ASK:** If conservation measures

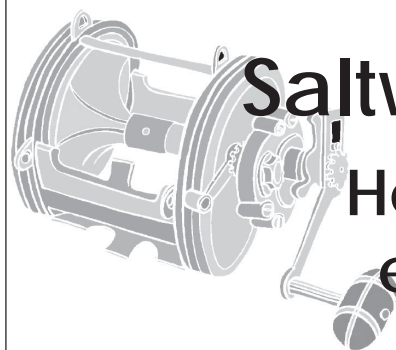
were implemented in [STATE OF RESIDENCE] that prohibited marine recreational anglers from keeping fish, though catch and release would be allowed, would you [read list]:

- 01 Travel to another state to fish,
- 02 Continue fishing in [STATE OF RESIDENCE] even though you could not keep any of the fish you caught,
- 03 Continue fishing in [STATE OF RESIDENCE] even though you could not keep any of the fish you catch, but spend more of your money on other recreational activities within [STATE OF RESIDENCE],
- 04 Stop fishing in [STATE OF RESIDENCE] but spend your money on other recreational activities within [STATE OF RESIDENCE],
- 05 Other (specify)
- 98 Don't know
- 99 Refused

**That's all the questions I have for you. Thank you very much for your time and assistance.**

## ATTACHMENT 6

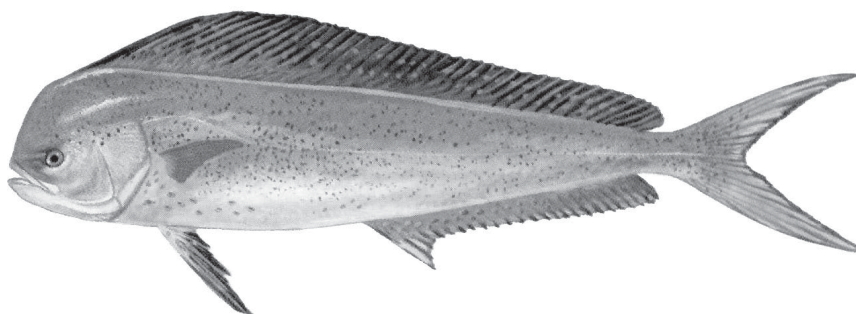
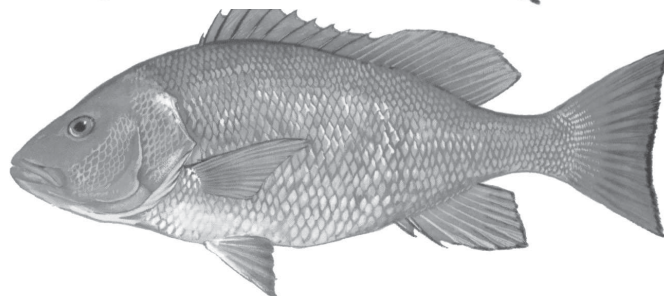
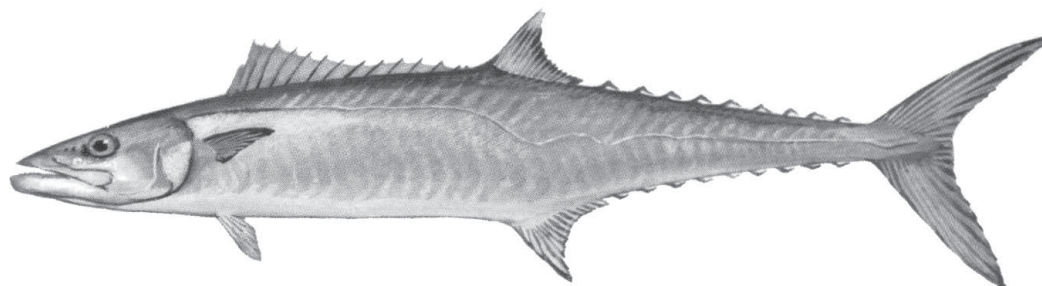
# Attachment 06: Follow-up Economic Mail Survey



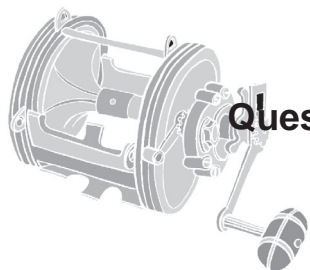
## Saltwater Sportfishing Survey

Help us improve your sportfishing experience.

### What Do You Think?



Sponsored by  
**NOAA Fisheries**  
(National Marine Fisheries Service)



**Questions?** Email [xxxx.xxxxxx@noaa.gov](mailto:xxxx.xxxxxx@noaa.gov)  
This survey is voluntary.  
All responses are anonymous and confidential.

## Section A: Your Recent Sport Fishing Activities

Your opinions are important. The questions in this survey are about YOU and YOUR recreational saltwater fishing activities and preferences. Except when asked, please do not include any information from other household members or other fishing party members. When completing the questionnaire please print clearly.

**A1** Over the past year, how often have you targeted each of the following saltwater species?

Saltwater Species	Never Target	Rarely Target	Frequently Target	Always Target
Grouper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Snapper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Snapper (NOT Red Snapper)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuna (yellowfin, bluefin, blackfin, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dolphin (mahi-mahi)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cobia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
King mackerel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spanish mackerel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**A1.a** If you target any other fish not listed above, please write them in the space provided.

**A2** What are your preferences for keeping the following saltwater fish? Please mark only one choice for each species.

Saltwater Species	Have not caught	I keep all that I am legally allowed	I keep some of what I am legally allowed	I keep none of what I am legally allowed
Grouper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Snapper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Snapper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuna	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dolphin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cobia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
King mackerel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spanish mackerel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**A3** On your most recent saltwater fishing trip, how much did you personally spend during that trip? Please do not include any costs paid by others.

Type of Expenditure	Personal Expenditure
Auto/truck fuel	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Airfare or other public transportation	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Auto/RV rental	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Lodging	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Food and drinks from grocery/ convenience stores	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Food and drink from restaurants and bars	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Boat fuel	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Fishing gear or tackle used only on this trip	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Bait	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Ice	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Equipment rental	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Access/boat launching fees	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Party, charter, or guide fees (include tips)	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>
Other: _____	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>



**A4** During the past two months, how many fishing trips have you taken in:

Freshwater  
  Saltwater



**A5** During the past two months, how many saltwater fishing trips have you taken from:

Beach or bank        Privately owned boat  
  Pier, bridge, or jetty        Charter, party, or head boat





**A6** Below are several reasons why you may release fish you could have legally kept. Indicate the extent to which you agree or disagree with the following reasons.

<b>“I release some fish I could have legally kept because...”</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Feel Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
...I don't like to eat some types of fish.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...even though they are of legal size they are too small to keep.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...I already caught what I plan to eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...I enjoy the sport of catching and releasing fish.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...I am interested in fisheries conservation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...I don't want to catch my limit too quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...some are too big and don't taste as good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...some look damaged or not in good shape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...of some other reason (please specify). _____					



**A7** Please indicate the extent to which you support or oppose the following conservation measures.

<b>Conservation Measure</b>	<b>Support</b>	<b>Somewhat Support</b>	<b>Feel Neutral</b>	<b>Somewhat Oppose</b>	<b>Oppose</b>
Minimum size limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maximum size limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slot limits (combined maximum and minimum size limits)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bag limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Area closures to protect key habitat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seasonal closures to protect spawning or other seasonal aggregations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restrictions on the type of fishing gear that can be used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Harvest moratorium/closure for species in trouble	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

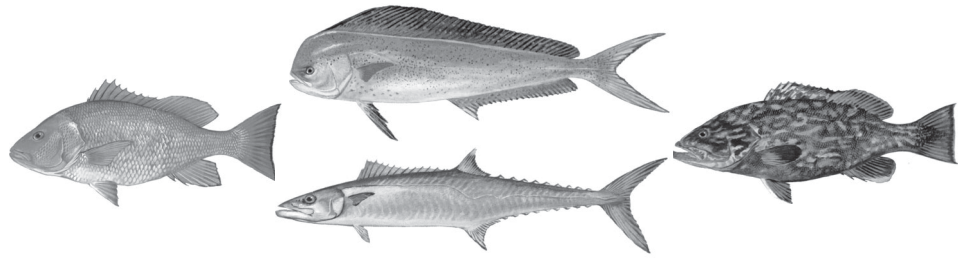
## Section B: Your Preferences for Saltwater Fishing Trips

In this section we want to know about your preferences for different types of saltwater fishing trips. Each question will ask you to compare two single day fishing trips that vary in the following ways:

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

*These definitions are also provided on each of the following pages for your reference. Please refer to them as needed.*

# Fishing Trips



**B1** Please look at the table, compare all the features of each fishing trip, and then answer the question below.

### Definitions

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

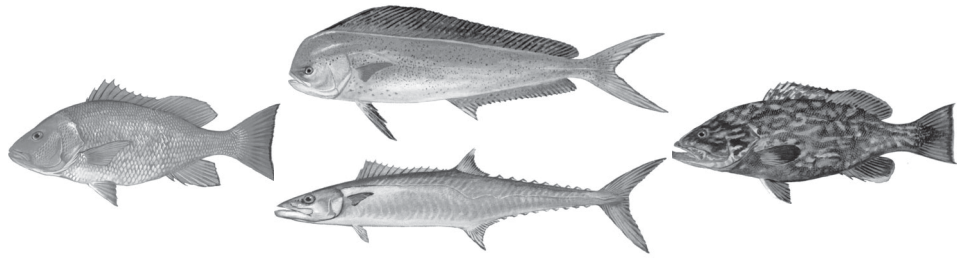
Features	Trip A	Trip B	No Trip
Target species	King Mackerel	Grouper	Do something else, but not take a saltwater fishing trip.
Total number caught per trip	5 King Mackerel	6 Grouper	
Bag limit	1 King Mackerel	2 Grouper	
Minimum size limit	20 inches	18 inches	
Catch at or above the minimum size	3 King Mackerel	2 Grouper	
Trip cost	\$70	\$45	
Catch of target species you are legally allowed to keep	1 King Mackerel	2 Grouper	
Catch of other fish you are legally allowed to keep	1 fish	1 fish	



Would you choose trip A, trip B or no trip at all? Please select only one.

- Trip A
- Trip B
- No Trip

# Fishing Trips



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

### Definitions

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

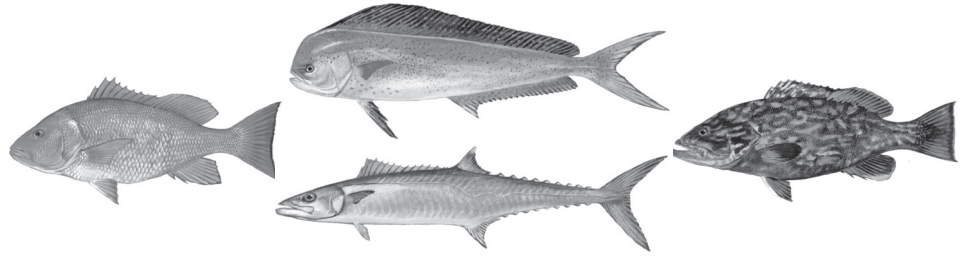
Features	Trip A	Trip B	No Trip
Target species	Red Snapper	Grouper	Do something else, but not take a saltwater fishing trip.
Total number caught per trip	2 Red Snapper	6 Grouper	
Bag limit	5 Red Snapper	2 Grouper	
Minimum size limit	16 inches	24 inches	
Catch at or above the minimum size	1 Red Snapper	6 Grouper	
Trip cost	\$105	\$105	
Catch of target species you are legally allowed to keep	1 Red Snapper	2 Grouper	
Catch of other fish you are legally allowed to keep	1 fish	3 fish	



Which trip would you choose? Please select only one.

- Trip A
- Trip B
- No Trip

# Fishing Trips



**B3** Please look at the table, compare all the features of each fishing trip, and then answer the question below.

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

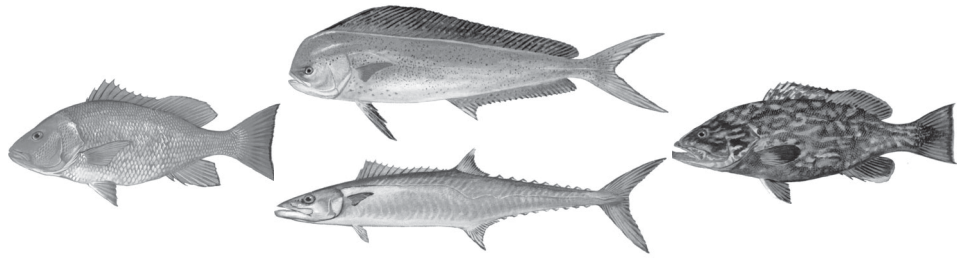
Features	Trip A	Trip B	No Trip
Target species	Grouper	King Mackerel	Do something else, but not take a saltwater fishing trip.
Total number caught per trip	6 Grouper	1 King Mackerel	
Bag limit	3 Grouper	5 King Mackerel	
Minimum size limit	20 inches	28 inches	
Catch at or above the minimum size	6 Grouper	1 King Mackerel	
Trip cost	\$140	\$140	
Catch of target species you are legally allowed to keep	3 Grouper	1 King Mackerel	
Catch of other fish you are legally allowed to keep	3 fish	6 fish	



Which trip would you choose? Please select only one.

- Trip A
- Trip B
- No Trip

# Fishing Trips



**B4** Please look at the table, compare all the features of each fishing trip, and then answer the question below.

### Definitions

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

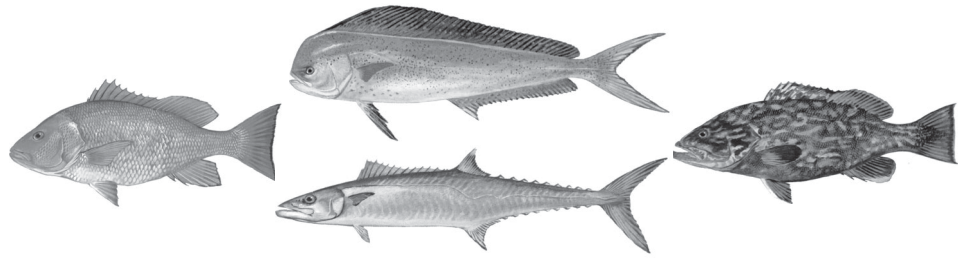
Features	Trip A	Trip B	No Trip
Target species	Grouper	Dolphin	Do something else, but not take a saltwater fishing trip.
Total number caught per trip	6 Grouper	10 Dolphin	
Bag limit	2 Grouper	20 Dolphin	
Minimum size limit	24 inches	18 inches	
Catch at or above the minimum size	2 Grouper	6 Dolphin	
Trip cost	\$45	\$140	
Catch of target species you are legally allowed to keep	2 Grouper	6 Dolphin	
Catch of other fish you are legally allowed to keep	6 fish	6 fish	



Which trip would you choose? Please select only one.

- Trip A
- Trip B
- No Trip

# Fishing Trips



**B5** Please look at the table, compare all the features of each fishing trip, and then answer the question below.

### Definitions

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

Features	Trip A	Trip B	No Trip
Target species	King Mackerel	King Mackerel	
Total number caught per trip	1 King Mackerel	2 King Mackerel	
Bag limit	3 King Mackerel	3 King Mackerel	
Minimum size limit	24 inches	24 inches	
Catch at or above the minimum size	1 King Mackerel	2 King Mackerel	
Trip cost	\$140	\$70	
Catch of target species you are legally allowed to keep	1 King Mackerel	2 King Mackerel	Do something else, but not take a saltwater fishing trip.
Catch of other fish you are legally allowed to keep	6 fish	3 fish	

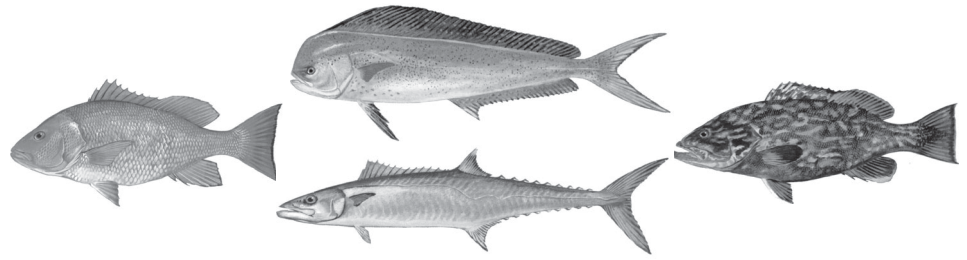


Which trip would you choose? Please select only one.

- Trip A
- Trip B
- No Trip



# Fishing Trips



**B6** Please look at the table, compare all the features of each fishing trip, and then answer the question below.

### Definitions

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

Features	Trip A	Trip B	No Trip
Target species	Red Snapper	Dolphin	
Total number caught per trip	3 Red Snapper	6 Dolphin	
Bag limit	1 Red Snapper	6 Dolphin	
Minimum size limit	16 inches	20 inches	
Catch at or above the minimum size	2 Red Snapper	6 Dolphin	
Trip cost	\$45	\$140	
Catch of target species you are legally allowed to keep	1 Red Snapper	6 Dolphin	Do something else, but not take a saltwater fishing trip.
Catch of other fish you are legally allowed to keep	1 fish	3 fish	

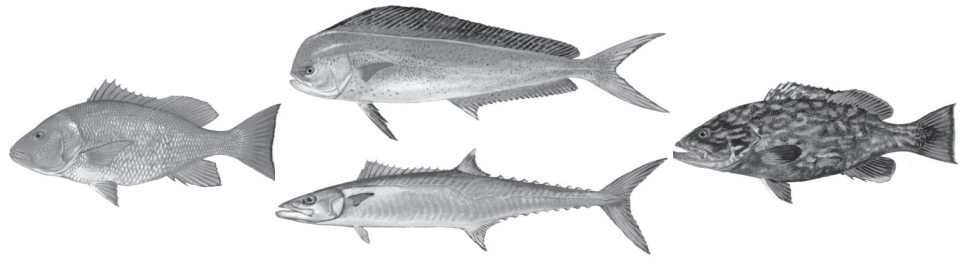


Which trip would you choose? Please select only one.

- Trip A
- Trip B
- No Trip



# Fishing Trips



**B7** Please look at the table, compare all the features of each fishing trip, and then answer the question below.

### Definitions

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

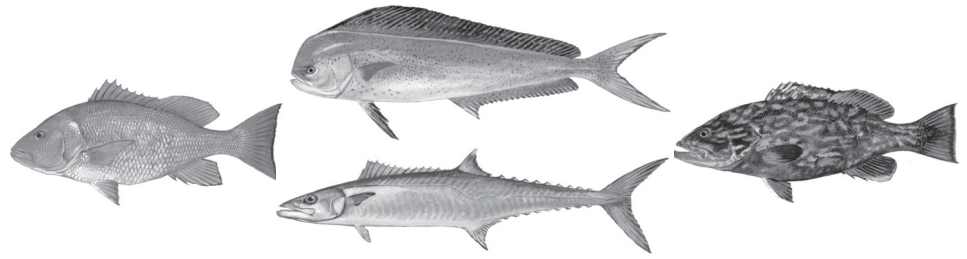
Features	Trip A	Trip B	No Trip
Target species	Dolphin	Grouper	Do something else, but not take a saltwater fishing trip.
Total number caught per trip	3 Dolphin	6 Grouper	
Bag limit	15 Dolphin	3 Grouper	
Minimum size limit	24 inches	18 inches	
Catch at or above the minimum size	1 Dolphin	6 Grouper	
Trip cost	\$70	\$105	
Catch of target species you are legally allowed to keep	1 Dolphin	3 Grouper	
Catch of other fish you are legally allowed to keep	3 fish	6 fish	



Which trip would you choose? Please select only one.

- Trip A
- Trip B
- No Trip

# Fishing Trips



**B8** Please look at the table, compare all the features of each fishing trip, and then answer the question below.

### Definitions

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

Features	Trip A	Trip B	No Trip
Target species	King Mackerel	Red Snapper	Do something else, but not take a saltwater fishing trip.
Total number caught per trip	3 King Mackerel	3 Red Snapper	
Bag limit	2 King Mackerel	2 Red Snapper	
Minimum size limit	24 inches	18 inches	
Catch at or above the minimum size	1 King Mackerel	1 Red Snapper	
Trip cost	\$105	\$70	
Catch of target species you are legally allowed to keep	1 King Mackerel	1 Red Snapper	
Catch of other fish you are legally allowed to keep	6 fish	1 fish	




Which trip would you choose? Please select only one.


- Trip A
- Trip B
- No Trip

## Section C: About You and Your Household


Different types of anglers may have different preferences for fisheries management. The following basic demographic questions will help fishery managers understand the opinions of different types of anglers. The information you provide will remain strictly confidential, and you will not be identified with your answers.

 **C1** Are you.....?


<input type="radio"/> Male	<input type="radio"/> Female
----------------------------	------------------------------

 **C2** What is the highest level of education you have completed?


<input type="radio"/> Some high school
<input type="radio"/> High school graduate
<input type="radio"/> 2-year degree or technical school
<input type="radio"/> Some college
<input type="radio"/> College graduate
<input type="radio"/> Professional or doctoral degree

 **C3** What best describes your employment status? Please check all that apply.


<input type="radio"/> Employed full-time
<input type="radio"/> Employed part-time
<input type="radio"/> Full time homemaker
<input type="radio"/> Retired
<input type="radio"/> Student (part-time)
<input type="radio"/> Student (full-time)
<input type="radio"/> Unemployed
<input type="radio"/> Other (specify)_____

 C4 What year were you born?


Year:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
-------	----------------------	----------------------	----------------------	----------------------

 C5 What is your race?

<input type="radio"/>	White
<input type="radio"/>	Black/African American
<input type="radio"/>	Hispanic/Spanish
<input type="radio"/>	Asian/Pacific Islander
<input type="radio"/>	American Indian
<input type="radio"/>	Other: _____

 C6 Which of the following categories best describes your household's total annual income before taxes in 2002?

<input type="radio"/>	Less than \$15,599
<input type="radio"/>	\$15,600 - \$31,199
<input type="radio"/>	\$31,200 - \$46,799
<input type="radio"/>	\$46,800 - \$62,399
<input type="radio"/>	\$62,400 - \$77,999
<input type="radio"/>	\$78,000 - \$93,599
<input type="radio"/>	\$93,600 - \$109,199
<input type="radio"/>	\$109,200 - \$124,799
<input type="radio"/>	\$124,800 - \$139,999
<input type="radio"/>	Greater than \$140,000

 C7 Was this survey completed by the person to whom it was mailed?

<input type="radio"/> Yes	<input type="radio"/> No
---------------------------	--------------------------

# Thank You for Participating!

Please use the space below to make any additional comments you may have. If you have any questions regarding the survey, please call 1.xxx.xxx.xxxx or email xxx.xxxxxx@noaa.gov

*Notwithstanding any other provisions of the law; no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirement of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number. Public reporting burden for this survey is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to xxx xxxxxxx, NMFS F/ST1, 1315 East West Highway, Silver Spring, MD 20901.*

**ATTACHMENT 6a**

Log into Temp8  
Demo = wademo  
Survey = wa304

**Washington State RecFin Survey**  
**Wave 3, 2004**  
**(Fishing From May 1<sup>st</sup> to June 30<sup>th</sup>)**  
(Revised 7/2/04)

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Hello, I'm calling on behalf of the Washington Department of Fish and Wildlife. May I speak to \_\_\_\_\_. (CONTINUE) My name is \_\_\_\_\_ (and I'm calling on behalf of the Washington Department of Fish and Wildlife). We're surveying recreational fishermen in the State of Washington. (ARRANGE A CB IF NECESSARY; IF FISHERMAN WILL NOT BE AVAILABLE DURING SURVEY PERIOD OR IS A YOUNG CHILD, SCREEN FOR A PROXY.)

S1. First, can I confirm that you purchased a (TYPE OF LICENSE) fishing license this year? (THE LICENSE TYPE IS RECORDED ON THE YELLOW VALIDATION STICKER)

1. Yes, license type(s) is correct (SKIP TO INTRO AFTER QS2)
2. No, purchased different type of license (GO TO QS2)
3. No, didn't purchase any fishing license this year (THANK & TERMINATE)
4. DK, respondent is a proxy (SKIP TO INTRO AFTER QS2)

S2. Please read me your WILD ID number. It is listed on the yellow validation sticker on your license.

1. Correct WILD ID (CONTINUE)
2. Incorrect WILD ID (CONFIRM ADDRESS AND ASK FOR OTHER INDIVIDUAL AT SAME ADDRESS WITH SAME NAME; IF NONE, THANK & TERMINATE)

We want to gather information from people who have been saltwater sportfishing for fish in May and June . Saltwater fishing includes fishing in the ocean, the sound, bays and in the brackish portions of rivers. This survey does not include fishing in freshwater, **or** fishing for shellfish, such as crabs, clams or shrimp **or** any trips you made in Canadian waters. Recreational fishing means the primary purpose of the fishing is for fun, relaxation, or personal consumption, as opposed to providing income from the sale of fish. Your answers will be kept strictly confidential.

Q1. Did you make any recreational saltwater fishing trips in Washington in the 2-month period between May 1<sup>st</sup> and June 30<sup>th</sup>?

1. Yes (CONTINUE)
2. No [THANK & TERMINATE. THIS IS A COMPLETE]
3. Don't know [THANK & TERMINATE. THIS IS NOT A COMPLETE]
4. Refused [THANK & TERMINATE. THIS IS NOT A COMPLETE]

Q2. How many saltwater recreational fishing trips did you take in Washington waters between May 1<sup>st</sup> and June 30<sup>th</sup>?

- \_\_\_\_\_ trips
- 98 Don't Know (ASK FOR BEST GUESS)
  - 99 Refused (THANK & TERMINATE)

Q3. Can you recall the dates of those (#) trips? (I have a calendar here in case you need help with the dates.) [RECORD MONTH AND DAY FOR EACH TRIP; IF DK, RECORD MONTH & WEEKDAY OR WEEKEND.]

(IF Q2=1, SAY:) Now I'd like to ask for a little more information about that trip.

(IF Q2>1, SAY:) Now I'd like to ask for a little more information about each trip, starting with the most recent.

Q4. Please think about the trip you took on (date). On that trip, were you fishing from . . . (READ CHOICES)

1. A private or rental boat (ASK Q5)
2. A charter or party boat (ASK Q7 & Q10, THEN SKIP TO Q14)
3. The shore, or
4. A jetty, pier or other structure
5. Other (SPECIFY) \_\_\_\_\_
98. Don't know/cannot remember [DO NOT READ;]
99. Refused [DO NOT READ;]

Q5. (P/R BOATS ONLY:) How many other anglers were fishing with you in the same boat on that trip?

You + \_\_\_\_\_ anglers

98 Don't Know

99 Refused

(NOTE: DO NOT COUNT THE ANGLER BEING INTERVIEWED AND DO NOT INCLUDE NON-ANGLERS. THIS SHOULD BE THE NUMBER OF ANGLERS WHO FISHED IN THE BOAT IN ADDITION TO THE ANGLER BEING INTERVIEWED.)

Q6. Was most of your fishing that day in the ocean, sound, river, or bay?

1. ocean
2. sound or straight
3. river
4. bay
5. other (SPECIFY) \_\_\_\_\_

Q7. Which Marine Catch Area were you fishing in on that trip? (I have a map here if you need help determining the area.)

- |                                      |  |
|--------------------------------------|--|
| 1. Area 1 (Ilwaco)                   | 10. Area 8-1 (Deception Pass, Hope Island, Skagit Bay) |
| 2. Area 2 (Westport-Ocean Shores)    | 11. Area 8-2 (Port Susan and Port Gardner)             |
| 3. Area 2-1 (Willapa Bay)            | 12. Area 9 (Admiralty Inlet)                           |
| 4. Area 2-2 (Gray's Harbor)          | 13. Area 10 (Seattle/Bremerton Area)                   |
| 5. Area 3 - (LaPush)                 | 14. Area 11 (Tacoma-Vashon Island)                     |
| 6. Area 4 (Neah Bay)                 | 15. Area 12 (Hood Canal)                               |
| 7. Area 5 (Sekiu and Pillar Point)   | 16. Area 13 (South Puget Sound)                        |
| 8. Area 6 (East Juan de Fuca Strait) | 98. Don't know/cannot remember                         |
| 9. Area 7 (San Juan Islands)         | 99. Refused  |



Q8. What type of fishing gear did you personally use during this trip? Was it a rod and reel, a spear, a dip net, or something else?

1. Rod and reel
2. Spear
3. Dip net
4. Other [SPECIFY] \_\_\_\_\_
98. Don't remember
99. Refused

Q9. Were you fishing for any particular kinds of fish on that trip? [DON'T READ LIST OR PROMPT; CHECK ALL THAT APPLY]

- |                                     |                           |
|-------------------------------------|---------------------------|
| 1. Anything, whatever I could catch | 8. Flounder               |
| 2. Salmon                           | 9. Bottomfish (PROBE)     |
| 3. Halibut                          | 10. Other [SPECIFY] _____ |
| 4. Rockfish (ANY KIND OF ROCKFISH)  | 98. DK                    |
| 5. Smelt                            | 99. Refused               |
| 6. Lingcod                          |                           |
| 7. Sturgeon                         |                           |

Q10a. What was the name of the launch site that your boat returned to?

Q10b. Which marina or launch location did the charter or party boat return to? (SKIP TO Q14)

Q10c. Where specifically did you fish?

Record Site Name: \_\_\_\_\_

Q11. What county is that in?

1. Clallam (Strait of Juan de Fuca)
2. Grays Harbor (Ocean Shores / Aberdeen)
3. Island (Whidbey Island / Camano Island)
4. Jefferson (Port Townsend)
5. King (Seattle)
6. Kitsap (Bremerton)
7. Mason (South Hood Canal)
8. Pacific (Willapa Bay / South Coast)
9. Pierce (Tacoma)
10. San Juan (San Juan Islands)
11. Skagit (Anacortes / La Connor)
12. Snohomish (Everett)
13. Thurston (Olympia / South Puget Sound)
14. Whatcom (Bellingham / North Puget Sound)
15. Other (SPECIFY) \_\_\_\_\_
98. Don't Know (ASK Q11a)
99. Refused

Q11a. Can you tell me a nearby town or landmark?

\_\_\_\_\_

Q12a. (BOATS:) Does the public have access to the place from which the boat left, or is it private access?

Q12b. (SHORE:) Does the public have access to this site?

[IF RESPONDENT ASKS, SAY:] Public access sites are those where everyone in the general public has access, even though you may or may not have to pay a fee to use the site. Private access sites often have restricted access, such as gates or guards to keep out non-members. Personal (private) residences are also private access sites.

1. Public has access
2. Private access only
3. Military
8. Don't know / Can't remember
9. Refused

Q13. About what time of day did you complete this trip?

1. before 9 AM
2. 9 AM to 11 AM
3. 11AM to 1 PM
4. 1 PM to 3 PM
5. 3 to 7 PM
6. after 7 PM
98. DK
99. Refused

(Note: Some anglers may make more than one trip in a single day. For instance, folks may come in for lunch and go out after lunch and do more fishing, or folks may change modes (go out on a boat, come in for lunch and do a little shore fishing in the same area after lunch before leaving). In other words, folks may make two or more trips (return to port / leave fishing grounds twice) in a single day. We need to count these as separate trips.)

Q14. Did you do any other recreational saltwater fishing **that day**?

1. Yes [ASK Q4-13 FOR THAT TRIP]
2. No (GO TO NEXT TRIP OR IF LAST TRIP, CONTINUE WITH Q15)
3. Uncertain

(ASK AFTER ALL TRIP INFORMATION HAS BEEN COLLECTED)

Q15. Did you make any other saltwater fishing trips between May 1<sup>st</sup> and June 30<sup>th</sup>?

1. Yes [RETURN TO Q3]
2. No [THANK AND TERMINATE]
3. Uncertain [THANK AND TERMINATE]

On behalf of the Washington Department of Fish and Wildlife, I want to thank you very much for taking the time to complete this survey. You have been very helpful. Thanks again, and good luck on your next fishing trip.

---

Q15. (INTERVIEWER, DID YOU INTERVIEW THE FISHERMAN OR A PROXY?)

1. fisherman
2. proxy (CONTINUE)

Q16. *Interviewer: Record reason for proxy data*

1. *Parent prefers to complete interview*

2. *Language barrier*
3. *Fisherman is unavailable during study period*
4. *Other (SPECIFY)* \_\_\_\_\_

ATTACHMENT 6b

# Oregon License-Frame Telephone Survey Instrument

---

*A "complete" interview captures the number of fishing episodes during the two-month period, or wave in saltwater in Oregon. A "fishing episode" is the total time spent fishing during a day from a major mode: man-made structure (MM), beach/bank (BB), charter boat (PC), or private/rental boat (PR). Most license holders will have only one fishing episode per day, so throughout the interview "day" is used in place of "fishing episode" because the latter is likely to confuse license holders. The term "fishing trip" is not used because a license holder might lump several fishing episodes (days) into one multi-day trip away from home. If a license holder refuses to continue with the interview anytime after the number of quantified fishing episodes has been recorded (Q1), then the interview is considered "complete." However, the interviewer should encourage license holders to answer every question for each fishing episode. At a minimum, if possible, the interviewer should try to ascertain the mode and area of each fishing episode before the license holder ends the conversation. Proxies will not be used to answer questions for license holders.*

*Key: Intro = introductory element, Def = definition, Q=base question, B = boat question, and S = shore question*

---

**Intro1.** Hello, my name is \_\_\_\_\_, and I'm calling for the Oregon Department of Fish and Wildlife, which is collecting information about saltwater sport fishing.

**Intro2.** May I please speak to <license holder> ?

1. Yes (speaking)
  2. Yes (person who answered phone gets license holder) [repeat Intro1, then go to Intro3]
  3. Not now (license holder will be available later during the survey period)  
[schedule a callback and thank]
  4. No (will not be available later during the survey period) [terminate; not complete]
  9. Refused [terminate; not complete]
- 

*The survey period is the first 3 or 4 weeks of the calling month or until the required number of completed interviews is obtained.*

---

**Intro3.** May I please ask you some questions about your fishing activities? The information you provide is confidential.

1. Yes
  2. Not now (license holder will participate later during the survey period) [schedule a callback and thank]
  9. Refused [terminate; not complete]
- 

*If license holder wants to know how we got his/her phone number, explain that his/her name was randomly drawn from the Oregon sport fishing license database; the phone number was either in the database or was looked up.*

---

**Def.** Our focus is on saltwater sport fishing in Oregon. By "sport fishing" I mean the primary purpose of fishing or spearfishing was for fun, relaxation or personal consumption—not for income. By "saltwater" I mean ocean, bays, estuaries and salty areas of rivers.

- Q1.** In <June and July> how many days did you go saltwater sport fishing or spearfishing for fish—not crabs—in Oregon?
1. Zero [close; complete]
  2. More than zero [record number of days, actual or approximate]
  98. Don't know (no. of days not established) [close; not complete]
  99. Refused (no. of days not established) [terminate; not complete]

---

*Fishing can be done with any kind of equipment including hook & line, net, spear (by divers, for example), etc.*

---

- Q2.** Can you recall the approximate date(s)? I have a calendar here in case you need help.
1. [record date(s)]
  2. Not sure [record as much information as possible: month, type of day (weekday, weekend or holiday), frequency (e.g., every other Tuesday), etc.]
  98. Don't know [close; complete]
  99. Refused [terminate; not complete]

---

*We are interested in the fishing dates as a means of minimizing the possibility of a license holder over- or underestimating the number of fishing days. We use the term "approximate" in order to make the question seem less demanding.*

---

*Any refusal after this point will be "complete" although the interviewer should try to ascertain the mode and area of all fishing days before the license holder exits the conversation.*

---

- Q3.** (If Days>1, then start with the most recent date: Regarding <date>,) was most of your saltwater sport fishing that day done from a boat, beach, bank, jetty, dock, pier or bridge?
1. Boat [go to B1]
  2. Beach or bank (=BB) [go to S1]
  3. Jetty, dock, pier, bridge (=MM) [go to S1]
  4. Other [record] [go to S1]
  8. Don't know [close; complete]
  9. Refused [terminate; complete]

---

*"Breakwater" can be coded as jetty (3). "Rocks" might be either a bank (2) or a jetty (3).*

---

*If license holder fished from more than one major mode (MM, BB, PC and PR) during a day, then we want to go through the question loop for each mode of fishing.*

---

---

## BOATS

**B1.** (Boat) Was that on a charter boat or a private or rental boat?

1. Charter or guide boat (=PC)
2. Private or rental boat (=PR) [go to B3]
8. Don't know [go to B3]
9. Refused [close; complete]

---

*Provide license holder with definitions if needed: A charter (or guide) boat is a boat available for hire and includes the services of a skipper or guide, a private boat is privately owned, and a rental boat comes without the services of a skipper or guide. Both boat types (PC and PR) fish in both the ocean and inland (bay, river) waters.*

---

**B2.** (Boat, charter or guide) Are you the captain or crew member of a charter (or guide) boat?

1. yes [remind license holder that the survey is only interested in fishing done for recreation, not during work; response to Q1 may need to be adjusted]
2. no
9. Refused [close; complete]

**B3.** (Boat) Was most of that fishing in the ocean, a bay or a river?

1. Ocean [go to B4]
2. Bay or estuary [go to Q4]
3. River [go to Q4]
4. Other [record] [go to Q4]
8. Don't know [go to Q5]
9. Refused [close; complete]

---

*License holder may respond with "inlet" or "sound," despite the absence of these geographical areas in Oregon.*

---

*If license holder replies "50:50" ocean and bay/estuary/river, interviewer should attempt to get him/her to commit to one or the other; otherwise, use the "other" code.*

---

**B4.** (Boat) What is the name of the port you went out of?

1. [record name] [go to Q6]
  8. Don't know [go to Q6]
  9. Refused [close; complete]
-

---

## SHORE

- S1.** (Shore) Was most of that fishing in the ocean, a bay or a river?
1. Ocean [if MM (Q3), go to Q5; otherwise continue to S2]
  2. Bay or estuary [go to Q4]
  3. River [go to Q4]
  4. Other [record] [go to Q4]
  8. Don't know [go to Q5]
  9. Refused [close; complete]

---

*License holder may respond with "inlet" or "sound," despite the absence of these geographical areas in Oregon.*

---

*If license holder replies "50:50" ocean and bay/estuary/river, interviewer should attempt to get him/her to commit to one or the other; otherwise, use the "other" code.*

---

- S2.** (Shore) Do you know the name of the beach or area where you did most of that fishing?
1. [record name] [go to Q5]
  8. Don't know [go to Q5]
  9. Refused [close; complete]
-



- Q4.** What is the name of that <bay, estuary, river>?
1. [record name of water body]
  8. Don't know
  9. Refused [terminate; complete]
- Q5.** What is the nearest town to where you did most of that fishing?
1. [record name of nearest town]
  2. Not sure [record name of nearest state park, landmark, etc.]
  8. Don't know
  9. Refused [terminate; complete]
- Q6.** What kinds of fish did you try to catch that day? [record all that apply]
1. Anything (or nothing in particular) [go to Q8]
  2. Bottomfish [go to Q8]
  3. Cabezon [go to Q8]
  4. Flounder, sole, sanddab or flatfish [go to Q8]
  5. Greenling (also called "sea trout") [go to Q8]
  6. Herring (or Pacific herring) [go to Q8]
  7. Lingcod (or "ling") [go to Q8]
  8. Pacific halibut [go to Q8]
  9. Rockfish (also called "sea bass" or "rock bass") [go to Q8]
  10. Salmon (includes steelhead, trout, chinook, coho, silver and king) [go to Q7]
  11. Sturgeon [go to Q7]
  12. Surfperch (also called "sea perch" or "perch") [go to Q8]
  13. Tuna (or albacore) [go to Q8]
  97. Other [specify] [go to Q8]
  98. Don't know
  99. Refused [terminate; complete]

---

*The interviewer should not lump specific targets with the larger group; so if the license holder says she targeted "kelp greenling" then the interviewer will use the "other" code (97)—not the "greenling" code (5)—and record the fish name.*

---

- Q7.** [If this is the first fishing day being discussed AND days >5 (Q1) AND area = non-ocean (B2 or S1)] AND target = ONLY salmon (10) and/or sturgeon (11) (Q6), then: Were the other {restore number of days minus one} days of fishing also for {restore target(s)} from {restore mode} in {restore area}?
1. Yes [close; complete]
  2. No
  8. Don't know
  9. Refused [close; complete]
- Q8.** Did you do any other saltwater sport fishing that day, for example from {restore opposite of current mode, i.e. "a boat" or "shore"}?
1. Yes [go to Q3 with modified wording: Was most of that fishing done from a boat, beach...?, then S1 or B1 for another mode of fishing; skip Q7]
  2. No [if number of days (Q1) is more than one and not all days have been discussed, then go to Q3 for another day of fishing; otherwise, go to Q9]
  8. Don't know
  9. Refused [close; complete]
- Q9.** While we were talking, did you think of any other saltwater sport fishing you did in Oregon in <June and July> that we have not discussed?
1. Yes [return to Q2 for the date, then continue loop with Q3]
  2. No [close]
  8. Don't know [close; complete]
  9. Refused [close; complete]

### **Terminate**

*(this is somewhat less generous than "close" below)*

Thank you very much for your time.

---

***The interviewer should code the reason for the termination or close: language barrier, rest of trips the same, late for doctor appointment, all questions answered, etc.***

---

***If the license holder tries to bail out of survey before answering all the question for each fishing episode, then the interviewer should try to ascertain the mode and type of water body for the remaining episodes before losing the license holder.***

---

### **Close**

On behalf of the Oregon Department of Fish and Wildlife, I want to thank you very much for taking the time to answer these questions. You have been very helpful (interviewer can use discretion with wording). Thanks again, and good luck on your next fishing trip.

---

*If license holder asks for more information about the survey or has questions, please refer to Supplement D. Thank you, Interviewer!*

---

ATTACHMENT 7

**ATTACHMENT 07**

**In-Person Survey Instrument for Open Party and Charter Recreational Fishing Vessels**

**Read the following:** Your participation in this survey is voluntary. Your responses will be treated as confidential records under the Privacy Act of 1974 and NOAA Administrative Order 216-100.

1) **Vessel Name and ID** [we provide and confirm with interviewee] \_\_\_\_\_

**Characteristics of Firm**

2.1) Does the owner generally operate this vessel? Y / N

2.2) Does this firm own vehicles or buildings that are used primarily for the charter business? Y / N

2.2 a) If yes, what is the total estimated current market value of these assets combined?  
\$ \_\_\_\_\_

2.3. Did the owner of this vessel own other charter or open party vessels in 2000? Y / N

If yes, please fill in the tables below for those 2000 costs shared by more than one vessel. If no, proceed to 2.4.

**Characteristics of other Vessels**

Vessel Name	Vessel ID	Port	Length	Gross Tons
b) _____	_____	_____	_____	_____
c) _____	_____	_____	_____	_____
d) _____	_____	_____	_____	_____
e) _____	_____	_____	_____	_____

**Multi-vessel costs in 2000**

- f) Advertising \$ \_\_\_\_\_
- g) Professional services (legal, accounting, etc.) \$ \_\_\_\_\_
- h) Association fees \$ \_\_\_\_\_
- i) Telephones \$ \_\_\_\_\_

- j) Other office expenses \$ \_\_\_\_\_
- k) Labor for shorebased personnel \$ \_\_\_\_\_
- l) Rent or payment for motor vehicles \$ \_\_\_\_\_
- m) Other \$ \_\_\_\_\_

2.4) If only one vessel is owned, or if any of the costs listed above can be attributed only to the vessel identified at the beginning of this survey in Item 1, please fill in the following table.

Single vessel costs in 2000

- a) Advertising \$ \_\_\_\_\_
- b) Professional services (legal, accounting, etc.) \$ \_\_\_\_\_
- c) Association fees \$ \_\_\_\_\_
- d) Telephones \$ \_\_\_\_\_
- e) Other office expenses \$ \_\_\_\_\_
- f) Labor for shorebased personnel \$ \_\_\_\_\_
- g) Rent or payment for motor vehicles \$ \_\_\_\_\_
- h) Other \$ \_\_\_\_\_

2.5) In what State and County does the principal owner reside? \_\_\_\_\_

**3) Characteristics of Vessel** (we provide and confirm with interviewee)

- a) Length overall (ft) \_\_\_\_\_ feet
- b) Gross registered tons \_\_\_\_\_ tons
- c) Year built (hull) \_\_\_\_\_
- d) Horsepower of main engines \_\_\_\_\_ hp
- e) Type of fuel \_\_\_\_\_
- f) Cruising speed (knots) \_\_\_\_\_ knots
- g) Passenger capacity \_\_\_\_\_
- h) Market value with permits \$ \_\_\_\_\_
- i) Market value without permits \$ \_\_\_\_\_
- j) Cost of vessel when purchased by present owner \$ \_\_\_\_\_

k) Year purchased \_\_\_\_\_

**Annual Information for Vessel in 2000**

4.1) In what Port did the boat conduct most of its activities? \_\_\_\_\_

4.2) Annual Expenditures

- a) Haulout \$ \_\_\_\_\_
- b) Engine overhaul \$ \_\_\_\_\_
- c) All other vessel maintenance \$ \_\_\_\_\_
- d) Electronics maintenance \$ \_\_\_\_\_
- e) Moorage \$ \_\_\_\_\_
- f) Insurance \$ \_\_\_\_\_
- g) Fuel \$ \_\_\_\_\_
- h) Supplies \$ \_\_\_\_\_
- i) Fees paid to foreign or domestic governments \$ \_\_\_\_\_
- j) Landing taxes (if any) \$ \_\_\_\_\_
- k) Food and drink (for crew and passengers, if supplied by the vessel) \$ \_\_\_\_\_
- l) All payments to skipper and crew (wages, shares, salaries, bonuses, and benefits) \$ \_\_\_\_\_
- m) All commissions paid for booking trips \$ \_\_\_\_\_
- n) Payments for bait (including commissions where relevant) \$ \_\_\_\_\_
- o) Mortgage payments \$ \_\_\_\_\_  
Purchase of gear or equipment (include electronics, deck gear, engines, angling equipment, etc.):
- p) Replacement \$ \_\_\_\_\_
- q) Upgrades \$ \_\_\_\_\_

4.3) Annual revenue

- a) Total receipts from all vessel activities in 2000 \$ \_\_\_\_\_
- b) % of vessel receipts from recreational angling trips, including receipts for gear rental, food, etc.) \_\_\_\_\_ %
- c) % of vessel receipts from other charter activities such as whale watching, dive trips, burials at sea, etc. \_\_\_\_\_ %
- d) % receipts from other sources (commercial fishing, tendering, etc.) \_\_\_\_\_ %

4.4) Other annual information

a) Number of full-time employees

\_\_\_\_\_

b) Number of part-time or seasonal employees

\_\_\_\_\_

c) Full-time equivalence of part-time and seasonal employees

\_\_\_\_\_

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

3. INTERVIEWER ID

4. YR/MO/DAY  2  0  0  4

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE     9. SITE CODE

10. INTERVIEW STATUS (Key Item = \*)

1  Questionnaire Complete

2  Refused Non-Key Item

5  Refused Key Item

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

**\*11. Would you say you were fishing from ...**

- 0  Pier
  - 1  Dock
  - 2  Jetty, Breakwater, Breachway
  - 3  Bridge, Causeway
  - 4  Other Man-made Structure (Specify)
  - 5  Beach or Bank
  - 6  Head Boat
  - 7  Charter Boat
  - 8  Private Boat
  - 9  Rental Boat
- SH / HB / CH / PR

**\*12. Was most of your (specify mode) fishing effort today in the ...**

- 1  Ocean/gulf/open bay
- 2  Sound (Other than those specified)
- 3  River (Other than those specified)
- 4  Bay (Other than those specified)
- 5  Other (Specify) \_\_\_\_\_
- A  Narragansett Estuary
- B  Buzzards Bay Estuary
- C  Long Island Estuary
- D  Hudson/Raritan Estuary
- E  Delaware Estuary
- F  Chesapeake Estuary
- G  Albemarle/Pamlico Estuary

Code Q13 as "8."

**BOX A.** If response to Q11 is SH mode AND response to Q12 is "ocean/gulf/open bay" code Q13 as "1," 3 miles or less. (If response to Q 12 is "2" through "G," code Q13 as "Not Applicable")

**\*13. Was that**

- 1  Three Miles or Less from Shore
- 2  More than Three Miles
- 8  Does not apply.

**14. What type of gear was primarily used?**

- 01  Hook and Line
- 02  Dip Net, A-frame
- 03  Cast Net
- 04  Gill Net
- 05  Seine
- 06  Trawl
- 07  Trap
- 08  Spear
- 09  Hand
- 10  Other (Specify) \_\_\_\_\_
- 98  Unknown
- 99  Refused

**15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?**

.  Code as "99.9" if DK or Refused

**15b. [PC and PR only] To the nearest half-hour, how many hours have you spent on the boat, away from the dock, today?**

.  Code as "99.9" if DK or Refused

Not Applicable – SH mode

**16. (Ask if Beach or Bank) How many additional hours do you expect to fish from shore today? That is, how many more will you actually have your gear in the water?**

.  Additional BB Hours

Not fishing from beach or bank

**17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?**

No Particular Species/Anything

1st Target \_\_\_\_\_

2nd Target \_\_\_\_\_

**18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finishing in this state or from a boat launched in this state?**

No. of Days

998  Don't Know

999  Refused

**19. Not counting today, within the past 2 months, how many days?**

No. of Days

998  Don't Know

999  Refused

**\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?**

State Code; Name \_\_\_\_\_

County Code; Name \_\_\_\_\_

**21. What is the zip code of your residence?**

Zip Code

99997  Foreign Country

99998  Don't Know

99999  Refused

**22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?**

- 1  Private Residence
- 2  Institutional Housing – Code Q23 as "8".
- 8  Don't Know
- 9  Refused

**23. Does your home have a telephone?**

- 1  Yes
- 2  No
- 8  Don't Know/Not Applicable
- 9  Refused



24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?

ANGLER'S NAME

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Name and/or phone number not given

D or N PHONE # (    )   -

**\*25 UNAVAILABLE CATCH.** Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE CATCH.

DISPOSITION CODES FOR Q25

1 Thrown back alive/legal	5 Sold/plan to sell
3 Eaten/plan to eat	6 Thrown back dead/plan to throw away
4 Used for bait/plan to use for bait	7 Some other purpose

BOX B. Is the type 2 catch grouped?

Yes  No

(If YES – please remember that you cannot group type 2 catch!)

**TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	DISP
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

**\*26. Did you catch any fish while you were fishing that I might be able to look at?**

1  Yes

2  No – Code Q27, Q28, Q29 as "Not Applicable"

3  Yes, **BUT** fish on another angler's form –  
Fill in interview # where fish are listed

\*   – Code Q27, Q28, Q29 as "Not Applicable"

**\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those who have their catch here.**

No. of Contributors 88  Not Applicable

**BOX C. If q. 11 is SH mode, code q. 30 as "88," and Code Box D as "8."**

**\*30. How many people fished on your boat today?**

No. of People 888  Shore Mode

**\*BOX D. If response to Q30 is 1, code as "Not Applicable." Otherwise, is this the first angler from this boat that I have interviewed?**

1  Yes 8  Not Applicable

2  No – Record interview # of 1<sup>st</sup> angler in the fishing party. \*

**\*BOX E: IS THIS VESSEL ON LIST? YES / NO WHAT IS THE NAME OF THE VESSEL?** \_\_\_\_\_

(Note: This question must be completed for all charter and head boat interviews, regardless of mode of assignment).

**\*31. AVAILABLE CATCH – ASK: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?**

DISPOSITION CODES FOR Q 31

3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	8 Don't know/Didn't ask
5 Sold/plan to sell	9 Refused
6 Thrown back dead/plan to thrown away	

NOTES/COMMENTS:

**TYPE 3 RECORDS: (INDIVIDUAL CATCH AVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	LENGTH (mm)	WEIGHT (kg)	DISP
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
13. _____					
14. _____					
15. _____					

**ATTACHMENT 7a**

**ATTACHMENT 7a**  
**For-Hire Economic Add-on Telephone Survey**

Vessel Name \_\_\_\_\_ Vessel No. \_\_\_\_\_ Randomly Selected Trip Day: \_\_\_\_\_

**(A. No trips made this day or later in week** - If respondent did not take a trip with paying passengers on the designated day or later in the survey week, please check this box and leave remainder of form blank.) +

**(B. Trip Number** – The sequential number of this trip from effort form. \_\_\_\_\_ (Use a separate form for each trip that ended on the selected trip day)

**Intro.** Now I would like to ask you some additional questions to collect costs and earnings information about your trip(s) that ended on (date). (RECORD ACTUAL DATE SURVEYED:) \_\_\_\_\_

**1. (Party Boat:) Average Passenger Fare** – “What was the average fare for one passenger on this partyboat trip?

**OR** \$ \_\_\_\_\_

**2. (Charter Boat:) Charter Boat Fee** – “What was the total cost of the charter?” \$ \_\_\_\_\_

**3. Landing Owns Vessel** – “Is this vessel owned by the landing?” + yes + no

**4. Commission Paid to Landing Office** – “Was a commission paid to a landing office for this trip?”

+ yes (CONTINUE) + no (SKIP TO Q6)

(IF YES:) “In dollars or as a percentage of receipts (fares), how much was that commission?”

\$ \_\_\_\_\_ OR \_\_\_\_\_ % of receipts

**5. Services included in Commission** – “Were fees for booking passengers, moorage, or other services included in the commission?”

+ booking fees + moorage + other (SPECIFY) \_\_\_\_\_

**6. Other Vessel Receipts** – “Excluding passenger fares and charter fees, what were the other vessel receipts for the trip? Please include tackle sales, gear rental, and vessel sales of food or drink.” \$ \_\_\_\_\_

**7. Crew Size** – “How many crew, including the skipper, that were on board for this trip?” \_\_\_\_\_

**8. Skipper & Crew Payments** – “What was the total amount paid by the vessel to the crew and the skipper for this trip?” \$ \_\_\_\_\_

**9. Estimated Food & Drink Sales by Crew** – “Did the crew sell food and drink to passengers?”

+ yes (CONTINUE) + no (SKIP TO Q10B)

(IF YES:) “How much would you estimate were the **receipts** the crew received for food & drink they sold?”

(If vessel sold food & drink, enter zero.) \$ \_\_\_\_\_ (NOW GO TO Q10A)

**10. Cost of Food & Drink Purchases to Crew/Vessel–**

A. “How much would you estimate was the **cost** of food and drink that were sold by the crew?”

\$ \_\_\_\_\_

B. “How much would you estimate was the **cost** of food and drink that were sold by the vessel?”

\$ \_\_\_\_\_

**11. Gallons of fuel used this trip** – “How much fuel was used on this trip?” \_\_\_\_\_ gallons

**12. Trip fuel cost** – “What price per gallon was paid for the fuel?” \$ \_\_\_\_\_ per gallon

**13. Bait Usage** – “How much bait, measured in either scoops or pounds, was taken/used on this trip?”

\_\_\_\_\_ scoops or \_\_\_\_\_ lbs.

**14. Bait Cost** – “In dollars or as a percentage of receipts (fares), how much did you pay for bait taken/used

on this trip?” \$ \_\_\_\_\_ or \_\_\_\_\_ %

**15. City/County Taxes** – “In dollars or as a percentage of receipts (fares), how much was paid to the city or county in taxes for this trip? Do not include annual permits or fees or any sales taxes.”

\$ \_\_\_\_\_ or \_\_\_\_\_ %

**16. Foreign License Fees (IF OCEAN FISHING IN MEXICAN WATERS:)** – “How much was paid to the Mexican government for licenses and other expenses associated with this trip? Do not include annual permits or fees.” \$ \_\_\_\_\_

2. ASSIGNMENT NO.	1	Cross the '1' out & write in a '2' if this is your second assignment today	6. INTERVIEW TIME (use 2400 clock)				Time the interview was completed
3. INTERVIEWER ID.							
4. YR/MO/DAY			7. STATE CODE	8. COUNTY CODE	9. SITE CODE		
5. INTERCEPT NO.			10. INTERVIEW STATUS (Key Item = *)			1	Questionnaire Complete
						2	Refused Non-Key Item
						5	Refused Key Item

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

**\*11. Would you say you were fishing from.....**

	1	Pier, Dock					<b>BOX B. Refer to q. 11.</b>	
	2	Jetty, Breakwater, Breachway						<input type="checkbox"/> Beach/Bank, Using incomplete trip method go to q. 16.
SH	3	Bridge, Causeway						<input type="checkbox"/> Other - Skip to q. 17.
	4	Other Man-made Structure (Specify)						
	5	Beach or Bank					<b>16. How many additional hours do you expect to fish from shore today? That is, how many <u>more</u> hours will you actually have your gear in the water?</b>	
PC	6	Headboat						
	7	Charterboat						
PR	8	Private or Rental Boat						

**\*12. Was most of your (specify mode) fishing effort today in the.....**

	1	Ocean/gulf/open bay					<b>17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?</b>	
	2	A sound (Other than those specified)						<input type="checkbox"/> No. Particular Species/Anything
	3	River (Other than those specified)						1 <sup>st</sup> Target _____
	4	Bay (Other than those specified)						
	5	Other (Specify)						2 <sup>nd</sup> Target _____
	G	Abermarle/Pamlico						
	H	Biscayne Estuary						
	I	Whitewater Estuary						
	J	Sarasota Estuary						
	K	Tampa Estuary						
	L	Mobile Estuary						
	M	Atchafalaya Estuary						

*Code q.13='8'*

**BOX A.** Refer to q. 12. If response is NOT "1" code q. 13 as "8", Not applicable

**\*13. Was that**

	1	Three Miles or Less from Shore	8	Not applicable			<b>19. Not counting today, within the past 2 months, how many days?</b>
	2	More than Three Miles					

98  Don't Know    99  Refused

**13b. Did you spend the majority of your fishing trip today fishing within 200 feet of:**

	1	a standing oil & gas structure	8	Neither/Not applicable (shore mode)			<b>20. What is your state and county of residence? If county unknown ask: What city or town do you live in?</b>
	2	a submerged artificial reef	9	Refused			

County Code; Name

**14. What type of gear was primarily used?**

	01	Hook and Line	07	Trap			<b>21. What is the zip code of your residence?</b>	
	02	Dip Net, A-frame	08	Spear				<input type="checkbox"/> Foreign Country
	03	Cast Net	09	Hand				<input type="checkbox"/> Don't Know
	04	Gill Net	10	Other				<input type="checkbox"/> Refused
	05	Seine	98	Unknown				
	06	Trawl	99	Refused				

Zip Code

**22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?**

	1	Private Residence				
	2	Institutional Housing - Skip to q. 25				
	8	Don't know				
	9	Refused				

**15. To the nearest half-hour, how many hours have you spent (specify mode) fishing today?**

That is, how many hours have you actually spent with your gear in the water?

			No. of hours				<b>23. Does your home have a telephone?</b>
							<input type="checkbox"/> Don't know
							<input type="checkbox"/> No
							<input type="checkbox"/> Refused

**24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?**

ANGLER'S NAME

	Name and Phone Number Not Given
D or N	
PHONE #	(    ) -    -

**\*25. UNAVAILABLE CATCH.** Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE.

DISPOSITION CODES FOR Q. 25	
1 Thrown back alive/legal	5 Sold/plan to sell
2 Thrown back alive/not legal/legality refused	6 Thrown back dead/plan to throw away
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	

**TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	DISP.
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			

**\*26. Did you catch any fish while you were fishing that I might be able to look at?**

1  Yes

2  No Code q. 27, 28, 29 as "8's," Not applicable

3  Yes, BUT fish are on another angler's form - Fill in interview # where fish are listed \*  
 Code q. 27, 28, 29 as "8's," Not applicable

**\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those anglers who have their catch here.**

No. of Contributors 88  Not applicable

**\*27. Did you catch these yourself or did someone else catch some of them?**

1  All caught by Angler - Code q. 28, 29, as "8's," Not applicable

2  Other Contributors 8  Not applicable

**\*30. How many people fished on your boat today?**

No. of People

888  Shore Mode

**\*BOX D. If response to q. 30 is 1 angler or "88" Shore Mode, check not applicable and skip to q. 31. Otherwise, is this the first angler from this boat that I have interviewed?**

1  Yes 8  Not applicable

2  No - Record interview # of 1<sup>st</sup> angler in the fishing party \*

**\*28. Can you separate out your individual catch?**

1  Yes - Code q. 29 as "88"

2  No 8  Not applicable

**\*31. AVAILABLE CATCH. COMPLETE TYPE 3 RECORD BY ASKING: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?**

DISPOSITION CODES FOR Q 31	
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	8 Don't know/Didn't ask
5 Sold/plan to sell	9 Refused
6 Thrown back dead/plan to throw away	

	SPECIES CODE	# OF FISH	LENGTH (mm)	WEIGHT (kg)	DISP
1. _____					
2. _____					
3. _____					
4. _____					



ATTACHMENT 7b

2. ASSIGNMENT NO.	1	Cross the '1' out & write in a '2' if this is your second assignment today	6. INTERVIEW TIME (use 2400 clock)					Time the interview was completed
3. INTERVIEWER ID.								
4. YR/MO/DAY			7. STATE CODE	8. COUNTY CODE	9. SITE CODE			
5. INTERCEPT NO.			10. INTERVIEW STATUS (Key Item = *)			1	Questionnaire Complete	
						2	Refused Non-Key Item	
						5	Refused Key Item	

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

\*11. Would you say you were fishing from.....

SH	1	Pier, Dock	BOX B. Refer to q. 11.
	2	Jetty, Breakwater, Breachway	
	3	Bridge, Causeway	
	4	Other Man-made Structure (Specify)	
	5	Beach or Bank	16. How many additional hours do you expect to fish from shore today? That is, how many <u>more</u> hours will you actually have your gear in the water?
PC	6	Headboat	
	7	Charterboat	
PR	8	Private or Rental Boat	Additional BB Hours

\*12. Was most of your (specify mode) fishing effort today in the.....

	1	Ocean/gulf/open bay	17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?
	2	A sound (Other than those specified)	
	3	River (Other than those specified)	
	4	Bay (Other than those specified)	
	5	Other (Specify)	
	G	Abermarle/Pamlico	
	H	Biscayne Estuary	
	I	Whitewater Estuary	
	J	Sarasota Estuary	
	K	Tampa Estuary	
	L	Mobile Estuary	18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finfishing in this state or from a boat launched in this state?
	M	Atchafalaya Estuary	

Code q.13='8'

BOX A. Refer to q. 12. If response is NOT "1" code q. 13 as "8", Not applicable

\*13. Was that

1	Three Miles or Less from Shore	8	Not applicable	19. Not counting today, within the past 2 months, how many days?
2	More than Three Miles			

13b. Did you spend the majority of your fishing trip today fishing within 200 feet of:

1	a standing oil & gas structure	8	Neither/Not applicable (shore mode)	20. What is your state and county of residence? If county unknown ask: What city or town do you live in?
2	a submerged artificial reef	9	Refused	

21. What is the zip code of your residence?

14. What type of gear was primarily used?

01	Hook and Line	07	Trap	22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?
02	Dip Net, A-frame	08	Spear	
03	Cast Net	09	Hand	
04	Gill Net	10	Other	
05	Seine	98	Unknown	
06	Trawl	99	Refused	

15. To the nearest half-hour, how many hours have you spent (specify mode) fishing today?

That is, how many hours have you actually spent with your gear in the water?

		No. of hours	23. Does your home have a telephone?

24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have my name and a phone number?

ANGLER'S NAME



	Name and Phone Number Not Given
D or N	
PHONE #	(    ) -    -

**\*25. UNAVAILABLE CATCH.** Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE.

DISPOSITION CODES FOR Q. 25	
1 Thrown back alive/legal	5 Sold/plan to sell
2 Thrown back alive/not legal/legality refused	6 Thrown back dead/plan to throw away
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	

**TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	DISP.
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			

**\*26. Did you catch any fish while you were fishing that I might be able to look at?**

1  Yes

2  No Code q. 27, 28, 29 as "8's," Not applicable

3  Yes, BUT fish are on another angler's form - Fill in interview # where fish are listed \*  
Code q. 27, 28, 29 as "8's," Not applicable

**\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those anglers who have their catch here.**

No. of Contributors    88  Not applicable

**\*30. How many people fished on your boat today?**

No. of People

888  Shore Mode

**\*27. Did you catch these yourself or did someone else catch some of them?**

1  All caught by Angler - Code q. 28, 29, as "8's," Not applicable

2  Other Contributors    8  Not applicable

**\*BOX D. If response to q. 30 is 1 angler or "88" Shore Mode, check not applicable and skip to q. 31. Otherwise, is this the first angler from this boat that I have interviewed?**

1  Yes    8  Not applicable

2  No - Record interview # of 1<sup>st</sup> angler in the fishing party \*

**\*28. Can you separate out your individual catch?**

1  Yes - Code q. 29 as "88"

2  No    8  Not applicable

**\*31. AVAILABLE CATCH. COMPLETE TYPE 3 RECORD BY ASKING: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?**

DISPOSITION CODES FOR Q 31	
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	8 Don't know/Didn't ask
5 Sold/plan to sell	9 Refused
6 Thrown back dead/plan to throw away	

	SPECIES CODE	# OF FISH	LENGTH (mm)	WEIGHT (kg)	DISP.
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					



ATTACHMENT 7c

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

3. INTERVIEWER ID

4. YR/MO/DAY

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE     9. SITE CODE

10. INTERVIEW STATUS 1  Questionnaire Complete  
 2  Refused Non-Key Item  
 5  Refused Key Item

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

\*11. Would you say you were fishing from ...

SH  0 Pier  
 1 Dock  
 2 Jetty, Breakwater, Breachway  
 3 Bridge, Causeway  
 4 Other Man-made Structure (Specify)  
 5 Beach or Bank

HB  6 Head Boat

CH  7 Charter Boat

PR  8 Private Boat  
 9 Rental Boat

\*12. Was most of your (specify mode) fishing effort today in the ...

1  Ocean/gulf/open bay  
 2  Sound (Other than those specified)  
 3  River (Other than those specified)  
 4  Bay (Other than those specified)  
 5  Other (Specify) \_\_\_\_\_  
 G  Albemarle/Pamlico Estuary  
 H  Biscayne Estuary  
 I  Whitewater Estuary  
 J  Sarasota Estuary  
 K  Tampa Estuary  
 L  Mobile Estuary  
 M  Atchafalaya Estuary

Code Q13 as "8."

**BOX A.** If response to Q11 is SH mode AND response to Q12 is "ocean/gulf/open bay" code Q13 as "1," 3 miles or less. (If response to Q 12 is "2" through "M," code Q13 as "Not Applicable")

\*13. Was that

1  Three Miles or Less from Shore 8  Does not apply.  
 2  More than Three Miles

14. What type of gear was primarily used?

01  Hook and Line 07  Trap  
 02  Dip Net, A-frame 08  Spear  
 03  Cast Net 09  Hand  
 04  Gill Net 10  Other (Specify) \_\_\_\_\_  
 05  Seine 98  Unknown  
 06  Trawl 99  Refused

15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?

.  Code as "99.9" if DK or Refused

15b. [PC and PR only] To the nearest half-hour, how many hours have you spent on the boat, away from the dock, today?

.  Code as "99.9" if DK or Refused

Not Applicable – SH mode

16. (Ask if Beach or Bank) How many additional hours do you expect to fish from shore today? That is, how many more will you actually have your gear in the water?

.  Additional BB Hours  
 Not fishing from beach or bank

17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?

No Particular Species/Anything

1st Target \_\_\_\_\_

2nd Target \_\_\_\_\_

18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finishing in this state or from a boat launched in this state?

No. of Days  
 998  Don't Know  
 999  Refused

19. Not counting today, within the past 2 months, how many days?

No. of Days  
 998  Don't Know  
 999  Refused

\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?

State Code; Name \_\_\_\_\_  
   County Code; Name \_\_\_\_\_

21. What is the zip code of your residence?

Zip Code

99997  Foreign Country  
 99998  Don't Know  
 99999  Refused

22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?

1  Private Residence  
 2  Institutional Housing – Code Q23 as "8".  
 8  Don't Know  
 9  Refused

23. Does your home have a telephone?

1  Yes  
 2  No  
 8  Don't Know/Not Applicable  
 9  Refused

24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?

ANGLER'S NAME

Grid for angler's name

Small box for name/phone

Name and/or phone number not given

Phone number fields: D or N PHONE # ( ) -

\*25 UNAVAILABLE CATCH. Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE CATCH.

DISPOSITION CODES FOR Q25
1 Thrown back alive/legal
3 Eaten/plan to eat
4 Used for bait/plan to use for bait
5 Sold/plan to sell
6 Thrown back dead/plan to throw away
7 Some other purpose

BOX B. Is the type 2 catch grouped?
Yes No
(If YES - please remember that you cannot group type 2 catch!)

TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)

Table with columns: SPECIES CODE, # OF FISH, DISP. Rows 1-7.

\*26. Did you catch any fish while you were fishing that I might be able to look at?

1 Yes
2 No - Code Q27, Q28, Q29 as "Not Applicable"
3 Yes, BUT fish on another angler's form - Fill in interview # where fish are listed
\* - Code Q27, Q28, Q29 as "Not Applicable"

\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those who have their catch here.

No. of Contributors 88 Not Applicable

BOX C. If q. 11 is SH mode, code q. 30 as "88," and Code Box D as "8."

\*30. How many people fished on your boat today?

No. of People 888 Shore Mode

\*BOX D. If response to Q30 is 1, code as "Not Applicable." Otherwise, is this the first angler from this boat that I have interviewed?

1 Yes 8 Not Applicable
2 No - Record interview # of 1st angler in the fishing party.

\*27. Did you catch these yourself or did someone else catch some of them?

1 All Caught by Angler - Code Q28, Q29 as "Not Applicable"
2 Other Contributors 8 Not Applicable

\*28. Can you separate out your individual catch?

1 Yes - Code 29 as "Not Applicable"
2 No 8 Not Applicable

\*BOX E: IS THIS VESSEL ON LIST? YES / NO WHAT IS THE NAME OF THE VESSEL?
(Note: This question must be completed for all charter and head boat interviews, regardless of mode of assignment).

\*31. AVAILABLE CATCH - ASK: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?

DISPOSITION CODES FOR Q 31
3 Eaten/plan to eat
4 Used for bait/plan to use for bait
5 Sold/plan to sell
6 Thrown back dead/plan to thrown away
7 Some other purpose
8 Don't know/Didn't ask
9 Refused

NOTES/COMMENTS:

TYPE 3 RECORDS: (INDIVIDUAL CATCH AVAILABLE IN WHOLE FORM)

Table with columns: SPECIES CODE, # OF FISH, LENGTH (mm), WEIGHT (kg), DISP. Rows 1-15.

ATTACHMENT 7b

2. ASSIGNMENT NO.	1	Cross the '1' out & write in a '2' if this is your second assignment today	6. INTERVIEW TIME (use 2400 clock)					Time the interview was completed
3. INTERVIEWER ID.								
4. YR/MO/DAY			7. STATE CODE	8. COUNTY CODE	9. SITE CODE			
5. INTERCEPT NO.			10. INTERVIEW STATUS (Key Item = *)			1	Questionnaire Complete	
						2	Refused Non-Key Item	
						5	Refused Key Item	

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

**\*11. Would you say you were fishing from.....**

SH	1	Pier, Dock	BOX B. Refer to q. 11.
	2	Jetty, Breakwater, Breachway	
	3	Bridge, Causeway	
	4	Other Man-made Structure (Specify)	
	5	Beach or Bank	16. How many additional hours do you expect to fish from shore today? That is, how many <u>more</u> hours will you actually have your gear in the water?
PC	6	Headboat	
	7	Charterboat	
PR	8	Private or Rental Boat	Additional BB Hours

**\*12. Was most of your (specify mode) fishing effort today in the.....**

	1	Ocean/gulf/open bay	17. Were you fishing for any particular kinds of fish today? If Yes, what kinds?
	2	A sound (Other than those specified)	
	3	River (Other than those specified)	
	4	Bay (Other than those specified)	
	5	Other (Specify)	
	G	Abermarle/Pamlico	
	H	Biscayne Estuary	
	I	Whitewater Estuary	
	J	Sarasota Estuary	
	K	Tampa Estuary	
	L	Mobile Estuary	18. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone saltwater sport finfishing in this state or from a boat launched in this state?
	M	Atchafalaya Estuary	

Code q.13='8'

BOX A. Refer to q. 12. If response is NOT "1" code q. 13 as "8", Not applicable

19. Not counting today, within the past 2 months, how many days?

No. of Days

98 Don't Know 99 Refused

**\*13. Was that**

1	Three Miles or Less from Shore	8	Not applicable
2	More than Three Miles		

**\*20. What is your state and county of residence? If county unknown ask: What city or town do you live in?**

State Code; Name

County Code; Name

**13b. Did you spend the majority of your fishing trip today fishing within 200 feet of:**

1	a standing oil & gas structure	8	Neither/Not applicable (shore mode)
2	a submerged artificial reef	9	Refused

**21. What is the zip code of your residence?**

Zip Code

99997 Foreign Country

99998 Don't Know

99999 Refused

**14. What type of gear was primarily used?**

01	Hook and Line	07	Trap
02	Dip Net, A-frame	08	Spear
03	Cast Net	09	Hand
04	Gill Net	10	Other
05	Seine	98	Unknown
06	Trawl	99	Refused

**22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?**

1 Private Residence

2 Institutional Housing - Skip to q. 25

8 Don't know

9 Refused

**15. To the nearest half-hour, how many hours have you spent (specify mode) fishing today?**

That is, how many hours have you actually spent with your gear in the water?

No. of hours

**23. Does your home have a telephone?**

1 Yes 8 Don't know

2 No 9 Refused

**24. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have my name and a phone number?**

ANGLER'S NAME

	Name and Phone Number Not Given
D or N	
PHONE #	(    ) -    -

**\*25. UNAVAILABLE CATCH.** Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL ANGLER, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE.

DISPOSITION CODES FOR Q. 25	
1 Thrown back alive/legal	5 Sold/plan to sell
2 Thrown back alive/not legal/legality refused	6 Thrown back dead/plan to throw away
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	

**TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)**

	SPECIES CODE	# OF FISH	DISP.
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			

**\*26. Did you catch any fish while you were fishing that I might be able to look at?**

1  Yes

2  No Code q. 27, 28, 29 as "8's," Not applicable

3  Yes, BUT fish are on another angler's form - Fill in interview # where fish are listed \*  
Code q. 27, 28, 29 as "8's," Not applicable

**\*29. How many anglers including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those anglers who have their catch here.**

No. of Contributors    88  Not applicable

**\*30. How many people fished on your boat today?**

No. of People

888  Shore Mode

**\*27. Did you catch these yourself or did someone else catch some of them?**

1  All caught by Angler - Code q. 28, 29, as "8's," Not applicable

2  Other Contributors    8  Not applicable

**\*BOX D. If response to q. 30 is 1 angler or "88" Shore Mode, check not applicable and skip to q. 31. Otherwise, is this the first angler from this boat that I have interviewed?**

1  Yes    8  Not applicable

2  No - Record interview # of 1<sup>st</sup> angler in the fishing party \*

**\*28. Can you separate out your individual catch?**

1  Yes - Code q. 29 as "88"

2  No    8  Not applicable

**\*31. AVAILABLE CATCH. COMPLETE TYPE 3 RECORD BY ASKING: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?**

DISPOSITION CODES FOR Q 31	
3 Eaten/plan to eat	7 Some other purpose
4 Used for bait/plan to use for bait	8 Don't know/Didn't ask
5 Sold/plan to sell	9 Refused
6 Thrown back dead/plan to throw away	

	SPECIES CODE	# OF FISH	LENGTH (mm)	WEIGHT (kg)	DISP
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					





ATTACHMENT 7e

**ELIGIBILITY SCREENING: Completed a sport fishing trip in <one fishing mode> in U.S. marine waters for finfish?**

**Exceptions:** 50% or more of a MM or BB trip. Non-fish trips with a caught finfish. Mexican water boat

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

SPECIAL FISHERY CODE  Pg #  of #

**1=Yes 0=No 0123456789**

**RecFIN 2004 ANGLER INTERVIEW FORM**

**99...8 = Don't know (DK) 88..8 = Not Applic. (NA) 99...9 = Refused (RE)**

* <input type="text"/> 1. Assignment No.		* <input type="text"/> 2. * Sampler		* <input type="text"/> B1. Interview # of first boat angler. 8=NA (B2-B11 - First Boat Angler ONLY)	
* <input type="text"/> 3. Month/Day		* <input type="text"/> B2. # Anglers in boat		* <input type="text"/> B3. *PR Trailer in Count Area?	
* <input type="text"/> 4. Interview #		* <input type="text"/> B4. Departure Time? if prior day record date >>		* <input type="text"/> B5. * Deprt. Date	
* <input type="text"/> 5. Interview Time (24 Hr:Min)		* <input type="text"/> B6. Ocean Dist. 1 -<=3 mi. Code if island -> from any shore? 2 -more than 3 mi. 8 = n/a		* <input type="text"/> B7. <=3 mi. CA Island	
* <input type="text"/> 6. MM Anglers missed <small>Since last interview.</small>		* <input type="text"/> 7. MM Anglers that started fishing <small>Since last interview.</small>		* <input type="text"/> B8. # PR Boats TR Launched <small>Since last PR boat</small>	
* <input type="text"/> 8. State: 06=CA 41=OR 53=WA		* <input type="text"/> B9.* Non-Fishing TR <small>Since last PR boat</small>		* <input type="text"/> B10.* Missed TR <small>Since last PR boat</small>	
* <input type="text"/> 9. County		* <input type="text"/> B11. CPFV Boat Permit Number			
* <input type="text"/> 10. Site		* <input type="text"/> B12. CPFV Boat Name:			
* <input type="text"/> 11. Mode: 1=Pier/Dock, 2=Jetty/Breakwater, 3=Bridge/Causeway, 4=Other Structure, 5=Beach/Bank, 6=Party Boat (per head), 7=Charter Boat (group paid), 8=Private/Rental boat		* <input type="text"/> L1. BOATS: Asked Fishing Location? (1=Yes, 0=NO, 3=Same as First). L2. Coordinates or block# and box# GRID SIZE (Min) <input type="text"/> N <input type="text"/> <input type="text"/> W			
* <input type="text"/> 12. Status: 0=Ineligible 1=Complete 2=Non-key ref. 3=Refused 4=Lang. 5=*Key refused		* <input type="text"/> L3. Location: 1=Degrees° minutes' grid size 2=State site code# 8=DK 9=RE 3=Degrees° minutes' seconds" 4=Decimal. degrees° 5=CDFG Block & Box			
* <input type="text"/> E1. Fishing Effort Area: Ocean (or open bay), River, Bay or harbor, S.F. Bay, Puget Sound, Mexico		* <input type="checkbox"/> L4. Angler gave location using: <input type="checkbox"/> Chart <input type="checkbox"/> GPS/Loran <input type="checkbox"/> Site name <small>Check all that apply</small>			
* <input type="text"/> E2. Gear 1=Hook & line 2=Dip net 3=Cast net 8=Spear 9=Hand		* <input type="text"/> Site Name:			
* <input type="text"/> E3. Wet Gear hours fishing in <u>above mode</u> ?		* <input type="text"/> L5. Bottom Depth (ft)		* <input type="text"/> L6. Depthfinder used?	
* <input type="text"/> E4. SHORE trip add'n'l hours. 0=Complete <small>Trip must be 1/2 done. 50% of all interviews must be "complete".</small>		* <input type="text"/> L7. All catch from this location? 1=yes, IF 0=no ✓ fish from Location on back. 8 = No catch			
1 <input type="text"/>		2 <input type="text"/>			
F1. TARGET SPECIES 0=Anything 1=Bottomfish 2=Sharks 3=Surface 4=Tuna					
* <input type="text"/> F2. Reported or unavailable catch (for this angler only)?					
* <input type="text"/> F3. Examined and available catch?		* <input type="text"/> ON THIS FORM *F4. # of contributors		* <input type="text"/> ON OTHER FORM *F5. Interview #	
* <input type="text"/> A1. RESIDENCE? State: <small>IF Foreign, code country &amp; skip remaining Angler Data</small>		* <input type="text"/> A5. Days Saltwater Sportfished: last 12 Mo.?		* <input type="text"/> A6...in last 2 Months? <small>(less or equal to 12 mo)</small>	
* <input type="text"/> A2. US County?:		* <input type="text"/> A7. Name:			
* <input type="text"/> A3. Zip Code?		* <input type="text"/> A8. Gender: 1=Male 2=Female <i>Dialing Memo - When to call:</i>			
* <input type="text"/> A4a. License Type: 0=None, 1=Annual, 3=Daily		* <input type="text"/> A4b. Daily Days		* <input type="text"/> A9. A Phone # <small>7=&lt; age 16, 0= No phones</small>	

\* = Key Question (for good interview) Use questionnaire for correct wording.

# CREEL SURVEY RECORDS

## TYPE 2 REPORTED OR UNAVAILABLE CATCH

Common Name	*Species	* No. of Fish	*Dispo.	Location
1				
2				
3				
4				
5				
6				

## TYPE 3 AVAILABLE EXAMINED CATCH

<input type="checkbox"/> GROUP Catch	*Species	* No. of Fish	Fork Len. (mm)	Weight (kg)	D	L	Fish Sex
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							

\* What did you do or plan to do with the majority of the fish? (key question)

1=Thrown back alive (type 2)  
3=Eat (fillets)

6=Bait  
5=Give away  
6=Throw back dead

7=Some other purpose, specify under common name.  
8=Don't know (type 3)  
9=Refused (type 3)

✓=Catch at Location

ATTACHMENT 7f



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

3. INTERVIEWER ID

4. YR/MO/DAY

5. INTERCEPT NO.

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

7. STATE CODE  8. COUNTY CODE  9. SITE CODE

10. INTERVIEW STATUS (Key Item = \*)  
 1  Questionnaire Complete  
 2  Refused Non-Key Item  
 5  Refused Key Item

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

\*11. Would you say you were fishing from a..

SH 1.  Pier/Dock CH 7.  Charterboat  
 2.  Jetty, Breakwater, Breachway PR 8.  Private Boat  
 3.  Bridge, Causeway  
 4.  Other Man-made Structure (Specify) \_\_\_\_\_  
 5.  Natural Shoreline (beach,cliffside,etc..)

17. Not counting today, within the past 12 months, that is since (insert month) of last year, how many days have you gone recreational saltwater fin fishing in Hawaii?

No. of Days, Code 998 Don't Know  
Code 999 If Refused

\*12. Was most of your (specify mode) fishing effort today in the..

1.  Ocean  
 4.  Bay  
 5.  Other (Specify) \_\_\_\_\_ Code q. 13 as "8"

\*13. Was that 1.  Three Miles or Less from Shore (always for SH mode)  
 2.  More than Three Miles 8.  Does not apply.

18. Not counting today, within the past 2 months, how many days have you gone recreational saltwater fin fishing in Hawaii?

No. of Days, Code 98 Don't Know  
Code 99 If Refused

13a. If 13 = "More than Three Miles", then:  
 Were you fishing at or near a Fish Attracting Device (FAD) today?  
 Yes  No  
 → At which FAD(s) did you fish today?  
 \_\_\_\_\_

19. Do you ever sell any of the fish you catch?  
 1  Yes 2  No, Go to 20  
 ↓

14. What type of gear was primarily used?

01  Rod & Reel → Go to 14a.  
 02  Hand Line → Go to 14b.  
 03  Hand Pole 15  Other (Specify) \_\_\_\_\_  
 04  Scoop Net  
 05  Throw Net 98  Unknown  
 06  Gill Net 99  Refused  
 07  Cross Net  
 08  Hukilau  
 09  Surround Net  
 10  Trawl  
 11  Trap  
 12  Spear  
 13  Hand  
 14  Crab Net

19a. When you sell your fish, do you consider yourself a commercial fisherman, trying to make some income or do you sell only to cover your fishing expenses?  
 1  For Income 2  Trip Costs Only, Go to 20  
 ↓

14a. What METHOD was primarily used?  
 1. Trolling  2. Casting → Go to 15  
 3. Bottom Fishing  4. Hand Lining

19b. Do you consider yourself a full-time commercial fisherman?  
 1  Yes 2  No

14b. If bottom fishing or hand lining were you  
 1.  Shallow Water (-20 ftms)  
 2.  Deep Water (+ 20 ftms)  
 3.  Tuna Handling (Hand Line Only)

15a. To the nearest half-hour, how many hours have you spent (specify mode) fishing today? That is, how many hours have you actually spent with your gear in the water?  
  .

\*20. What is your state and island or county of residence?  
 If county unknown ask: What city or town do you live in?  
  State Code; Name \_\_\_\_\_  
   County - Island Code; Name \_\_\_\_\_

15b. (Only ask if natural shoreline mode [#11. SH=5]) How many additional hours do you expect to fish from shore today? That is, how many more hours will you actually have your gear in the water?  
  .

21. What is the zip code of your residence?  
      Zip Code  
 Code: 99997 Foreign Country  
 Code: 99998 Don't Know  
 Code: 99999 Refused

16. Were you fishing for any particular kinds of fish today? If Yes, what kinds?  
 No particular species/Anything

1st Target \_\_\_\_\_

2nd Target \_\_\_\_\_

22. Do you live in a private residence, or in some type of housing such as a dorm, barracks, nursing home or rooming house?  
 1  Private Residence 8  Don't Know  
 2  Institutional Housing 9  Refused  
 → Go to verification box

16a. Were you fishing for finfish today?  
 1. If Yes  2.  No, continue to 16b

16b. Did you catch any finfish today?  
 Yes  No

23. Does your home have a land line telephone?  
 1  Yes 8  Don't Know  
 2  No 9  Refused

**VERIFICATION BOX**

In the event my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number?  
 Angler's First & Last Name

Name and phone number not given

D or N (Cell) (    )   -

Phone #

\*24. UNAVAILABLE CATCH. Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait? IF YES, COMPLETE TYPE 2 RECORD FOR THIS INDIVIDUAL FISHERMEN, NOT GROUP CATCH. NOTE: FILLETS ARE UNAVAILABLE CATCH.

DISPOSITION CODES FOR Q24

- |  |  |
|--|--|
| 1 Thrown back alive / legal                        | 6 Thrown back dead / plan to throw away              |
| 2 Thrown back alive / not legal / legality refused | 7 Some other purpose, <i>Write in margin</i> > _____ |
| 3 Eaten / plan to eat                              | 9 Refused  |
| 4 Used for bait / plan to use for bait             | 0 Exchange, Trade                                    |
| 5 Sold / plan to sell                              |  |

TYPE 2 RECORDS: (INDIVIDUAL CATCH UNAVAILABLE IN WHOLE FORM)

NAME	SPECIES CODE	#OF FISH	DISP	NAME	SPECIES CODE	#OF FISH	DISP
1. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	2. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	4. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
5. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	6. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
7. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	8. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>
9. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	10. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>

\*25. Did you catch any fish I can look at?

- 1  Yes
- 2  No - Code q. 26, 27, 28 as "8's," Not Applicable
- 3  Yes, BUT fish on another fishermen's form -  
Fill in Interview # where fish are listed  
 - Code q. 26, 27, 28 as "8's," Not Applicable

\*28. How many fishermen including yourself have their catch here? Please do not include anyone who did not catch fish. Only count those who have their catch here.

- No. of Contributors      88  Not Applicable

\*29. How many people fished on your boat today?

- No. of People      88  N/A or Shore Mode

\*26. Did you catch these yourself or did someone else catch some of them?

- 1  All Caught by fishermen - - Code q. 27, 28, as "8's," Not Applicable
- 2  Other Contributors      8  Not Applicable

\*27. Can you separate out your Individual catch?

- 1  Yes -Code 28 as "88's"
- 2  No      8  Not Applicable

BOX D. If response to q. 29 is 01 or Shore Mode code as 8 = N/A or Shore Mode. Otherwise, is this the first fishermen from this boat that I have interviewed?

- 1  Yes      8  N/A or Shore Mode
- 2  No - Record interview # of 1<sup>st</sup> fishermen in the fishing party. \*

\*30. AVAILABLE CATCH. COMPLETE TYPE 3 RECORD BY ASKING: May I look at your fish? What do you plan to do with the MAJORITY of the (species)?

DISPOSITION CODES FOR Q30

- |  |   |                           |                   |
|--|---|---------------------------|-------------------|
| 3 Eaten / plan to eat                  | 5 Sold / plan to sell                   | 7 Some other purpose      | 9 Refused         |
| 4 Used for bait / plan to use for bait | 6 Thrown back dead / plan to throw away | 8 Dont' know / Didn't ask | 0 Exchange, Trade |

TYPE 3 RECORDS: (INDIVIDUAL CATCH AVAILABLE IN WHOLE IDENTIFIABLE FORM)

SPECIES NAME	CODE	#OF FISH	PLAN TO SELL	LENGTH (mm)	WEIGHT (kg)	DISP
1. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10. _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

31. If Charter boat mode, is the vessel on the ACTIVE Charter Boat List: \_\_\_ Yes \_\_\_ No

(Please fill in Charter boat name)

31a. Charter Boat Name: \_\_\_\_\_ Captain: \_\_\_\_\_  
Address: \_\_\_\_\_ Phone: \_\_\_\_\_ Cell: \_\_\_\_\_



## ATTACHMENT 8



## **ATTACHMENT 8**

### **General Overview of the Marine Recreational Fisheries Statistics Survey**

#### **PREFACE**

The National Marine Fisheries Service (NOAA Fisheries) initiated a series of surveys in 1979 to obtain standardized and comparable estimates of participation, effort, and catch by recreational anglers in the marine waters of the United States. Continued efforts to develop and maintain a comprehensive marine recreational fisheries data acquisition and analysis system implemented the first priority of NOAA Fisheries Marine Recreational Fisheries Policy established in 1981. This report describes the data collection methods and estimation procedures of the MRFSS.

#### **INTRODUCTION**

Data on commercial fisheries have long been collected by NOAA Fisheries and its predecessor agencies. However, data on marine recreational fisheries were not collected in a systematic manner on a continuing basis until 1979. The purpose of the Marine Recreational Fisheries Statistics Survey (MRFSS) is to establish a reliable database for estimating the impact of marine recreational fishing on marine resources.

Fisheries management and development requires information on the numbers and size distributions of each fish species caught in each mode and area of fishing within each state or subregion. MRFSS helps meet the goals of the Magnuson Fishery Conservation and Management Act of 1976 (MFCMA - Public Law 94-265). MFCMA mandates a national program for management of fishery resources in the ocean zone known as the Exclusive Economic Zone (EEZ), which ranges from 3 to 200 miles from shore. MFCMA also requires that the fishery management plans consider both recreational fisheries and commercial fisheries and their harvests.

#### **GENERAL SURVEY METHODOLOGY**

MRFSS data is collected by two independent, but complementary, surveys:

- (1) a telephone survey of households in coastal counties, and
- (2) an intercept (i.e. interview) survey of anglers at fishing access sites.

Numerous NOAA Fisheries methodological studies indicated that the survey should be structured around this data collection approach. These studies showed that a telephone survey could be used to collect reliable data on recreational fishing effort. Data on fishing trips became less reliable beyond a 2-month period due to recall problems.

Information on the actual catch such as species identity, number, and both weights and lengths of

fish caught could not be reliably collected by telephone. Catch data are obtained from anglers intercepted by trained interviewers stationed at fishing access sites.

Data from the two independent surveys are combined to produce estimates of fishing effort, catch, and participation. Using the complemented surveys approach, marine recreational fishing estimates (not including shellfishing) are calculated for six two-month periods (waves) in each year.

**Table 1. Types of data collected by the complementary survey methods.**

<b>MRFSS Intercept Survey</b>	<b>Coastal Household Telephone Survey</b>
Number, weights and lengths of fish caught by species	Presence of marine recreational anglers in the household
State and county of residence	Number of anglers per household
Avidity level - trips per year	Fishing trips in 2-month period
Mode of fishing	Mode of each trip
Primary area of fishing	Location (county) of each trip

There are geographical and temporal exceptions that are explained in the Sampling Coverage section of this report and in Figure 1a for the Atlantic and Gulf Coasts and in Figure 1b for the Pacific Coast. Sampling efforts during January and February since 1980 were generally limited to the Pacific coast, Gulf coast states and the Atlantic coast of Florida. Results from the 1979 and 1980 surveys indicated that only about 5 percent of the annual recreational catch on the Atlantic and Gulf coasts was taken during the January/February period. Costs to sample these months were very high because of low fishing activity, particularly in the North and Mid-Atlantic subregions. Sampling in Maine and New Hampshire during these months was discontinued in 1986 for the same reason.

Total survey effort during a one-year period usually involves more than 100,000 intercept interviews and over 350,000 telephone interviews. The following sections briefly summarize the methods and procedures employed in the telephone survey, the intercept survey, and the calculation of estimates from the information collected by the two surveys.

### **COASTAL HOUSEHOLD TELEPHONE SURVEY (CHTS) METHODS**

The telephone survey is carried out in two-week periods of interviewing starting the last week of each two-month period of fishing activity (waves) and continuing in the first week of the following month. For example, for the January/February wave, households are called during the

last week of February and the first week of March. Respondents are asked to recall on a trip-by-trip basis all marine recreational fishing trips made within their state during the 60 days prior to the interview.

Telephone sampling effort is directed at households located in coastal counties. Coastal counties are defined as follows:

- In general, coastal counties are those within 25 miles of ocean coastline (including coastlines of major bays or estuaries).
- In the South Atlantic and Gulf of Mexico during May through October coastal counties are those within 50 miles of the coast.
- Sampling in North Carolina is increased to counties within 50 miles of the coast during November to April and within 100 miles of the coast during May through October. (This has been done since 1987 because the percent of non-coastal anglers intercepted in North Carolina was higher than any other state from 1979 to 1986.)

Depending on the geographic area, about 70 to 90 percent of the anglers interviewed by the intercept survey live within the telephone survey calling area.

A summary of the methods used in the telephone survey:

- The telephone survey is only used to gather information on fishing effort, NOT on catch rate or species composition.
- The telephone interview sample quota for each wave varies with the amount of fishing activity expected. The allocation is based on historic MRFSS data on fishing effort.
- Interview allocations for each county are proportional to the square root of the population (number of households) within the county. This ensures a minimal level of sampling in coastal counties with small populations.
- The sampling units in the telephone survey are households with telephones in coastal counties. Households are contacted using a procedure called "random digit dialing." In this procedure, each telephone number (including unlisted numbers) within the county has an equal probability of selection.
- The household effort data obtained in each county is weighted by the number of households in the county for calculation of a state level estimate of the mean household fishing effort. In statistical terms, a stratified sampling estimator is used. This weighting procedure was begun in 1993 and applied to all historical estimates. In earlier years, an improper weighting scheme (based on the number of households in the state) was used. States with large coastal population centers (e.g. Boston, Baltimore) were the most affected by the change.
- All households are eligible for contact each wave, regardless of whether they were contacted in a previous wave.
- Telephone interviews are conducted between 10:00 am and 9:30 pm (respondent's local time) on weekdays and weekends.

- Up to ten attempts are made to reach each household.
- Repeated attempts are made to complete the questionnaire with all eligible anglers residing in each contacted household.
- Interviews are conducted in Spanish as required.
- Information on marine recreational fishing activity is obtained from each angler in the household or from a responsible adult when appropriate.
- A procedure called "hot deck" imputation is used to adjust for nonrespondent anglers and households prior to estimation.

## **MRFSS INTERCEPT SURVEY METHODS**

The intercept survey consists of interviews to gather catch and demographic data from marine recreational anglers who have just completed fishing in one of 3 fishing modes:

- Headboat /charter boat fishing
- private/rental boat fishing
- shore based fishing (e.g., man-made structures, beaches, and banks).

The intercept survey continuously samples angler catches during the 6 two-month sampling periods from January through December. Intercept sampling is stratified by state, mode, and two-month wave with a minimum of 30 intercepts in each stratum. Beyond this minimum, samples are allocated in proportion to average estimates of fishing pressure from the three previous survey years.

Complete coastwide lists of access sites for marine recreational fishing were created in 1979 and are continuously updated. (Site lists will be posted on the home page in the future.). Sites are chosen for interviewing assignments by randomly selecting from among the listed access sites weighted by estimates of expected fishing activity. The intent of the weighting procedure is to sample in a manner such that each angler trip has an equal probability of inclusion in the sample.

Sampling is distributed among weekdays, weekends and holidays in such a manner as to assure that about 60 percent of the interviews are collected on weekends and holidays on the Atlantic and Gulf coasts and 75 percent on the Pacific coast.

Anglers are intercepted, screened, and interviewed at assigned access sites upon completion of their fishing trips. A small number of interviews (less than 5 percent) are conducted with beach/bank shore mode anglers who have not completed their trip.

At heavy use sites, every *n*th angler is intercepted and interviewed. For example, every second or third angler might be interviewed if the site is too busy to interview all anglers.

Each interview consists of:

- an introduction to the survey and information on the Privacy Act of 1974,
- an oral interview concerning the fishing trip just completed,
- a thorough examination of the respondent's catch, and
- measurement of lengths and weights from all of (or if necessary, a random sample) the fish of each species in the respondent's catch.

Interview procedures vary slightly as follows among fishing modes:

- When assigned to head boats, the interviewer schedules rides on head boats to interview anglers and to examine their catches. Head boat anglers are also intercepted dockside.
- Private/rental boat anglers are interviewed at boat ramps and hoists while they are recovering their boats or at dockside while they are cleaning their boats.
- Anglers fishing from natural shorelines often are widely distributed along beaches and banks with multiple access points, hence samplers often have to rove from angler to angler within the defined boundaries of the site to obtain interviews.
- Man-made structures often have a single egress point at which samplers can easily intercept departing anglers.

Interviewing procedures have been developed to allow separate recording of information on the following:

- catch which is unavailable for identification (Type B),
- available catch which can not be easily subdivided among anglers, and
- catch obtained during multiple-day boat trips (Type A).

For the type B catch, information is only recorded for individual anglers. For the type A catch, however, grouped catch is allowed. This is a concession to the fact that often multiple anglers will keep all their catch in a single bucket, and often at the end of the trip they are not sure who caught which fish.

## **ESTIMATION PROCEDURES**

The estimates derived from the telephone and intercept surveys fall into three categories:

- the number of fishing trips taken (fishing effort);
- the number of finfish caught and either harvested or released alive (number and weight); and
- the number of participants in recreational fishing activities.

Effort estimates

In the MRFSS, fishing effort is defined as the estimated number of fishing trips taken by individual anglers. The number of individual fishing trips are estimated for each state, coastal

county, mode, and bimonthly wave.

Data from the telephone survey of households are used to calculate mean numbers of trips per household in each fishing mode during each wave. This number is multiplied by the number of permanent, full-time occupied households in the coastal county (Bill Communications, Inc. 1995) to estimate total number of fishing trips in each mode by coastal county residents. Data on the number of households in the coastal zones are updated annually.

The telephone survey does not cover all angler trips encountered in the field. For example, the telephone survey cannot provide information on the number of trips taken by people who reside in households beyond the 25- or 50-mile coastal zone from which the telephone numbers are drawn. Neither can it provide information on trips taken by people who live in households without telephones. Ratios obtained from the intercept survey are used to estimate the numbers of trips taken by out-of-state residents, by state residents of non-coastal counties, and by others who are not covered by the telephone survey.

For example:

- Assume the telephone survey estimates 10,000 private/rental boat trips are taken by residents of coastal county telephone households in a state during a particular wave.
- Assume state residents of non-coastal counties constitute 10 percent of all intercepted anglers fishing in that state and mode. Thus for every 10 anglers interviewed, 9 are coastal county residents and 1 is a non-coastal resident.
- Then the estimate of total trips is increased by 1,111 (i.e.,  $10,000 \times 1/9$ ) to account for additional trips taken by anglers residing outside the telephone survey area.

Similar procedures are used to estimate fishing trips taken in the state by anglers residing in other states. Ratios are also used to adjust effort estimates if the proportion of coastal county residents living in full-time occupied households with telephones differs significantly between the intercept survey sample of anglers and the most recent census.

The net result of the telephone survey estimates of coastal resident trips, along with the various adjustments for angler trips not covered by the telephone survey (either intentionally or unintentionally), is an estimate of the total number of angler trips for each subregion, state, wave, and mode of fishing.

After the final effort estimates are generated, they are post-stratified into primary fishing area to produce effort estimates by state, mode, wave, and area. An area, generally speaking, is defined by location offshore where the fishing took place. The areas are generally “inland,” “ocean  $\leq$  3 miles,” and “ocean  $>$  3 miles.” This can vary from state to state. See the glossary for a more complete definition and discussion. Within each state, wave, and mode, trips are allocated to a primary fishing area in proportion to the number of interviewed anglers in that state, wave, and mode who made trips in that area. The intent here is to produce effort estimates at a level that is suitable for multiplication with catch per angler trip estimates from the intercept survey.

## Catch estimates

The catch of each finfish species is estimated for each subregion, state, fishing mode, primary fishing area, and wave. The total number of fish caught in a particular fishing mode and area of fishing is estimated from:

- the estimated number of fishing trips taken in that state, wave, mode, and area (described above), and
- the mean number of fish caught per trip taken in that state, wave, mode, and area.

All fish that are caught by intercepted anglers are not available for the interviewer's inspection. The intercept interview and the estimation procedures distinguish between those fish brought ashore in whole form, and those not brought ashore in whole form as follows:

- Fish that are available for identification, enumeration, weighing and measuring by the interviewers are called landings or Type A catch;
- Fish not brought ashore in whole form but used as bait, filleted, or discarded dead are called Type B1 catch (Type A and Type B1 together comprise harvest); and
- Fish released alive are called Type B2 catch (total catch is the sum of Catch Type A, Catch Type B1, and Catch Type B2).

Catch per trip estimates and expanded catch estimates are made for these three types of catch. The purpose of the three catch types is to distinguish between those species identified and measured by trained interviewers, and those species reported to the interviewers by anglers. Previously cited methodological studies indicated species are often misidentified by anglers and their reported measurements subject to several types of bias. As noted above, only individual interviews are allowed for the type B catch, while for the type A catch some amount of clustering is allowed and accounted for in the estimation.

We use self-weighting estimators of catch per trip. This means that we are assuming that the site selection methodology (giving sites with more anglers a higher probability of being sampled) ensures that all angler trips have an equal probability of being included in the sample. Using this assumption, relatively simple estimators based on stratified random sampling (or clusters for type A catch) can be applied.

Lengths and weights are obtained by sampling the fish caught and brought ashore in whole form by intercepted anglers. Therefore, estimated weights can only be calculated directly for catch Type A fish. Since the size composition of the remainder of the total catch (Catch Type B1 and Catch Type B2) is unknown and may differ from that of the fish represented in Catch Type A, estimating the weight of the remainder of the catch is not possible without assumptions. In estimating the weight of harvested fish (Catch Type A and Catch Type B1), we assume that the mean weight of the Catch Type B1 is equal to that of the Catch Type A for each subregion, state,

mode, primary area, wave, and species.

Most of the trips sampled in the intercept survey are completed trips, with anglers being interviewed only at the end of the fishing trip. Some incomplete trips are sampled in the shore mode, and they are converted into complete trips by multiplying the recorded catch per hour by the anticipated total trip length.

Once catch per trip estimates have been produced for each subregion, state, wave, mode, area, species, and catch type, they can be multiplied by the appropriate effort estimate to produce estimates of total catch. For estimates of total weight harvested, these total catch estimates are in turn multiplied by the average weight per measured fish in the appropriate mode and area. As described below, Goodman's (1960) formula is used where appropriate for the calculation of variance estimates.

Catch estimates are added across strata to obtain estimates of catch of each species at the subregion, state, mode, primary area, or wave levels.

#### Participation Estimates

The estimated number of participants, derived from telephone and intercept data, has to account for varying levels of reported fishing avidity. Some people fish very frequently and others very infrequently. The probability of selection in the intercept survey is higher for a person who fishes frequently than for a person who seldom fishes. We correct for these differences in probability of selection by using the reciprocal of the mean number of trips each intercepted angler reported having taken in the previous 12 months.

Estimates of participation are made annually on a state basis. These estimates are not additive across states since an individual can fish in more than one state during the year.

### **ADJUSTMENTS TO ESTIMATES**

This section describes NOAA Fisheries procedures chosen to identify and adjust extreme or "outlying" observations and to adjust for other sampling practicalities.

#### Outlier Analysis of Trips

Population estimates such as total fishing effort are subject to wide variability when based on a relatively small number of interviews. The protocol used in the MRFSS to produce estimates of total catch and effort is sensitive to the inclusion of a few extreme observations in reported trips by individual households and in intercept survey ratios of coastal to non-coastal and out-of-state anglers.

Telephone survey households that report an extreme number of fishing trips for the sample



period tend to have a disproportionate effect on the estimate of average fishing effort, producing unrealistically high estimates of total fishing effort. These extreme estimates are adjusted in the following manner:

- The results from the telephone survey of coastal county households are compared with the distribution of reported fishing effort for the previous 4-year period plus the current year.
- Frequency distributions of reported fishing activity are produced from this historical data base for every 2-month sampling period by state and fishing mode.
- Any household which reports more fishing trips than the 95th percentile for the 5-year distribution is reduced to the value of the 95th percentile.
- Adjustment of reported fishing effort using this procedure typically results in a 15 to 20 percent reduction in the estimates of total fishing effort.
- Although this is the method we use, there are other alternatives available in the survey literature.
- The net result of the outlier reduction could be a slight bias in the effort estimate, however the benefit is a large increase in precision.

#### Head and Charter Boat Adjustments

Estimation of fishing effort for the head/charter boat and charter boat sectors of the recreational fishery is difficult due to the relatively low incidence of reported fishing activity in these modes by households contacted in the CHTS. During peak periods of fishing activity less than two percent of the households contacted in the southeast through the CHTS report having taken a fishing trip on a charter boat. Typically households either report a large number of fishing trips on a charter boat, having hired the boat for a day or more, or no fishing effort in the mode. This fishing activity pattern sometimes results in either an effort estimate greater than the maximum number of fishing trips possible for that state's charter boat fleet or an estimate of zero fishing effort.

To reduce the effect of small sample sizes on the effort estimates for the charter boat fishery, telephone survey data from the previous 4 years plus the current year are combined at the state and wave level and estimates are produced using a prevalence rate from the combined data base. This approach has drawbacks in that pooling data across years tends to mask trends in the fishery due to shifts in the demographics of the fishery, annual weather patterns, etc. Pooling data across years, however, provides the larger database needed to produce reliable estimates for a relatively small proportion of the coastal population. Again, as in the outlier reduction, we are making a trade-off between bias and variance.

Telephone survey data are pooled to produce effort estimates for the head/charter fishery through 1985, the charter boat fishery from 1985 through 1999 in the South Atlantic and Gulf of Mexico subregions in all 2-month sampling periods, and in the North Atlantic and Mid-Atlantic subregions for the head/charter boat fishery for the March/April and November/December

## sampling periods.

### Adjustment with Ratio Estimators

Total fishing effort estimates at the subregion/state/mode/area/wave (cell) level are comprised of 3 component estimates:

- fishing effort by residents of coastal county areas within the state that are accessible to the telephone survey;
- fishing effort by residents of counties within the state that are not included in the sampling frame for the telephone survey; and
- fishing effort by residents of other states.

The last two components are estimated using ratios of non-coastal county resident trips and out-of-state resident trips to coastal county resident trips obtained from the intercept survey. These ratios are applied to the base estimate of coastal county resident fishing effort derived from the telephone survey. Unusually high ratios lead to unrealistically high estimates of fishing effort attributable to non-coastal or out-of-state anglers. This can sometimes occur in the charter boat fishery, and is adjusted as follows:

- There is a clustering effect caused by the sampling of groups of anglers who have similar demographic characteristics and fish from the same boat.
- This clustering exacerbates the problems with high variability in the telephone survey. The result is an estimator that is subject to extreme fluctuations.
- These fluctuations are smoothed by calculating ratios using 5 years of pooled data in lieu of the ratios based on the current year's data.

In short, for the head and charter modes of fishing, trips per household from the telephone survey and the adjustment ratios from the intercept survey both use pooled estimators.

### Imputation for Missing Data

In some cases there are missing data for fishing households contacted in the telephone survey, where some or all of the trip information is not collected (inability to contact an identified angler or respondent fatigue). Although proxy data are collected whenever possible from other qualified household members, there are still circumstances where a household is initially identified as a fishing household, but household fishing data is either incomplete or unobtainable.

We use a statistical procedure called "hot deck" resampling to impute values for missing data. This procedure substitutes a randomly selected complete observation obtained from a similar household or angler for each missing observation (e.g. number of trips per angler, mode of each trip). For example:

- If no data is obtained from an angler in a household, data on trips and modes will be assigned to that angler based on the fishing activity of other completely interviewed anglers within the same household.
- If no data is obtained from any anglers in a particular household, values will be substituted from state level data obtained from households with the same number of anglers.

All imputed data are flagged in the data sets of raw telephone survey data for later identification. The imputation eliminates bias caused by the incomplete counting of angler trips in households contacted by the telephone survey. Imputation of missing effort data increases fishing effort estimates, hence it also increases the finfish catch estimates. The extent of this increase in estimated trips appears to be about five percent overall, but it varies by year, state, wave, and mode.

In some cases, no adjustment can be made for missing data. The estimation procedure combines information from the telephone household and intercept surveys. The completeness of the resulting data matrix is occasionally affected by the presence of "missing cells" in which no information is obtained from one or both surveys. The presence of missing cells results in an underestimate of the total number of fish, or an estimate of number of fish but no corresponding estimate of the weight of these fish.

#### Replacement of Missing Weights

In some cases there is an estimate of landings or harvest, but no fish were measured in that cell and there is no estimated weight. Missing weights are estimated by length-weight equations (Pacific coast) or using a protocol to impute an average weight for the species from the closest adjacent cell, such as the adjacent mode in the same area and state (Atlantic and Gulf coasts).

### **SAMPLING VARIANCES**

A stratified simple random sample, stratified at the county level, is used for conduct of the telephone survey of coastal county households. The variance associated with the average number of fishing trips per household is calculated using this model.

Estimation of the variances associated with the average catch and weight of catch estimates obtained from the intercept survey is based on the assumptions that the primary sampling unit was a fishing trip by an individual angler and that there is no clustering effect due to the collection of groups of interviews at each visited site. These assumptions were empirically verified in pilot surveys. Therefore, the variance is estimated using the standard variance equation for a stratified random sample. The clustering allowed in the type A group catch data is accounted for in the variance estimators. That is, we do not account for any clustering effect at the site level, but we do account for clustering in the type A catch.

Estimation of the variance of the combined estimates from the two surveys requires special attention. Estimates of fishing effort, the numbers of fish caught, the weight harvested, and the like are all produced by multiplying together the appropriate basic estimates of the number of trips, the catch per trip, the mean weight per fish, etcetera. Thus any estimators of sampling variability need to take this into account. The basic formula for the variance of a product of two random variables was outlined by Goodman (1960, JASA) (see references). We use this formula throughout to produce estimates of variances for our combined estimators.

The total catch estimates are not necessarily normally distributed. However, simulation experiments indicated that a normal approximation is satisfactory for construction of 95 percent confidence intervals around the estimated total catch.

## **PRECISION OF THE ESTIMATES**

Precision refers to the dispersion of the sample measurements used to calculate an estimate and the resultant variability in the estimate. The square root of the estimate of sampling variance is an estimate of the standard error of the estimate, and is almost universally used in sample surveys as a measure of precision. The standard error is necessary for calculating confidence intervals around an estimate. The width of a confidence interval is a function of the probability level selected, and is determined from the Student's t distribution or the normal distribution. Using the normal distribution, the most commonly used confidence interval (a 95 percent confidence interval) is given by: estimate  $\pm 1.96 X$  (estimate of standard error). Confidence intervals provide another indication of the precision of the estimated total catch; at the same confidence level a broad interval relative to the estimate indicates a less precise estimate than does a narrow interval. The 95 percent confidence interval indicates that we can be 95 percent certain that the actual total catch is between the upper and lower confidence limits.

The standard error is also used to calculate the proportional standard error (PSE). The PSE expresses the standard error as a percentage of the estimate (i.e. (standard error)/estimate). It provides an alternative measure of precision and is useful in comparing the relative precision of two estimates. A small PSE indicates a more precise estimate than does a large PSE. A PSE of 20 percent or less is generally considered acceptable in fisheries data. An alternative way of expressing a 95 percent confidence interval, in terms of percentages, would be: estimate  $\pm (1.96 X \text{ PSE})$  percent.

## **OTHER TECHNICAL CONSIDERATIONS**

### Aggregation of estimates

Effort estimates are calculated at the subregion, state, mode, and wave level, and then poststratified to the area level. Catch estimates are calculated at the subregion, state, mode, area, wave, and species level. All estimates and variances are additive across strata because they are estimated independently. For example, the estimated number of fishing trips in a subregion on an

annual basis is the sum of trip estimates from all states in the subregion, all modes, and all waves. The data used to produce summary tables are maintained in their unaggregated form in the MRFSS database.

Catch estimates for some species are aggregated into species groups for snapshot summary tables. Catch estimates for some species are so low that it is desirable to combine several closely related species and report the estimated catch for the entire group of species. Less frequently observed species which cannot be combined with other closely related species are put into the general group called "Other Fishes." Exceptions to these procedures are made in cases of economically important species such as striped bass. All species estimates are maintained individually in the MRFSS database.

### **Estimating For-Hire Effort**

As a result of the difficulties associated with estimating for-hire (charter boat and headboat) effort through traditional methodologies (see discussion above), NMFS staff developed and pilot-tested a new survey, designed specifically for this purpose. The For-Hire Survey (FHS) utilizes a comprehensive directory of for-hire vessels to conduct weekly sampling of for-hire vessel operators. Each week, a sample of vessel operators is contacted and asked to participate in a telephone interview. Vessel operators are asked to report the number of for-hire trips the vessel made during the previous week, as well as the number of passengers on each trip, and the area fished. The data collected through the FHS is used to estimate for-hire effort by area fished for each state.

To validate the information collected through FHS interviews, trained field staff routinely visit the docks of sampled vessels to observe and record for-hire fishing activity. Information collected through this dock-side validation is compared to information reported in the telephone surveys to estimate a correction factor for over- or under-reporting.

The FHS has been pilot-tested in Maine (1995-Present), North Carolina (1996-1997), the Gulf of Mexico (1997-2000), and South Carolina (2000-2001). Due to its success, the FHS was adopted as the official methodology for estimating for-hire effort in the Gulf of Mexico in 2001, as well as the east coast of Florida in 2003. The methodology was initiated on the Atlantic Coast (ME-GA) in 2003, with plans to adopt as the official methodology in 2004.

ATTACHMENT 8a

# FOR-HIRE LOGSHEET

(Instructions on reverse)

Check here if you have a current HMS permit

TRIP #	TRIP SPECIFICS			ORIGIN OF TRIP			EFFORT						FISHING TARGET		
	DATE	DAYS FISHED	TOTAL ANGLERS (no crew)	STATE	COUNTY	SITE NAME	TRIP START TIME	TRIP END TIME	TOTAL HOURS FISHED	FISHING METHOD (Up to 2)		FISHING AREA	DISTANCE FROM SHORE	TARGET SPECIES (Up to 2)	
1										1.	2.			1.	2.
2										1.	2.			1.	2.
3										1.	2.			1.	2.
4										1.	2.			1.	2.
5										1.	2.			1.	2.
6										1.	2.			1.	2.
7										1.	2.			1.	2.
8										1.	2.			1.	2.
9										1.	2.			1.	2.
10										1.	2.			1.	2.
11										1.	2.			1.	2.
12										1.	2.			1.	2.
13										1.	2.			1.	2.
14										1.	2.			1.	2.
15										1.	2.			1.	2.
16										1.	2.			1.	2.

# INSTRUCTIONS FOR FILLING IN PHONE SURVEY FORM

Use the following codes to complete this form. You may keep it handy for use during your telephone interview, or simply fax it toll-free to **1-800-518-8249**.

## Trip Specifics:

**Date** - The date of the trip (month/day).

**Days Fished** - The number of days on which fishing occurred during the trip. (This will be "1" unless the trip was a multi-day trip).

**Number of Anglers** - The number of people who fished on the trip (excluding captain and crew).

## Origin of Trip:

**State** - The state to which the fishing trip returned (use two letter abbreviation).

**County** - The county to which the fishing trip returned.

**Site Name** - of the marina, dock, or launch ramp to which the trip returned. (If private dock, just record "PRIVATE")

## Effort:

**Trip Start Time** - Time of day vessel departed the dock or ramp for the fishing trip.

**Trip End Time** - Time of day vessel arrived back at the dock or ramp.

**Hours Fished** - The amount of time spent actively fishing with gear in the water to the nearest half-hour.

**Fishing Method** - The method of fishing on this trip as defined below. Up to two methods can be entered, with the primary method entered first.

**Trolling (T)** - Lines fished by pulling through the water while under power.

**Bottom (B)** - Lines fished straight down off the side of the boat while typically not under power.

**Casting (C)** - Lines fished by using a casting rod and reel.

**Fly fishing (F)** - Lines fished by using a fly rod and reel.

**Drifting (D)** - Lines fished while boat is passively (not under power) drifting.

**Other (O)**

**Primary Fishing Area:** The primary area of fishing on this trip as:

**Ocean (O)**

**Gulf, Open bay (G)** - Fishing in offshore waters or an open bay.

**Sound (S)** - Fishing in a semi-enclosed or enclosed embayment named "Sound."

**River (R)** - Saltwater fishing in rivers.

**Bay (B)** - Fishing in an enclosed bay (e.g. Mobile Bay).

**Distance From Shore** - Only to be used if fishing occurred in ocean, gulf or open bay. The distance from shore where fishing primarily took place as defined below.

≤ **3 miles** - Fishing from shore out to 3 miles.

> **3 miles** - Fishing greater than 3 miles out from shore.

**Fishing Target** - The fish species or species group targeted during the trip. Up to two targets can be entered, with the primary target entered first.

## Groundfish:

**COD** Atlantic Cod

**HADD** Haddock

**SHAK** Silver Hake / Whiting

**POLL** Pollack

**HAKE** Hake

## Flounders:

**FLBB** Blackback/Winter Flounder/ Channel

**FLSOU** Southern Flounder

**FLUKE** Summer Flounder/Fluke

**FLYT** Yellowtail Flounder

**HAL** Atlantic Halibut

## Other Finfish – Northern:

**BSB** Black Sea Bass

**PERW** White Perch

**RPG** Red Porgy

**SCUP** Scup / Porgy

**SPOT** Spot

**STB** Striped Bass/Rockfish

**TAU** Tautog

## Sharks:

**DGSM** Smooth Dogfish

**DGSP** Spiny Dogfish

**SHBL** Blue

**SHMS** Mako Shortfin

**SHSB** Sandbar

**SHST** Sand Tiger

**SHWH** White

## Other Finfish – Southern:

**BARRA** Great Barracuda

**COBIA** Cobia

**CREV** Crevalle Jack

**CRO** Atlantic Croaker

**DRUMB** Black Drum

**DRUMR** Red Drum / Redfish

**GRPR** Unknown Grouper

**GRPSN** Snowy Grouper

**LADY** Ladyfish

**SHEEP** Sheepshead

**SNAP** Snapper Family

**SNAPR** Red Snapper

**SNAPV** Vermillion Snapper

**WKSP** Spotted Sea Trout

**WKSQ** Weakfish/Squeteague/Gray Sea Trout

## Pelagics:

**BLUE** Bluefish

**BON** Bonito

**MACK** Atlantic Mackerel

**KGM** King Mackerel

**SSM** Spanish Mackerel

**DOL** Dolphinfish/Mahi-Mahi

**BUM** Blue Marlin

**WHM** White Marlin

**SWO** Swordfish

**WAH** Wahoo

**AMB** Amberjack

## Tunas:

**ALB** Albacore

**BET** Bigeye

**BFT** Bluefin

**BLKFT** Blackfin

**SKJ** Skipjack

**YFT** Yellowfin

**OTHER:** Write-in



ATTACHMENT 8b

# 2004 For-Hire Telephone Survey Questionnaire

## LPS/HMS Questions

Hello, I'm calling for a survey being conducted for NOAA Fisheries and the State agency name. Can I please speak to name of contact? **If person sought is not available, ask if they will be available anytime this week. If yes, scheduled convenient time to call back to talk to that person, thank respondent, and terminate interview. If no, thank respondent and terminate interview.**

Are you still the captain, owner or designated representative of the vessel name?

**If "yes", ask:** Can you provide information on the activity of the vessel name during the last week (Monday through Sunday)?

If "yes", continue to survey description.

**If "no", ask:** Is someone else currently operating the name of the vessel?

**If "yes", then ask:** Do you know the name and telephone number of new contact?

**If "yes", take name and telephone number, thank respondent and terminate interview.**

**If "no", denote whatever information is given and terminate interview.**

We're surveying owners and operators of charter and headboats to collect data needed to estimate total marine recreational fishing trips by individual anglers. The vessel name has been selected at random from a directory of charter and headboats to be included in this week's survey of trips.

I would like to ask you a few questions about trips made last week by the vessel name. This data will remain confidential. This survey is being conducted in accordance with the Privacy Act of 1974, therefore your participation is voluntary. **(Continue with interview.)**

## **INTRO TWO: (for previously interviewed vessel reps)**

Hello this is [interviewer name] calling on behalf of NOAA Fisheries for the For-Hire Survey. May I speak with [contact name]?

### **Alternate survey description for re-contacts:**

The vessel name has been selected for this week's sample and I am calling to collect your effort information for this time period. As you know, this data will remain confidential, and this survey is being conducted in accordance with the Privacy Act of 1974, therefore your participation is voluntary.

**(Continue with interview.)**

- Q1. Does the [vessel name] hold a current HMS permit?  
 Yes – Go to 1A.  
 No – Go to Q3.
- Q1A. Do you ever sell fish like tunas or sharks caught from [vsl\_name]?  
 Yes –  
 No –
- Q2. Our records show your principal port as being located in [st\_port]. Is this still accurate?  
 Yes – Go to Q3  
 No – Got to Q2A
- Q2A. In what state do you usually launch or dock this vessel?  
 Record – Go to Q3
- Q3. During the last week (Monday through Sunday), how many saltwater fishing trips targeting finfish did the [vessel name]\_take?  
 Record –  
 If Q3=0, go to Q41.
- Q3 WITH HMS PERMIT (Q1=1) During the last week (Monday through Sunday), how many saltwater fishing trips targeting finfish did the [vessel name]\_take? Please remember to include ALL trips, not just those where you fished for a large pelagic species.  
 Record – Go to Q4
- Q4 How many of these trips were with paying passengers?  
 Record –
- Q5 On how many of these trips did you target a large pelagic species such as tunas, sharks, billfish, dolphin, wahoo, amberjack or similar offshore species?  
 Record – Go to Q6
- Q6. How many of these trips consisted of more than one day of fishing?  
 Record –
- Q7. During the last week (Monday through Sunday), how many additional non-fishing trips did your boat make? Please include any trips taken for fuel, bait, or other recreational activities.  
 Record – If Q7>0, go to 7A.  
 If Q7=0, go to Q8.
- Q7A. On what days did each of these additional boat trips occur?  
 Record –

Now that we have information on the total number of trips taken, we would like to obtain specific information about each of these trips. We will begin with the most recent recreational fishing trip and work backwards to last Monday. You reported \_\_\_\_ total trips and \_\_\_\_ LPS trips.

- Q8. Did your boat take any saltwater fishing trips that ended on day of week (starting with Sunday)? **If “yes”, obtain the total number of trips that day. Repeat this and the following questions for each day of the week. If more than one trip is made in one day, profile each trip separately for that day. (Trip Date)**  
 1=Monday  
 2=Tuesday  
 3=Wednesday  
 4=Thursday  
 5=Friday

6=Saturday

7=Sunday

- Q9. How many separate fishing trips did you take on [trip\_date]?  
Record –
- Q9A. Was this trip with paying passengers?  
Yes –  
No – If Q5=0, go to next trip; If Q5>0 – Go to 9B
- Q9B. On this trip, did you target large pelagic species such as tunas, sharks, billfish, dolphin, wahoo, amberjack or similar offshore species?  
Yes –  
No – Go to next trip/follow-up questions.
- Q10. We are only interested in collecting information about passengers who actively fished by having a line in the water. Excluding captain and crew, how many people actually fished during the trip? (Record number of people on trip.)  
Record –
- Q11. How many members of the crew, including the captain, fished during this trip?  
Record –
- Q12. Did this trip return to a [State where vessel was sampled] marina, dock, or launch ramp?  
Yes – Go to Q13  
No – Go to Q12A
- Q12A. To what state did your boat return from this trip?  
Record –
- Q13. To what county did this trip return? (**Record FIPS code for county of trip. See FIPS codes in Intercept Survey Training Manual.**)  
Record –
- Q14. Did this trip return to a marina, dock, or launch ramp to which the public normally has access? If so, to what particular marina, dock, or launch ramp did this trip return? (**Record MRFSS 4-digit site code.**)  
7777=private access site  
8888=unknown public access site  
9999=refused site information
- Q15. At what time (to the nearest half-hour) did your boat leave the dock for that trip? (**Record return time as military time.**)  
Record –
- Q16. At what time (to the nearest half-hour) did your boat return from that trip? (**Record return time as military time.**)  
Record –
- Q17. To the nearest half-hour, how much time was spent actively fishing with gear in the water? (**Record vessel fishing hours. If vessel fishing hours exceed 24 hours record “yes” for multi-day trip and split into individual day trips on consecutive days with equal fishing hours.**)  
Record –
- Q18. What fishing method or methods (read all options) were used on that trip? (**Record as many options as**

offered.)

- 1=trolling
- 2=bottom fishing
- 3=casting
- 4=fly-fishing
- 5=drifting
- 6=chunking
- 7=chumming
- 8=other
- 97=don't know
- 99=refused

Q19. Was most of your fishing effort on that trip in the ocean, a gulf, a river, a sound, an inlet, or a bay?

- 1= ocean – Go to Q 19A
- 2= sound – Go to Q20
- 3= river – Go to Q20
- 4= bay – Go to Q20
- 5= inlet or other non-ocean water body – Go to Q20

Q19A. Was most of your fishing less than or greater than three miles from shore?

- 1=less than 3 miles
- 2=greater than 3 miles

If MD/VA, and Q19=3 or 4:

Was most of your fishing in the Chesapeake Bay or a river that empties into the Chesapeake Bay?

If no: Was most of your fishing in the Potomac River (above line between Point Lookout and Smith Point)?

If NY/CT/RI and Q19=2,3 or 4:

Was most of your fishing in Long Island Sound or a bay or river that opens into Long Island Sound?

Q20. Did this trip cover more than one day of fishing?

- Yes – Go to Q20A.
- No – Go to Q21.

Q20A: How many days of fishing occurred on this trip?

Record –

Q21. What species were targeted on that trip? That is, when you left the dock, what species were you planning on fishing for? (**Record 10-digit NMFS codes for up to two species or species groups; refer to state or regional short list of species and species groups**).

- [26] Other Species
- [98] Don't know/Don't remember
- [99] Refused

IF Target = LPS and is not bluefin, shark, billfish or tuna, go to Q22.

IF Target NE LPS Go to next trip.

QS1. **IF Q19 (TARGET) = “Shark” then ask:** What type of shark were you fishing for?

- 1=Mako
  - 2=Blue
  - 3=No Specific Shark
  - 4=Other
- [1-4] – Got to Q22**

- QT1. **IF Q19 (TARGET) = “Tuna” then ask:** What type of Tuna were you fishing for?  
1=Other Tuna – Go to Q22  
2=Bluefin – Go to QT2  
3=Bigeye – Go to Q22  
4=Yellowfin – Go to Q22  
5=No Specific Tuna – Go to Q22  
8=DK– Go to Q22  
9=Refuse– Go to Q22
- QT2. **IF QT1 = Bluefin then ask:** What size class of BLUEFIN Tuna were you fishing for?  
1=School– Go to Q22  
2=Medium– Go to Q22  
3=Large– Go to Q22  
5=No Specific Size Class – Go to Q22  
8=DK– Go to Q22  
9=Refuse– Go to Q22
- QB1. **IF Q21 (TARGET) = Billfish then ask:** What type of Billfish were you fishing for?  
1=Blue Marlin– Go to Q22  
2=White Marlin– Go to Q22  
3=Sailfish– Go to Q22  
4=Swordfish– Go to Q22  
5=No Specific Billfish – Go to Q22  
8=DK– Go to Q22  
9=Refuse– Go to Q22
- Q22. Were you participating in a tournament on that day?  
Yes – Go to Q22A  
No – Go to Q23  
DK – Go to Q23  
Refused – Go to Q23
- Q22A. **IF Q22 =YES then ask:** What was the name of the tournament?  
Record Name –
- Q23. Were you primarily using a rod and reel on this trip?  
Yes – Go to Q24  
No – Go to Q23A
- Q23A. **IF Q26 =NO then ask:** What type of gear was primarily used on the trip?  
1 Rod and reel Go to Q24  
2 HandlineGo to Q24  
3 Harpoon Go to next trip  
4 Other: Specify Go to Q23B
- Q23B. Please specify what “other” fishing gear was used primarily on this trip.  
Record – If not rod & reel type of gear, go to next trip.
- Q24. How many lines were used on that trip?  
Record –
- Q25. What type of bait was used during that trip? Live?  
Yes –

- No –
- Q26. Dead?  
Yes –  
No –
- Q27. Artificial?  
Yes –  
No –
- Q28. Did you use any other type of bait during that trip?  
Yes –  
No –
- Q29. What is the name of the fishing grounds on which you did most of your fishing? (use lookup list, categorized by state)  
Record –
- Q30. How many miles were the fishing grounds from the nearest shoreline?  
Record –
- Q31. Do you know the latitude and longitude of the fishing ground?  
Yes – Go to Q31A  
No – Go to Q32
- Q31A. **IF Q31 = YES then ask:** To the nearest five minutes, at what latitude were you fishing?  
Record – Go to Q31B
- Q31B. **IF Q31 = YES then ask:** To the nearest five minutes, at what longitude were you fishing?  
Record – Go to Q32
- Q32. What was the average ocean depth, in feet, where you were fishing?  
Record –
- Q33. What was the average surface water temperature, in degrees Fahrenheit, where you were fishing?  
Record –
- Q34. Now I'd like to ask you a few questions about the fish you caught on this trip. Did you catch any Billfishes, Tunas or Sharks?  
Yes – Go to Q39  
No – Go to Next Trip
- Q35. **IF Q34 = "YES" then ask:** What type of fish did you catch?  
Not Tuna or Shark or White Marlin – Go to Next Trip  
Tuna (s) – Go to Q36 (If given Bluefin, Go to Q36a, if given other specific Tuna Go to Q38)  
Shark – Go to Q40 (If given specific Shark, Go to Q38)  
White Marlin – Go to Q38
- Q36. **IF Q35 = "TUNA" then ask:** What type of tuna did you catch?  
Bluefin – Go to Q36a  
Bigeye – Go to Q38  
Yellowfin – Go to Q38  
Other Tuna – Go to Q38
- Q36A. **IF Q35 = "BLUEFIN" then ask:** What size class of Bluefin Tuna?

Young School – Go to Q38  
School – Go to Q38  
Large School – Go to Q38  
Small Medium – Go to Q38  
Large Medium – Go to Q38  
Giant – Go to Q38  
DK – Go to Q38  
Refuse – Go to Q38

Q37. **IF Q 34 = “SHARK” then ask:** Were any of the following species of Shark caught?

Shortfin Mako – Go to Q38  
Blue Shark – Go to Q38  
Sandbar Shark – Go to Q38  
Dusky Shark – Go to Q38  
DK – Go to Q38  
Refuse – Go to Q38

Q38. How many of those {species/bluefin class} did you keep?  
Record –

Q39. How many of those {species/bluefin class} did you release alive?  
Record –

Q40. How many of those {species/bluefin class} did you release dead?  
Record –

#### **FOLLOW-UP**

Q41. Did you receive notification from us that we would contact you for this interview? **If “no”, ask for correct mailing address and briefly explain that notification will be sent prior to any later contacts and continue.**

Yes – Go to Q42  
No – Record correct address. Go to Q42  
Don't know – Go to Q43  
Refused – Go to Q43

Q42. **If Q41 is “yes”, then ask:** Did you choose to use the optional form included with the mailing to record data for the vessel name? **(Record form use.)**

Yes –  
No –

Q43. In case the vessel name is ever selected again for this survey, at what time of day would you prefer to be called? **(Record preferred time as military time.)**

Those are all of the questions that I have for you, thank you for your time and cooperation. Have a good day/evening. Goodbye.



## ATTACHMENT 9

ATTACHMENT 9

Example Instrument for Economic RDD Telephone Survey Add-On

Version A

IF CATEGORY 1 (NO ONE IN HOUSEHOLD) GO TO PART II.  
IF CATEGORY 2 OR 3, START WITH PART 1.

PART 1. Angler Screening

IF CATEGORY 3 (FISHED IN LAST YEAR BUT NOT LAST 2 MONTHS) GO TO SCREENING QUESTION 2.

1. Are you (the angler/one of the anglers) who goes saltwater fishing but has not within the past 12 months?  
Yes Go to Part II.  
No May I speak with that angler/one of those anglers? If successful, go to INTRODUCTION FOR NEW RESPONDENT.
2. Are you (the angler/one of the anglers) who goes saltwater fishing but has not within the past 2 months?  
Yes Go to Part II.  
No May I speak with that angler/one of those anglers?

(IF DESIRED FISHERMAN IS NOT IMMEDIATELY AVAILABLE, THANK RESPONDENT AND TERMINATE)

(INTRODUCTION FOR NEW RESPONDENT)

Hello, I'm conducting a survey on saltwater sport anglers for the National Marine Fisheries Service. We are collecting socio-demographic information on saltwater sport anglers. Your participation in this survey is voluntary. Your responses will be treated as confidential records under the Privacy Act of 1974 and NOAA Administrative Order 216-100. I understand that you participate in saltwater fishing, but have not done so within the past (2 or 12) months.

Is this correct?

- Yes Go to Part II.  
No When was the last time you went saltwater sportfishing?

If within 2 months Go to **Version B** of the Economic Questionnaire.

If never thank and terminate.

PART II. Economic Questionnaire

(IF INTERVIEWER IS NOT CERTAIN RESPONDENT IS AT LEAST 16 YRS OF AGE, SIMPLY ASK RESPONDENT IF HE/SHE IS AT LEAST 16 YRS OF AGE. IF < 16 YRS OF AGE, THEN TERMINATE AND THANK RESPONDENT.)

1. How old were you on your last birthday? (IF RESPONDENT HESITATES, QUICKLY GO TO Q.1A.) ENTER NUMBER Go to Q.2.

- Don't Know 888  
Refused 999 Go to Q.1A.

- 1a. That is, in which of the following age groups do you belong:
- |            |   |             |   |
|------------|---|-------------|---|
| 16 to 25   | 1 | 26 to 35    | 2 |
| 36 to 45   | 3 | 46 to 55    | 4 |
| 56 to 65   | 5 | 66 and over | 6 |
| Don't Know | 8 | Refused     | 9 |

2. Code Gender: Male 1

Female 2

IF UNCERTAIN, SIMPLY ASK WHAT IS YOUR GENDER?

- 3. Would you describe your ethnic background as:
 

White	1	Black	2
Hispanic	3	Asian	4
Other (specify)	5	Don't Know	8
Refused	9		

- 4. What was the last grade of formal education which you have completed?

(IF RESPONDENT HESITATES, READ LISTED ALTERNATIVES)

- |                                   |   |   |
|-----------------------------------|---|---|
| Less than a high school degree    |   | 1 |
| High school graduate              | 2 |   |
| Vocational or community college   | 3 |   |
| Some college                      |   | 4 |
| College graduate                  | 5 |   |
| Post-graduate/professional degree | 6 |   |
| Don't know                        | 8 |   |
| Refused                           | 9 |   |

\*

- 5. Are you personally employed outside the home?

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

\*

- 6. Is your total annual household income before taxes over or under \$45,000.

And is it over or under \$60,000?

And is it over or under \$30,000?

IF OVER And is it over or under \$85,000?

IF UNDER and is it over or under \$15,000?

IF OVER And is it over or under \$110,000?

IF OVER And is it over or under \$135,000?

IF OVER And is it over or under \$160,000?

- |                                |    |   |
|--------------------------------|----|---|
| Less than \$15,000             |    | 1 |
| \$15,001 to 30,000             | 2  |   |
| \$30,001 to \$45,000           |    | 3 |
| \$45,001 to \$60,000           |    | 4 |
| \$60,001 to \$85,000           |    | 5 |
| \$85,001 to \$110,000          | 6  |   |
| \$110,001 to \$135,000         | 7  |   |
| \$135,001 to \$160,000 or more | 10 |   |
| Don't Know                     | 8  |   |
| Refused                        | 9  |   |

Version B

FOR CATEGORY 4 RESPONDENTS.

QUESTION 1 SHALL BE ASKED FOR EACH TRIP FOLLOWING THE TRIP MODE QUESTION ON MRFSS TELEPHONE FISHERMAN QUESTIONNAIRE.

\*

- 1. Were you fishing for any particular kinds of fish on that trip?

- |     |   |             |            |  |
|-----|---|-------------|------------|--|
| Yes | 1 | What Kinds? | 1st Target |  |
| No  | 2 |             | 2nd Target |  |

DO NOT PROMPT FOR A SECOND SPECIES IF ONLY ONE SPECIES IS MENTIONED. "ANYTHING" IS A VALID ANSWER.

QUESTIONS 2-10 WILL BE ASKED AT THE END OF THE ROUTINE MRFSS TELEPHONE TRIP QUESTIONS

(IF INTERVIEWER IS NOT CERTAIN RESPONDENT IS AT LEAST 16 YRS OF AGE, SIMPLY ASK RESPONDENT IF HE/SHE IS AT LEAST 16 YRS OF AGE. IF < 16 YRS OF AGE, THEN THANK RESPONDENT AND TERMINATE.)

2. How many saltwater fishing trips did you take within the past 12 months?

ENTER NUMBER  
 Don't Know 8  
 Refused 9

3. On how many of those trips did you target either bluefish, striped bass, black sea bass, summer flounder, Atlantic cod, tautog or scup (substitute 'weakfish' for scup in the Middle Atlantic)?

ENTER NUMBER  
 Don't Know 888  
 Refused 999

4. Do you or does anyone living in your household own a boat that is ever used for recreational fishing?

Yes 1  
 No 2  
 Don't Know 8  
 Refused 9

5. How old were you on your last birthday? (IF RESPONDENT HESITATES, QUICKLY GO TO Q.5A.)

ENTER NUMBER  
 Don't Know 8 Go to Q.6.  
 Refused 9 Go to Q.5A.

5a. That is, in which of the following age groups do you belong?

16 to 25	1	26 to 35	2
36 to 45	3	46 to 55	4
56 to 65	5	66 and over	6
Don't Know	8	Refused	9

6. Code Gender: Male 1  
 Female 2

IF UNCERTAIN, SIMPLY ASK WHAT IS YOUR GENDER?

7. Would you describe your ethnic background as:

White	1
Black	2
Hispanic	3
Asian	4
American Indian or Alaskan Native	5
Native Hawaiian	6
Other(specify)	7
Don't Know	8
Refused	9

8. What was the last grade of formal education which you have completed?

(IF RESPONDENT HESITATES, READ LISTED ALTERNATIVES)

Less than a high school degree	1
High school graduate	2
Vocational or community college	3
Some college	4
College graduate	5
Post-graduate/professional degree	6
Don't know	8
Refused	9

\*

9. Are you personally employed outside the home?

Yes	1
No	2
Don't Know	8
Refused	9

\*  
 10 . Is your total annual household income before taxes over or under \$45,000?

	And is it over or under \$60,000?	And is it over or under \$30,000?
<b>IF OVER</b>	And is it over or under \$85,000?	
<b>IF UNDER</b>	And is it over or under \$15,000?	
<b>IF OVER</b>	And is it over or under \$110,000?	
<b>IF OVER</b>	And is it over or under \$135,000?	
<b>IF OVER</b>	And is it over or under \$160,000?	
	Less than \$15,000	1
	\$15,001 to 30,000	2
	\$30,001 to \$45,000	3
	\$45,001 to \$60,000	4
	\$60,001 to \$85,000	5
	\$85,001 to \$110,000	6
	\$110,001 to \$135,000	7
	\$135,001 to \$160,000 or more	10
	Don't Know	8
	Refused	9

**MRFSS  
Technical  
Document**

**DRAFT**

# **THE MARINE RECREATIONAL FISHERIES STATISTICS SURVEY: STATISTICAL METHODOLOGIES**

**ABSTRACT:** The Marine Recreational Fisheries Statistics Survey (MRFSS) is a complicated, constantly evolving survey that attempts to cover almost all of the marine recreational fishing in the US. Thus it is unique in its scope and complexity. This paper is an attempt to first, document as completely as possible the statistical procedures used in the MRFSS, and second, to describe methodologies that have been recently developed. The major improvements included here are the capability to poststratify the estimates to whatever level desired (using a general  $P$  matrix), the beginning of accounting for the cluster sampling in the intercepts, and the description and estimation methods for covariances induced via multiplication of multiple catch per trip estimates by a single trip estimate. A complete example, from summarized data to final estimates, is shown for a single state, wave, mode, and species.

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**DRAFT**

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## **1. INTRODUCTION**

### **1.1 The MRFSS**

The Marine Recreational Fisheries Statistics Survey (MRFSS) is an ongoing nationwide survey of marine recreational anglers. The survey provides fisheries managers at the state and federal levels with bimonthly estimates of marine recreational fishing effort and catch. Estimates are used as an aid in the management of marine fisheries resources by many state fish and game agencies, by the federal fishery management councils, and by some representatives for the fishing industry.

The MRFSS was first conducted in 1979, due primarily to the passage of the Magnuson Fisheries Conservation and Management Act of 1976 (MFCMA - public law 94-265). The MFCMA mandates a national program for the management of fisheries resources in the Exclusive Economic Zone (EEZ), defined as ocean waters from 3 to 200 miles offshore. As part of this national management program, the MFCMA required the development of fisheries management plans that incorporated the "best available information" and, in addition, included consideration of recreational as well as commercial fisheries. Surveys of marine recreational anglers had been conducted every five years from 1960 to 1970, as adjuncts to the U.S. Department of Interior's survey of fishing and hunting. In the 1970s, various studies within the National Marine Fisheries Service (NMFS) determined the most desirable characteristics of a nationwide survey of marine recreational anglers. With lessons learned from these efforts, and with the impetus of the MFCMA, the MRFSS was begun in 1979. Since that time, the MRFSS has been conducted continuously on the Atlantic and Gulf coasts, and in all but 3 years on the Pacific coast. See Essig and Holliday (1991) for a more complete description of the inception of the MRFSS.

### **1.2 Statistical background**

Many "practical" statistical problems arise when carrying out the MRFSS. Most are related to the problem of sampling a highly mobile and relatively scarce population. The MRFSS is actually comprised of two independent surveys; a telephone survey of households in coastal counties, and an interview ("intercept") survey of anglers as they return from fishing. The MRFSS is an example of a survey called a "creel survey" by fisheries biologists. As creel surveys go, the MRFSS is unique in its scope, and thus in some of its challenges. Essig and Holliday (1991) describe the development of the MRFSS operational methodologies. More technical papers on the general subject of creel surveys can be found in Robson (1961), and Robson and Jones (1989). Guthrie et. al. (1991) contains papers given at a symposium on creel surveys that was held in Houston, Texas, in March 1990. Pollock et. al. (1994) covers all of the basic methods for angler surveys.

### **1.3 MRFSS telephone survey**

The MRFSS telephone survey covers all households with telephones in the "coastal" counties of the US. A "coastal" county is a county that lies within a specified distance of the shoreline in a state that has shoreline. The distance can vary from state to state and with the time of year, but is generally either 25 or 50 miles. Thus any county that lies even partially within 25 (or 50) miles of the shoreline is called "coastal". In this document, we will need to distinguish between counties with shoreline and counties in the 25 (50) mile coastal band, so we will call the counties covered by the telephone survey "dialing" counties, as distinct from "trip" counties that actually have shoreline where angling takes place.

The telephone survey portion of the MRFSS is carried out via simple random digit dialing of these dialing county households. See Lepkowski (1988) for a brief review of random digit dialing techniques. Effort estimates (i.e. number of fishing trips) are based on a two month recall by anglers contacted in this survey. Each angler interviewed is asked to remember all marine recreational angling trips taken in the two months prior to the interview, the mode of fishing for each trip, and the county in which the trip was taken. A fishing "mode" is roughly defined as one of: shore, party/charter boat, or private/rental boat. The definition varies somewhat between regions. No additional data on catch or area fished are collected in this portion of the survey. That is, we don't believe any fish stories we hear over the phone!

The telephone survey provides the data for estimates of the mean number of trips per household for each mode of fishing. Information on numbers of households from the most recent census, as updated by the annual Sales & Marketing Management Survey of Buying Power (Bill Communications, Inc.), is used to expand the results from the telephone sample to totals for each county.

Geographic stratification of the telephone survey is by subregion (North Atlantic, Mid-Atlantic, South Atlantic, Gulf, South Pacific, North Pacific), state, and county. Some states (Florida and California) are split across two subregions. The survey is conducted, and estimates are produced, in two month periods called "waves".

Hot-deck imputation (Lessler & Kalsbeek, 1992; ch. 8) is used to adjust for nonresponse in the telephone data. Nonresponse can include missing households, anglers, or trips. This can account for up to 25% of the observations in some state/wave/mode combinations.

The very low prevalence of party/charter and party mode trips in the telephone survey makes pooling necessary. For these modes, trips per household are based on data from the most recent 5-year interval.

#### **1.4 MRFSS intercept survey**

The intercept survey is based on a frame of angling access sites. A master site list of nearly 6,000 angling sites in the coastal United States is continuously maintained and updated. Sites on this list are selected based on the amount of fishing activity expected at the site. Interviewers are instructed to go to a site on a given day and interview anglers as they return from their fishing trips.

Intercept sampling actually has three stages. The first is the selection of the site/day, the second is the selection of angling parties (e.g. a single boatload of anglers), and the third is a possible subsampling of the members of the party. Sampling at the first stage is with probability proportional to estimated size (Cochran, 1977; ch. 11). Sampling at the second and third stages is assumed to be with equal probabilities. Self-weighting estimators are used to obtain estimates of the mean catch per trip for each species.

Geographic stratification in the intercept survey is at the subregion/state level. Temporal stratification is by two-month wave. There is an additional level of stratification in this survey based on the mode of fishing.

Although the sampling units are actually clusters of anglers, this fact has so far been largely ignored in variance estimation. The main reason for this is that the size of the primary cluster (i.e. the number of anglers at the site/day) is unknown. It is very difficult to measure the number of anglers at some sites, especially those where the predominant mode of fishing is shore based. This has an unknown effect on the variance estimators.

## 1.5 Estimates

The two surveys are combined at the subregion/state/wave/mode/area level. The area fished is defined as: inland (including bays, sounds, etcetera), ocean < 3 miles, and ocean > 3 miles. The telephone survey provides an estimate of the total marine fishing trips made by dialing county residents with telephones. The intercept survey provides an estimate of the catch per trip, expansion factors for trips not covered by the telephone survey (some intentionally, some due to frame undercoverage), and estimates of the proportion of trips in each area. The estimated total catch for each subregion, state, year, wave, mode, and area is a simple product of the mean catch per trip (called catch per unit effort or "cpue" by fisheries biologists) for trips in that area, and the estimated total number of trips in the area. Variance estimates are calculated based on Goodman's (1960) formula for the variance of a product of independent random variables.

Additional pooling of trip expansion factors from the intercept survey is carried out for charter mode estimates in the South Atlantic and Gulf, and for party/charter mode in the rest of the US. Again, due to the nature of this fishery, the proportion of out-of-state anglers can vary wildly. To smooth this out, these proportions are calculated using data pooled over the most recent 5 years.

## 2. TELEPHONE SURVEY

### 2.1 Introduction

The telephone survey portion of the MRFSS is conducted to provide a basis for expansion of the catch per trip estimates from the intercept portion of the survey. Early research (Essig and Holliday, 1991) indicated that a telephone survey would provide the most efficient method for estimating fishing effort. This section gives an overview of the telephone methodology. Section 4 describes how the telephone and intercept portions of the survey are combined. Section 5 shows an example of the calculations for a single state, wave, and mode of fishing.

### 2.2 Sample Frame

The MRFSS uses a technique called random-digit dialing (RDD) to contact dialing county households with telephones (Groves et. al., 1988). In general, dialing counties are defined as those counties lying within 25 miles of the coastline. However, there are exceptions. The band is extended to 50 miles in the southeastern United States in the summer months. In North Carolina the band is 50 miles in winter months and 100 miles during high effort times of the year. Finally, the band includes the entire state of Florida for most waves.

RDD sampling works with groups of phone numbers organized into blocks of 100 numbers. Within a given area code, each block consists of the first 5 digits of a telephone number. Sampling is carried out in the following steps:

1. Obtain a list of all the blocks with at least  $n$  working residential numbers. For the MRFSS,  $n = 1$ .
2. Generate a sample of numbers across all the blocks. Sampling may be simple random sampling, stratified, or whatever is appropriate.
3. Use yellow page databases to eliminate business numbers.
4. Filter out non working numbers using the results from a "test call" procedure.
5. Remove individuals who have requested to be removed from survey samples.

In this way all residential phone numbers have an equal probability of being selected in the sample. Practical difficulties arise which make this conceptual model not exactly correct. This includes blocks of numbers that cross county boundaries, exchanges (10,000 number units) with so few working phone numbers ( $<5$ ) that they are excluded, etcetera. Other methods of drawing the sample may also be used, however the guiding principle of equal selection probability still holds. These and other issues will be discussed in following sections.

Stratification of the telephone survey is at the county level. For each year and wave, samples are allocated to each state based on historical information on the fishing

effort (estimated number of angler trips) in that state. Within a given state, telephone samples are allocated to each county proportional to the square root of the population (number of households) of the county. This is done to ensure that rural counties with few households (but presumably a higher participation of households in saltwater fishing) are adequately represented in the sample. More formal optimal allocation is being considered.

Results from the telephone sample are expanded based on US census numbers, updated annually. Every 10 years the census provides the population and the number of housing units for each county in the United States. This information is collected and disseminated by some private firms, including Bill Communications Inc. As part of their "value added" service, the company updates the population estimate each year using information from local area population estimates, postal deliveries, and individual state department of health data (L. Tuten, Bill Communications Inc., personal comm.). The updated estimates are published annually as the "Sales and Marketing Management Survey of Buying Power" (Cohen et. al., 1996). The telephone sample results are expanded to totals for each county based on these population figures.

### **2.3 Instrument**

The telephone survey utilizes computer assisted telephone interviewing (CATI) technology (Groves et. al., 1988). Each telephone interviewer sits at a computer-controlled dialing station while interviewing. Telephone numbers in the sample are dialed by computer and then transferred to an interviewing station. The questions to be asked appear on the screen in the correct sequence. The appropriate jumps, or "skip patterns" are programmed into the system to ensure that each interviewee is asked the appropriate questions based on the interview in progress.

The telephone interview begins with a sequence of screening questions to determine if there are any recreational saltwater anglers in the household. The percent of households that pass the screen can range from about 3% to near 15%, depending on the state and time of year.

The interviewer attempts to interview every recreational saltwater angler in the household who fished within the last two months. Interviewing by "proxy" is allowed in some circumstances, for example a husband and wife who often fish together. If a particular angler is not immediately available for an interview, several attempts (at least 5) are made at a later time to interview that particular angler. If the angler is still not available, the restrictions on proxy interviews are relaxed somewhat.

For each angler, each saltwater recreational fishing trip in the previous two months is documented (going backwards in time). For each trip, the interviewer attempts to obtain information on the date of the trip, the state and county of the trip, and the mode of fishing.

The questionnaire is modified as appropriate. For example, on the west coast, trips targeting salmon are excluded from the scope of the MRFSS (salmon estimates are

the domain of the various state fisheries agencies). Thus there is a question in the telephone survey to determine if a trip targeted salmon or not. These trips can thus be excluded from MRFSS estimates where necessary.

## 2.4 Quality control checks

The CATI system is programmed to reject data that are obviously unreasonable or out of range. An erroneous code is rejected by the system and must be re-entered. In addition, the system can check on the internal consistency of the data to ensure that self-contradictory responses are eliminated.

Based on historical information for each state, wave, and mode of fishing, suspiciously high values for numbers of trips (greater than the 95 percentile from the previous 4 years) are flagged and probed. The interviewer is instructed by the system to confirm that the answer given is in fact the correct response to the question. Extremely high responses are sometimes re-contacted for confirmation at a later date.

## 2.5 Imputation

Before any estimates are made, missing values in the data are imputed using a technique called "hot deck" imputation. This technique is well described in the statistical literature (Lessler and Kalsbeek, 1994). In brief, the method replaces missing values in the data with values randomly selected from complete observations. The process of random selection can be relatively simple or quite complex, depending on the situation. Hot-deck imputation leads to a complete dataset that preserves the original variability better than "mean" imputation, and also presumably better than the so-called "cold-deck" procedures.

For the MRFSS, the hot deck imputation process proceeds as follows:

Households that are completely missing (outright refusals, language barriers, etc.) are replaced with imputed values. A household that is identified as a "fishing" household by the initial contact, but where no angler or proxy information was obtained, is considered completely missing. We must know at least the county and the number of anglers in the household to include it in our data.

The first step is to randomly assign the household to either the "fishing" or "nonfishing" category. Some percentage of the households initially identified as fishing are subsequently re-classified as non-fishing on further contact. Using a simple Bernoulli trial with proportion  $p$  based on historic information, each completely missing household is categorized as fishing or non-fishing.

If a completely missing household is categorized as fishing, its trip information is imputed by copying data from a suitable donor household that has complete data. A suitable donor is a household in the same state (or if that fails, the same subregion) that has the same number of anglers. The mode and the county of each fishing trip from the donor household is duplicated for the recipient household.

If a household has some anglers with complete information, but some anglers with incomplete information, missing data from the complete anglers is copied and applied to the incomplete anglers, again using a simple random selection process.

If a given angler has some fishing trips with complete information but some trips with missing information, the imputation randomly copies information from the angler's complete trips and applies it to the incomplete trips.

Finally, if the mode of the trip is the only missing information then the mode is assigned from the same angler's other trips with multinomial probabilities based on the frequency of each mode for that angler.

## 2.6 Trip Estimation

Trip estimation is carried out in several "rounds", with each round introducing a further departure from the raw data. The rounds can be summarized as follows:

Round 1: Estimation is carried out using the raw (imputed) telephone data.

Round 2: Trips per household larger than the 95th percentile of historic data are truncated.

Round 3: Telephone data for the party and charter modes are pooled.

Round 4: Intercept data for the party and charter residence ratios are pooled.

The outlier reduction used in round 2 is known as "Winsorizing" (Barnett and Lewis, 1995). Using data from the previous 4 years of the telephone survey, the number of trips per household are truncated to the 95th percentile of the historic data. Truncation is done separately for each state, wave, and mode of fishing. This outlier reduction probably results in negatively biased estimates of fishing trips, but also dampens the large fluctuations in the estimates that can occur if the outliers are allowed to remain. These fluctuations can be especially large in the party and charter modes of fishing, where the normal number of trips per household is fairly small (usually < 7 in a 2 month period), and thus a large outlier can have a substantial effect on the estimate.

Pooling of the telephone data for the party and charter modes is carried out for the same reasons. In the course of the RDD sampling, the percentage of households that report any type of fishing activity in the previous 2 months is fairly small, on the order of 3-15 percent. The number of households that report party or charter mode fishing trips is much smaller, perhaps only a tenth of this or less. Thus a "hit" on a party or charter mode fishing trip is a fairly rare event. Consequently, the coefficient of variation can be quite high for these modes. To help alleviate this, the mean number of trips per household in the party and charter modes are based on a 5-year moving average. Data from the current year and wave are pooled with data from the previous 4 years in the same mode and wave prior to estimation.

Pooling of the intercept data addresses a similar shortcoming in the survey, and is discussed in the description of the intercept survey in section 3.8.

The mean number of trips per household for each coastal county is estimated from the telephone data for each of the four rounds. The total number of trips for each county is estimated using the updated census household counts as expansion factors (note these are assumed known without error). Estimates are made for each county for each mode of fishing. State totals are obtained by summing the appropriate counties (see sections 4 and 5 for details of the summarization).

For a particular state, mode, and wave, denote the number of trips reported by household  $j$  in county  $h$  as  $t_{hj}$ , and the number of households interviewed as  $n_h$ . Then the mean number of trips per telephone household in county  $h$  is calculated simply as

$$\bar{t}_h = \frac{1}{n_h} \sum_{j=1}^{n_h} t_{hj}, \quad 2.1$$

with variance estimate

$$s_{\bar{t}_h}^2 = \frac{1}{n_h} \sum_{j=1}^{n_h} \frac{(t_{hj} - \bar{t}_h)^2}{n_h - 1}. \quad 2.2$$

Where pooling or outlier reduction are in effect, the data are pooled or Winsorized prior to application of 2.1 and 2.2 .

## 2.7 Telephone Issues

### 2.7.1 frame and nonresponse

In the telephone survey, difficulties can arise due to the nature of the random digit dialing, general problems with nonresponse, and potential alternate sampling frames. See Essig and Holliday (1991) for some discussion of the trade-offs made in the establishment of the MRFSS.

As described above, random digit dialing proceeds by generating random selections of telephone numbers from blocks of 100 numbers. Several practical problems can arise.

First, the block boundaries do not necessarily correspond to county boundaries. A given block may include numbers from residences in two or more counties. Thus a particular household may not be in the dialing frame for the proper county because its block is assigned to an adjacent county in the dialing frame database. Currently such houses are rejected in the screening process. This introduces some inefficiency, and perhaps bias, into the telephone survey. At least two potential solutions are obvious, either keep all households contacted or expand the frame for each county to include all blocks with any household from that county. However the first would necessitate the use of unequal probability estimators, and the second introduces substantial inefficiencies in the sampling.

Many households have multiple telephone lines. A household with  $n$  lines will have  $n$  times the nominal probability of being sampled. This could be taken into account



in the estimation procedure if further questions were asked to determine the number of telephones in the contacted households. However, the problem is further complicated by fax machines, computers with modems, cellular phones, home offices, and the like. For some households the number of lines may not be clear. For example a household with a single "personal" line, a business office with a phone attached to an answering machine, and a cellular phone carried by one of the occupants presents a problem. The probability of contacting a household member and obtaining the required information is almost certainly more than the nominal  $p$ , but is probably not as large as  $3p$ . At this point the estimation procedure assumes that all households in a county have the same probability of selection.

In summary, the assumption that all households have an equal probability of selection in the telephone survey is not strictly correct. This is partly due to block boundary problems and partly due to multiple phone lines per household. The exact effect on the estimates is not known.

The potential for bias due to nonresponse is of concern in the MRFSS survey just as in any other. Complete coverage of nonresponse is not possible here; there are several books on the subject (e.g. Lessler and Kalsbeek, 1992). In general, response rates for telephone surveys are better than mail surveys but not as good as personal interviews. However, many people feel that telephone response rates are declining. More answering machines, more dedicated computer lines, more telemarketing surveys, and in general less trust of government may all be contributing to this perception.

One possible solution to problems described above would be to use an alternate frame for the telephone sampling. A so-called "list" frame would alleviate many of the problems inherent in RDD. The list could be created from a saltwater angling license, from a list of charterboat permit holders, or a similar (hopefully somewhat complete) list of potential marine recreational anglers or vessel operators. Sampling would presumably be more efficient using a frame of this type, and bias problems due to nonresponse may be less. Such a frame would have its own drawbacks, however. There are many different exemptions for state saltwater angling licenses, among which are people who fish from piers, from shore, people who are veterans, handicapped, elderly, or very young, etcetera. The exact combination of exceptions depends on the state regulations. For each state we would need to account in the proper way for anglers excluded from the list frame in a manner similar to the current adjustment for frame undercoverage. Many states do not require licenses for marine anglers; thus alternate lists would need to be developed.

On a cautionary note, a frame constructed from a list of anglers or boat operators, who may be affected by changes in fishing regulations, risks purposeful "skewing" of the responses. For example, a boat operator may have reason to believe that the less trips he reports in the telephone survey the more fish he will be allowed to catch in the future. Thus some form of independent validation will probably be necessary with such a frame.

## 2.7.2 instrument

Several problems may arise concerning the telephone instrument. Some of these include recall problems, problems with proxy data, and perhaps issues of trip misclassification.

Recall problems are common to many surveys. In the telephone portion of the MRFSS, we are using a two-month recall period. Each angler is asked to relate information regarding marine recreational fishing trips in the two-month period prior to the date of the telephone contact. The interviewers are provided with calendars to aid in recall, and are trained to probe to help determine the exact date of a trip if the angler is uncertain. However, there is always a chance that anglers will not remember all trips from the previous two months, or that they will accidentally include trips that occurred before the two month period. A common occurrence in surveys with long recall periods is a phenomenon called "telescoping", where people tend to erroneously report events that occurred prior to the recall period. In the early years of the MRFSS, work was done to investigate the possible effects of recall bias, and a two-month recall period was settled on as the best compromise between cost and potential bias (Essig and Holliday, 1991).

Early in the telephone interview, a household is identified as "fishing" or "non-fishing". A "fishing" household is one that identifies one or more individuals who fished in the 2 months prior to contact. If an identified individual is not present or cannot be interviewed at the time of initial contact, several callbacks are made to attempt to interview that person. At a certain point (currently 5 attempts), and under certain circumstances, the interviewers are allowed to obtain proxy information. Proxy information refers to data provided by another person. If an individual has sufficient knowledge of the fishing activities of the missing angler, then they are allowed to give responses to the questions for that angler. All reasonable attempts are made to interview an identified angler, and to ensure that if proxy information is collected, it is of good quality. Nonetheless, there is always a worry that such information may not be as high in quality as direct responses. If a particular angler is never contacted, and if no proxy information is obtained, then the missing data will be imputed according to the methods described previously.

A final issue regarding the telephone instrument is the problem of misclassification of responses. As an illustration, consider the following simplified situation.

Suppose that in the telephone survey, we interview individuals and assign each trip to either mode  $A$  or mode  $B$ . Now suppose that, for some reason, there is a chance that trips will be misclassified, that is, assigned to the wrong mode. Note that this could be due to interviewer mistakes, to angler misunderstanding or lack of attention to the questions, or simply to a random key entry error. Suppose our pool of interviewees actually took  $n$  trips, of which  $n_A$  were in mode  $A$  and  $n_B$  were in mode  $B$ . Let  $p = \frac{n_A}{n}$  be the true proportion of trips in mode  $A$ . Let  $r$  indicate a misclassification rate. That is, trips are misclassified with probability  $r$  from mode  $A$  to mode  $B$  and vice versa. Then,

after sampling, we would expect to see the following proportions for the  $n$  trips:

$$\text{Trips in mode } A : p_A = \frac{(1-r)n_A}{n} + \frac{r(n-n_A)}{n} \quad 2.3$$

$$\text{Trips in mode } B : p_B = \frac{(1-r)(n-n_A)}{n} + \frac{rn_A}{n}$$

That is, of the  $n_A$  trips in mode  $A$ ,  $rn_A$  would be misclassified as mode  $B$ , and of the  $n_B = (n - n_A)$  trips in mode  $B$ ,  $r(n - n_A)$  would be misclassified as mode  $A$ . Simplifying the above, we obtain:

$$\begin{aligned} p_A &= \frac{(1-r)n_A}{n} + \frac{r(n-n_A)}{n} = \frac{n_A - rn_A + rn - rn_A}{n} & 2.4 \\ &= \frac{n_A}{n} + \frac{rn}{n} - \frac{2rn_A}{n} \\ &= \frac{n_A}{n} - \frac{2rn_A}{n} + r. \end{aligned}$$

And similarly,

$$p_B = \frac{(1-r)(n-n_A)}{n} + \frac{rn_A}{n} = \frac{(n-n_A)}{n} + \frac{2rn_A}{n} - r. \quad 2.5$$

So the estimated proportion of trips in mode  $A$  will have a bias of  $\frac{2rn_A}{n} + r$ , and the estimated proportion in mode  $B$  will be biased the same amount in the opposite direction. If the proportions of trips in mode  $A$  and mode  $B$  were similar, this would not be too much of a problem. However, if the mode  $B$  trips are much more common than the mode  $A$  trips, substantial biases could be introduced. For  $r = .01$  and  $p = .01$  we have:  $p_B = 0.99 + 0.0002 - 0.01 = 0.9802$  and  $p_A = 0.01 - 0.0002 + .01 = 0.0198$ . So  $p_B$  will be underestimated by about 0.08%, and  $p_A$  will be overestimated by 98%. No matter what the source of the misclassification, if some modes of fishing are much more common than others there is potential for biases to arise. Thus every effort is made to ensure that trips are properly classified in the telephone survey.

### 2.7.3 estimation

In order to account for the unequal probability of sampling, probability proportional to size estimators would need to be developed for the telephone survey. A more difficult problem is the calculation of the probabilities themselves. They would need to be estimated from the survey via questions on the number and usage of telephone lines in the house. This is probably not an easy task.

### 3. INTERCEPT SURVEY

#### 3.1 Introduction

The intercept survey provides estimates of catch per trip, which are combined with the estimated trips to obtain total catch. It also provides expansion factors for trips not covered by the telephone survey and estimates of the proportion of trips in each area. This section describes the intercept methodology. Section 4 describes how the telephone and intercept portions are combined. Section 5 provides examples of the calculations for a single state, wave, mode of fishing, and species.

#### 3.2 Sample Frame

The sample frame for the intercept survey consists of a list of fishing access points, along with measures of the amount of fishing "pressure" for each site. Sites are stratified by state/subregion and by mode of fishing.

For each mode, for each type of day (weekend and weekday), and for each month, the pressure at a site is estimated by the regional sampling supervisor. Sites are classified into "pressure ranks" based on the expected number of interviews that could be conducted on the average 8 hour interviewing day at the site. Ranks range from 0 to 7, with the following designations for each category

Pressure Rank	Expected Number of Interviews
0	1-4
1	5-8
2	9-12
3	13-19
4	20-29
5	30-49
6	50-79
7	80+
9	mode not present

#### 3.3 Sample Draw

Sampling is carried out using a probability proportional to size (pps) sampling scheme. The sample is stratified by state/subregion, mode, month, and type of day. Sample allocation between months within a wave is proportional to the relative numbers of trips reported in the telephone survey. The sample allocation between day types is 60% weekend/holiday and 40% weekday. The intent is to create a proportional allocation

of the stratified sample at the month and type of day level, and thus allow for self-weighting estimators within a state and mode. Sample is allocated between modes and state/subregions based on historic effort estimates.

The pps sampling scheme currently uses a method developed by Lahiri (Cochran, 1977). This method is somewhat inefficient, and an approach based on systematic sampling is currently being investigated. The systematic approach has the additional advantage that the randomization can be restricted somewhat in space and/or time, resulting in a more uniform distribution of samples. This can provide more precise estimates in some circumstances (Cochran, 1977). Other proposals for so-called "bus route" sampling (Robson and Jones, 1989 ???) could be considered.

In practice, pure pps sampling is too expensive to carry out. There are too many sites with pressure rank 0 and 1 that can drive the cost per interview beyond reasonable limits. To account for this, the current sampling scheme uses an additional weighting factor to give relatively less weight to the low pressure sites. Sites with pressure rank 0 and 1 are downweighted relative to the other sites prior to the sample draw. An additional adjustment for the number of sites in each pressure rank in the state and mode is done to further downweight pressure ranks with large numbers of sites. The net result is a site weighting that gives low pressure (rank 0 and 1) sites, and sites in common pressure ranks, a relatively lower probability of selection than under pure pps sampling.

The systematic sampling method currently being investigated simplifies the weighting procedure somewhat, but still weights low pressure sites relatively less than they would be under pure pps. The extent of the downweighting is less, however.

### **3.4 Instrument**

MRFSS intercept sampling is classified as a "personal interview" in the general sampling literature. There are 39 questions in the current questionnaire, covering the following: the mode of fishing, type of gear used, targeted species, the number of trips taken in the previous 2 months and year, state and county of residence, residence in institutional housing, possession of a telephone in the residence, some basic economic questions, the size of the fishing group, and enumeration of all fish kept and released. As many fish as possible are weighed and measured. Some of the above are considered "key questions", without which the interview is not used. The current rate of unusable questionnaires ranges between 2% in the South Atlantic region and 14% in the North Atlantic. An example questionnaire is included as appendix A.

### **3.5 Quality control checks**

There are several levels of quality control steps built into the MRFSS sampling, beginning with training of the interviewers and ending with checks on the estimates produced. For details of the interviewer training and instruction, the MRFSS intercept interview training manual is available on request.

Interviewers are required to pass basic knowledge tests to ensure that they are competent to identify fish species in the field. Failure to pass the test can result in dismissal. Anglers are asked to provide a contact phone number for follow-up telephone validation as part of the normal interviewing process. Ten percent of all the numbers provided are called on a routine basis to ensure the quality of the interviews. Anglers are asked to confirm that they were actually interviewed on the day stated, and to give general impressions of the demeanor of the interviewer.

In the field, regional supervisors are in charge of particular geographic areas, with the task of maintaining the interviewing quality in that area. Regional supervisors are usually experienced interviewers themselves, and most spend some of their time carrying out interviews. In addition, however, they are responsible for maintaining the site list, for quality control visits to their interviewers, for training, and in general for the quality of the data from their area. Details are provided in the MRFSS procedures manual.

Data are mailed to the central office on a weekly basis. As the data come in, the assignment number is recorded for tracking purposes. The data sheets then proceed to the key entry stage, where the data are entered and obvious errors are detected. The key entry program checks for obvious coding errors in the data. It also has built-in checks to ensure internal consistency in the responses. Further checks for species ranges and length/weight relationships are also possible, but are only partially implemented at this time.

At the end of each month, the intercept data for that month are printed out for checking in so-called "fish dumps". The fish dumps are checked by biologists in charge of monitoring the survey for the contractor, by NMFS biologists in charge of overseeing the survey, and by any state fishery biologists who wish to participate. The intent is to capture the not-so-obvious errors in the data that trained biologists might notice. Length-weight regressions based on historical MRFSS data are used at this point to check for errors. Some progress has been made to automate this procedure; the ideal would be to check at the time of key entry. At this point, the regressions are available to the biologists as an aid in checking the data.

After the data are entered and loaded into SAS datasets, a more sophisticated data check program is run. This program has the capability to check for errors in such things as catch that is grouped among several people, in areas fished that seem unreasonable, and in unusually large catch rates.

As soon as relatively error-free data are available, NMFS produces preliminary catch and effort estimates. These preliminary estimates are provided to various private and governmental agencies on request. After every two waves (every 4 months), regional supervisors from each region (Pacific, Northeast, Southeast) meet to review the preliminary estimates and identify any possible remaining errors. These meetings are held at various state and federal facilities, and all state fisheries agencies and NMFS offices are invited to participate. Based on the review at the wave meeting, one last cleaning of the data is conducted before final estimates are produced.

### 3.6 CPUE Estimation

As it was originally designed, the intent of the sampling procedure was to ensure that each angling trip had an equal probability of being sampled. If site-days are sampled with a probability proportional to the effort (angler trips) at the site-day, and if within each site-day, all anglers have an equal probability of inclusion in the sample, then the procedure produces an equal probability sample of angling trips. To the extent that this is true, estimators can be self-weighting.

Although the selection procedure is skewed towards higher pressure sites for cost reasons, and thus the equal probability assumption is not strictly correct, the current estimation procedure does use self-weighting estimators. Simply put, this means that the intercept sample is treated as if it were a stratified random sample of angling trips. If the catch per trip or the species composition of the catch at the higher pressure sites is different from the lower pressure sites, then some biases could result.

Note that even if the first order selection probabilities are all equal, the second order probabilities (the probability that any two angler trips are both included in the sample) may not be. Thus estimators of the sampling variance based on simple random sampling will not be strictly correct.

A more sophisticated methodology would take into account the probability proportional to size (pps) sampling of site-days. A pps estimator could be used to presumably produce unbiased, and perhaps lower variance, estimators. Note however that due to uncertainties in the selection probabilities themselves and in the "size" of the site-day, the degree of improvement is unknown.

The catch per trip data are partitioned into three "catch types". Type "A" is catch that is actually seen and identified by the field interviewers. Type "B1" is not seen by the interviewers, but is somehow removed from the population (thrown back dead, already eaten, used for bait, hidden from view, etc.). Type "B2" consists of fish that were thrown back alive. Thus the A catch consists of fish that were actually seen and identified by the interviewers, the B catch consists of fish that were reported by the anglers but not positively identified by the interviewers, and the A+B1 catch are the removals from the population.

The A and B catch are sampled differently. Type B catch is reported for individual anglers only. For type A catch, groups (i.e. clusters) of anglers may have their catch recorded as a single unit. Thus the estimators for the type A catch need to take this clustering into account and are somewhat more complicated. Note that a particular angler whose type A catch is recorded as part of a cluster may have been interviewed for type B catch as an individual, or may not have been interviewed at all for type B catch.

#### 3.6.1 Ungrouped catch

For the type B catch within stratum  $h$ , we have

$y_{hi}$  = measurement on angler  $i$  in stratum  $h$ .

$n_h$  = number of anglers interviewed for type B catch data.

The sample mean for stratum  $h$  is given by

$$\bar{y}_h = \frac{1}{n_h} \sum_{i=1}^{n_h} y_{hi}, \quad 3.1$$

and the usual sample variance estimator is applied:

$$s_{\bar{y}_h}^2 = \frac{1}{n_h} \sum_{i=1}^{n_h} \frac{(y_{hi} - \bar{y}_h)^2}{n_h - 1}. \quad 3.2$$

### 3.6.2 Grouped Catch

The presence of grouped catch in the type A data make the estimation of catch per trip slightly more complicated. Sometimes groups of two or more anglers will place all of their catch in the same bucket or cooler as they fish. If they are able to separate out their individual catch when they are interviewed, then this is not a problem. However, sometimes they are unable to do so. In this event, the interviewers collect what is called "mixed grouped catch" data. This simply refers to data where the exact catch per person is not known, but the total number of contributors and the total amount of catch can be recorded. Thus when estimating catch per angler trip the numerator includes the grouped catch and the denominator includes the groups of individuals as well as the single person interviews. We have

$y_{hi}$  = measurement on group  $i$  in stratum  $h$

$n_h$  = number of groups interviewed in stratum  $h$

$m_{hi}$  = size of group  $i$  (number of anglers)

The catch per trip estimator is given by

$$\bar{y}_{hR} = \frac{\sum_{i=1}^{n_h} y_{hi}}{\sum_{i=1}^{n_h} m_{hi}} \quad 3.3$$

This is a cluster sampling ratio-to-size estimator of the mean per element (Cochran 1977, sec 9A.1) (note here that most "clusters" are still of size 1). A variance estimator for the ratio-to-size estimator is given by (Cochran 1977, sec 6.4)

$$\widehat{V}[\bar{y}_{hR}] = \frac{\sum_{i=1}^{n_h} m_i^2 (\bar{y}_{hi} - \bar{y}_{hR})^2}{\bar{m}_h^2 n_h (n_h - 1)} \quad 3.4$$

where  $\bar{m}_h$  is the mean group size in the stratum and  $\bar{y}_{hi} = y_{hi}/m_{hi}$  is the mean for the  $i^{th}$  cluster.



### 3.6.3 PPS estimators of catch per trip

Estimators that take into account the probability proportional to size sampling in the MRFSS are being considered. The use of pps estimators allows for departures from the equal selection probability model and may provide improved estimates. There are two main difficulties in implementing these estimators. First, due to an allowance for interviewers to switch sites under certain conditions, the exact sampling probabilities for a particular site-day are not known. Second, the exact size of the site-day clusters (the number of angler trips at the site) are also unknown, although MRFSS interviewers have begun to record estimates of the anglers available for interviewing.

### 3.7 Mean weight estimators

Within each state, wave, mode, and area, an estimate of the mean weight of the retained catch is produced for each species. That is, for a particular species we have

$x_{hj}$  = weight of fish  $j$  in stratum  $h$ .  
 $w_h$  = number of fish weighed in the stratum.

The sample mean for stratum  $h$  is given by

$$\bar{x}_h = \frac{1}{w_h} \sum_{j=1}^{w_h} x_{hj}, \quad 3.5$$

and the usual sample variance estimator is applied:

$$s_{\bar{x}_h}^2 = \frac{1}{w_h} \sum_{j=1}^{w_h} \frac{(x_{hj} - \bar{x}_h)^2}{w_h - 1}. \quad 3.6$$

Note that only type A catch are ever weighed. Also note that the fish, too, are actually sampled in clusters, and thus a formula similar to 3.4 could be used for the variance estimator in 3.6. That is, we could define

$x_{hij}$  = weight of fish  $j$  in stratum  $h$ , cluster  $i$   
 $w_{hi}$  = number of fish weighed in cluster  $i$ , stratum  $h$   
 $n_h$  = number of clusters measured in stratum  $h$ .

Then the ratio estimator of the mean weight in the stratum is given by

$$\bar{x}_{hR} = \frac{\sum_{i=1}^{n_h} \sum_{j=1}^{w_{hi}} x_{hij}}{\sum_{i=1}^{n_h} w_{hi}} \quad 3.7$$

with approximate variance

$$\widehat{V}\{\bar{x}_{hR}\} = \frac{\sum_{i=1}^{n_h} w_{hi}^2 (\bar{x}_{hi} - \bar{x}_{hR})^2}{\bar{w}_h^2 n_h (n_h - 1)} \quad 3.8$$

Note that  $\bar{x}_h$  and  $\bar{x}_{hR}$  are equivalent; the difference in the two methods is whether the clustering is accounted for in the variance.

### 3.8 Telephone frame adjustment factors

The frame used in the telephone survey is incomplete; it does not include all anglers encountered in the intercept survey. Anglers who live in inland states, noncoastal portions of coastal states, institutional housing, or households without telephones are not covered by the telephone survey. Adjustment factors for these anglers are estimated using data from the intercept survey. There are two separate adjustments performed; the first is for anglers residing in areas intentionally left out of the telephone survey, the second is for anglers residing in households without telephones or in institutional housing. See Section 4.2 for a description of how these adjustments are incorporated into the overall estimation procedure.

The adjustment for noncoastal and out-of-state residents is based on the proportion of anglers interviewed who live outside of the coastal zone for that state. Within each state, wave, and mode of fishing, the proportion of interviewed angler trips made by coastal residents is estimated as

$$\widehat{q}_h = \frac{\sum_{i=1}^{n_h} I_{hi}}{n_h} \quad 3.9$$

where  $I_{hi}$  is simply an indicator variable for residence in that state's coastal zone. The adjustment factor for that state, wave, and mode is simply  $1/\widehat{q}_h$ ; its variance is estimated via the delta method as

$$\widehat{V}\left[\frac{1}{\widehat{q}_h}\right] \approx \frac{(1 - \widehat{q}_h)}{\widehat{q}_h^3 n_h}. \quad 3.10$$

This adjustment factor can be broken down into a separate adjustment for noncoastal and out-of-state residents if desired. See section 4.2 for details.

For the party/charter modes, these adjustment factors can present problems. Due to the small sample sizes in these modes, and the tendency for more noncoastal and out of state residents to be encountered, the proportion  $\widehat{q}_h$  can potentially be very small. This can cause both the trip estimate and the variance to blow up. To help prevent this, in the party/charter modes only,  $\widehat{q}_h$  is estimated from data pooled over 5 years. Data from the

current state, year, wave, and mode are pooled with the previous 4 years' data from the same state, wave, and mode before calculation of  $\hat{q}_h$ .

An adjustment for inadequacies in the telephone frame (e.g. institutional residents or non-telephone households) is carried out on a conditional basis. Anglers encountered in the intercept survey are asked if their household has a telephone and if they live in a dorm or barracks. For each state/subregion in the survey, the proportion of angler trips from non institutional households with telephones (i.e. anglers living in households covered by the telephone frame) is estimated. Call this proportion  $\hat{r}$ . If there are more than 20 observations in the intercept survey, then an hypothesis test is carried out to determine how to make the adjustment.

The census data includes the proportion of households with telephones in each county,  $r_0$ . Let  $N_1$  denote the number of coastal county households in a particular state that have telephones. Let  $\bar{t}_1$  denote the true mean number of trips per household for telephone households in this state. Similarly  $N_2$  and  $\bar{t}_2$  denote, respectively, the number of households and the mean trips per household for non-telephone households. Then the proportion of coastal resident angler trips in that state taken by residents of households with telephones will be

$$\frac{N_1 \bar{t}_1}{N_1 \bar{t}_1 + N_2 \bar{t}_2} \tag{3.11}$$

and if households with telephones take trips at the same rate as households without telephones (i.e. if  $\bar{t}_1 = \bar{t}_2$ ) then we will have

$$\frac{N_1 \bar{t}_1}{N_1 \bar{t}_1 + N_2 \bar{t}_2} = \frac{N_1}{N_1 + N_2} \equiv r_0. \tag{3.12}$$

Thus if  $\bar{t}_1 = \bar{t}_2$  then we would expect to see equality between the proportion of non-telephone angler trips from the field data and the proportion of non-telephone households in the census data. So for each state, if the sample is sufficiently large, we test the null hypothesis  $H_0: r = r_0$  using the data the intercept survey. If we do not test or if we fail to reject  $H_0$ , then adjustment is carried out using  $r_0$ . If  $H_0$  is rejected, then adjustment is carried out using  $\hat{r}_i$ . Details of the adjustment process will be described in section 4; briefly, it consists of a simple multiplicative factor of either  $1/\hat{r}_i$  or  $1/r_0$ , applied to each state and mode of fishing.

## 4. COMBINING EFFORT AND CATCH RATE ESTIMATES

### 4.1 Introduction

After the basic estimates have been obtained from the telephone and intercept portions of the MRFSS, they are combined to provide estimates of total effort and catch. This section provides an overview of that process. Readers not interested in the more technical details of the MRFSS can skip to section 5 where examples of the calculations are presented. The MRFSS is an example of what is commonly called a "catch-effort" survey, where an estimate of effort and an estimate of catch per unit of effort are multiplied to produce an estimate of total catch. This section describes that process.

In the following description, vectors will be denoted with an underscore " $\sim$ " and matrices will be written in "blackboard bold" font. So  $\mathbb{N}$  would denote a vector of stratum sizes, while  $\mathbb{P}$  will denote a matrix of transition probabilities. The  $i, j$ th element of a matrix will be indicated by parentheses in the subscript, e.g.  $\mathbb{A}_{(ij)}$ , while standard subscripting will indicate a particular matrix, e.g.  $\mathbb{E}_s$ . The "hat" notation will indicate estimated quantities, e.g.  $\hat{\mathbb{E}}_{\sim}$  for estimated effort.

### 4.2 Effort estimators

In the telephone survey, we take a stratified random sample of households. Stratification is by county. For each household contacted, we obtain the total number, location (state and county) and mode of fishing for all trips by the household during that particular wave.

We have  $N_h$  households with telephones in  $h = 1, 2, \dots, d$  residence strata (dialing counties: see section 2 for details of the telephone survey). Let  $\mathbb{N}$  be the  $d \times d$  diagonal matrix with elements  $N_h$ .

Each marine fishing trip can be assigned to one of  $c$  fishing strata (trip counties). A trip county is a county from which a marine recreational angling trip can originate, i.e. there is some saltwater coastline within that county. An angler in the telephone survey can be a resident of any of the  $d$  dialing counties, but all trips must begin and end in one of the  $c$  trip counties.

From the telephone survey we obtain the mean trips per telephone household for mode  $m$  in stratum  $h$  (say,  $\bar{t}_{mh}$ ). Let  $\bar{T}$  be the  $d \times 1$  vector of trips per household in mode  $m$ . In the following description all mode subscripting will be suppressed for clarity. However, all estimates are calculated separately for each mode stratum.

For each trip, we record the state and county where the trip occurred. Based on this information, we can estimate  $\mathbb{P} = [p_{ij}]$  a transition matrix for mode  $m$ , where

$$p_{ij} = \text{Prob} \left( \begin{array}{c|c} \text{mode } m \text{ trip occurred} & \text{fisherman is} \\ \text{in stratum } j & \text{resident in } i \end{array} \right)$$

$$i = 1 \cdots d, j = 1 \cdots c, \sum_j p_{ij} = 1.$$

$$\mathbb{P} = \begin{pmatrix} p_{11} & \cdots & p_{1c} \\ \vdots & & \vdots \\ p_{d1} & \cdots & p_{dc} \end{pmatrix}$$

$\mathbb{P}$  is a  $d \times c$  matrix that distributes the trips from the  $d$  residence strata (dialing counties) into the  $c$  fishing strata (trip counties). [Historically, trips in states outside of the state of residence have been excluded from the telephone survey. Although this framework fits that situation, it also fits the more general situation where all trips are included, regardless of the state of the trip. We have begun to collect the necessary data to attempt a more general  $\mathbb{P}$ .]

We can now calculate the estimated number of mode  $m$  fishing trips taken by residents of the dialing counties as

$$\begin{aligned} \widehat{\widetilde{E}}'_d &= \widehat{\widetilde{T}} \widehat{N} \widehat{\mathbb{P}} \\ &= \left( \widehat{\widetilde{t}}_1, \dots, \widehat{\widetilde{t}}_d \right) \begin{pmatrix} N_1 & \cdots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \cdots & N_d \end{pmatrix} \begin{pmatrix} \widehat{p}_{11} & \cdots & \widehat{p}_{1c} \\ \vdots & & \vdots \\ \widehat{p}_{d1} & \cdots & \widehat{p}_{dc} \end{pmatrix} \\ &= \left( \sum_i \widehat{\widetilde{t}}_i N_i \widehat{p}_{i1}, \dots, \sum_i \widehat{\widetilde{t}}_i N_i \widehat{p}_{ic} \right) \end{aligned} \tag{4.1}$$

$\widehat{\widetilde{E}}'_d$  is the  $1 \times c$  vector of estimated telephone household trips by fishing county. That is,  $\widehat{\widetilde{E}}'_{d(i)}$  is the estimate of saltwater angling trips by residents of dialing county households with telephones taken in fishing county  $i$ .

Now that we have estimates for each individual fishing county, we sum the effort estimates to the state/subregion level. Define a  $c \times s$  design matrix  $\mathbb{D}$  where  $\mathbb{D}_{ij} = 1$  if fishing county  $i$  is a member of state/subregion  $j$ ,  $j = 1 \cdots s$ , 0 otherwise.  $\mathbb{D}$  serves to collapse the fishing county strata into the various state/subregion strata of interest. So for

each mode, the estimated trips by residents of the dialing counties, summed to the state/subregion level, is given by

$$\begin{aligned}
 \widehat{E}'_{\widetilde{m}_{d0}} &= \widehat{E}'_d \mathbb{D} = \widetilde{T} \widehat{\mathbb{P}} \mathbb{D} \\
 &= \widehat{E}'_d \begin{pmatrix} 1 & 0 & \dots & 0 \\ 1 & 0 & \dots & 0 \\ \vdots & \vdots & & \vdots \\ 0 & 1 & \dots & 0 \\ 0 & 1 & \dots & 0 \\ \vdots & \vdots & & \vdots \\ 0 & 0 & \dots & 1 \end{pmatrix} \\
 &= \left( \sum_{j \in S_1} \sum_i \widehat{t}_i N_i \widehat{p}_{ij}, \dots, \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \right) \tag{4.2}
 \end{aligned}$$

$\widehat{E}'_{\widetilde{m}_{d0}}$  is the vector of estimated trips by dialing county residents summed to the state/subregion level. Note that  $\mathbb{D}$  defines the level of aggregation of the estimates, and need not be confined to actual state boundaries. If  $\mathbb{P}$  is defined in the general case, we can use  $\mathbb{D}$  to, for example, break the state of Florida into several strata (e.g. panhandle, central West coast, Florida keys, etc.).

Given the trip estimates by residents of the dialing counties at the desired level of stratification, we now make corrections for the frame undercoverage. We assume that the intercept survey has complete coverage of angling trips, or at least that the telephone and residence status of the anglers interviewed is independent of their being selected. Thus we can make two adjustments to our estimated effort  $\widehat{E}'_{\widetilde{m}_{d0}}$  based on the intercept survey.

The first adjustment is for undercoverage in the telephone frame within the dialing counties (missing due to inadequacies in the frame or the sampling methods), the second is for trips intentionally not covered by the telephone survey frame and methodology (missing due to conscious decisions to limit the frame's extent or to exclude certain types of trips).

Details of the adjustment for inadequacies in the frame were discussed in section 3.8; briefly, either the percent of households in the state/subregion known to have telephones ( $r_0$ ) or the percent of interviews with anglers who tell us they have telephones ( $\widehat{r}_i$ ) are used to adjust for frame inadequacies. Let  $\mathbb{R}$  be the diagonal matrix with elements  $\frac{1}{\widehat{r}_i}$  or  $\frac{1}{r_0}$ ,  $i = 1 \dots s$ . Then the estimate of mode  $m$  effort by residents of the dialing counties, adjusted for differential trip rates by non-telephone households, is given by

$$\begin{aligned}
\widehat{\underline{E}}'_{m_d} &= \widehat{\underline{T}}' \widehat{\underline{N}} \widehat{\underline{P}} \widehat{\underline{D}} \widehat{\underline{R}} \\
&= \widehat{\underline{E}}'_{m_{d0}} \begin{pmatrix} \frac{1}{\widehat{r}_1} & & 0 \\ & \ddots & \\ 0 & & \frac{1}{\widehat{r}_s} \end{pmatrix} \\
&= \left( \sum_{j \in S_1} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_1}, \dots, \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_s} \right)
\end{aligned} \tag{4.3}$$

The adjustment for the frame's limited extent is more complicated. Since all fishing trips are not covered in the telephone portion of the survey, due to either the location of the anglers residence or some filtering of the telephone data (e.g. exclusion of trips for a certain species, or trips in some particular mode), an additional adjustment needs to be made. In essence, we conduct a mark-recapture experiment; the "marked" angler trips being those covered by the telephone survey, the "unmarked" trips being those that are not covered.

For each of the  $i = 1 \dots s$  state/subregion strata, let  $\widehat{q}_i$  be the proportion of intercepts where the angler's residence is included in the telephone frame (note this includes non-phone and institutional housing residents). Let  $\widehat{\underline{Q}}$  be the matrix with diagonal elements  $\frac{1}{\widehat{q}_i}$ . Multiplying the trip estimates  $\widehat{\underline{E}}'_{m_d}$  by  $\widehat{\underline{Q}}$  will adjust for the noncovered trips.

So, using  $\widehat{\underline{Q}}_k$  the final estimate of mode  $m$  effort, including trips by anglers who are not residents of the dialing counties, is given by

$$\begin{aligned}
\widehat{\underline{E}}'_m &= \widehat{\underline{E}}'_{m_d} \widehat{\underline{Q}} = \widehat{\underline{T}}' \widehat{\underline{N}} \widehat{\underline{P}} \widehat{\underline{D}} \widehat{\underline{R}} \widehat{\underline{Q}} \\
&= \widehat{\underline{E}}'_{m_d} \begin{pmatrix} \frac{1}{\widehat{q}_1} & & 0 \\ & \ddots & \\ 0 & & \frac{1}{\widehat{q}_s} \end{pmatrix} \\
&= \left( \sum_{j \in S_1} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_1 \widehat{q}_1}, \dots, \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_s \widehat{q}_s} \right)
\end{aligned} \tag{4.4}$$

For management purposes the MRFSS produces estimates of trips at the state level. That is, for each state we produce estimates of angling effort by coastal residents, by noncoastal residents of that state, and by out-of-state anglers. This complicates the adjustment procedure somewhat. In essence, the adjustment matrix  $\widehat{Q}$  is partitioned into multiple factors, with a factor for each of the types of noncoastal angler.

Let  $r = (1 - q)$  be the proportion of angler trips not covered by the telephone survey. Note that  $\frac{1}{q} = \frac{q}{q} + \frac{r}{q} = 1 + \frac{r}{q}$ . Thus, multiplication by the adjustment factor  $1/q$  is equivalent to multiplication by a factor of  $(1 + \frac{r}{q})$ . That is, we can partition the estimated trips into those covered by the telephone survey and those not covered. This partitioning can be carried out to whatever level is desired. In the current survey, trips are partitioned into coastal resident trips, non-coastal resident trips, and out-of-state resident trips. That is, we have  $\frac{1}{q} = 1 + \frac{r}{q} + \frac{s}{q}$  where  $q$ ,  $r$ , and  $s$  represent the proportions of coastal, non-coastal, and out-of-state trips in the intercept sample, and  $q + r + s = 1$ . Whatever the partitioning, coordination between the telephone and the intercept portion of the survey is critical. That is, the same trips that are excluded from the telephone portion of the survey need to be identified as such in the intercept survey. Failure to properly coordinate the two surveys will result in biased trip estimates.

In general, we write the proportion of intercepted trips covered by the telephone survey in state/subregion  $i$  as  $q_i^{(1)}$ , and partition the remaining trips into  $q_i^{(2)}$ ,  $q_i^{(3)}$ , etcetera, so that  $\sum_k q_i^{(k)} = 1$ . Let  $\widehat{Q}_k^*$  be the diagonal matrix with elements  $\frac{q_i^{(k)}}{q_i^{(1)}}$   $i = 1 \dots s$ . Then the relationship between  $\widehat{Q}_k$  and  $\widehat{Q}_k^*$  is given by

$$\widehat{Q} = \sum_k \widehat{Q}_k^* = \mathbf{I} + \sum_{k > 1} \widehat{Q}_k^*.$$

And the alternative partitioning of the estimates using  $\widehat{Q}$  is given by

$$\begin{aligned} \widehat{E}'_{\sim m} &= \widehat{E}'_{\sim m_d} \left[ \mathbf{I} + \sum_{k > 1} \widehat{Q}_k^* \right] \\ &= \widehat{T}'_{\sim} \widehat{N} \widehat{P} \widehat{D} \widehat{R}' + \sum_{k > 1} \widehat{T}'_{\sim} \widehat{N} \widehat{P} \widehat{D} \widehat{R}' \widehat{Q}_k^* \\ &= \widehat{E}'_{\sim m_d} + \sum_{k > 1} \widehat{E}'_{\sim m_d} \begin{pmatrix} \frac{q_1^{(k)}}{q_1^{(1)}} & & 0 \\ & \ddots & \\ 0 & & \frac{q_s^{(k)}}{q_s^{(1)}} \end{pmatrix} \end{aligned}$$



$$\begin{aligned}
&= \left( \sum_{j \in S_1} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_1}, \dots, \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_s} \right) \\
&+ \sum_{k > 1} \left( \sum_{j \in S_1} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{\widehat{q}_1^{(k)}}{\widehat{r}_1 \widehat{q}_1^{(1)}}, \dots, \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{\widehat{q}_s^{(k)}}{\widehat{r}_s \widehat{q}_s^{(1)}} \right) \quad 4.5
\end{aligned}$$

Once trip estimates are obtained for each state/subregion, they are partitioned into estimates by area fished. These partitioned trip estimates will be combined with catch per trip estimates, poststratified to the same level, to obtain the final estimates of catch.

Currently, there are three areas for each state/subregion, one inland area and a nearshore and offshore ocean area. The trips are partitioned into the three areas based on the proportion of intercepted trips that took place in that area. Thus, for each state, wave, and mode we have an  $s \times a$  area matrix  $\widehat{\mathbf{A}}$ , with each row containing the proportion of intercepted trips in the  $a$  areas, and  $\sum_j \widehat{\mathbf{A}}_{(ij)} = 1$ . Let  $\widehat{\mathbf{E}}_m$  be the matrix with diagonal elements  $\widehat{E}_m$ . Then our estimate of trips by state/subregion/area is given by

$$\begin{aligned}
\widehat{\mathbf{E}}_a &= \widehat{\mathbf{E}}_m \widehat{\mathbf{A}} \\
&= \begin{pmatrix} \sum_{j \in S_1} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_1 \widehat{q}_1} \widehat{\mathbf{A}}_{(11)} & \cdots & \sum_{j \in S_1} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_1 \widehat{q}_1} \widehat{\mathbf{A}}_{(1a)} \\ \vdots & & \vdots \\ \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_s \widehat{q}_s} \widehat{\mathbf{A}}_{(s1)} & \cdots & \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_s \widehat{q}_s} \widehat{\mathbf{A}}_{(sa)} \end{pmatrix} \quad 4.6
\end{aligned}$$

Note that at this stage, the trip partitioning can be carried out using whatever auxiliary variables are available. That is, we are not limited to just the area fished. We might use the gear, the disposition of the catch, etcetera.

### 4.3 Catch per trip estimators

Now for each mode, state/subregion, and area, we obtain the catch per unit effort (cpue) for all species. That is, we obtain cpue estimates at a level of stratification that corresponds to the partitioning of the trip estimates. Since the area of fishing is not known in advance, we must poststratify the intercept data based on the area fished.

Recall that the cpue is broken down into three "catch types". Type "A" is catch that is actually seen and identified by the field interviewers. Type "B1" is not seen by the interviewers, but is somehow removed from the population (thrown back dead, already



Note that for a particular species and catch type, we could sum the catch over all areas as

$$\begin{aligned} \widehat{C}_{s(k,\cdot)} &= \sum_{l=1}^a \widehat{U}_{s(k,at+l)} \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_s \widehat{q}_s} \widehat{\Delta}_{(sl)} \\ &= \left[ \sum_{j \in S_s} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_s \widehat{q}_s} \right] \left[ \sum_{l=1}^a \widehat{U}_{s(k,at+l)} \widehat{\Delta}_{(sl)} \right] \end{aligned} \quad 4.8$$

where  $t \in \{0, 1, 2\}$  for catch types A, B1, and B2, respectively. So we could, in effect, use the unpartitioned trip estimate along with a weighted mean cpue (i.e. a stratified sampling estimator of cpue) to obtain the same estimated catch as using the partitioned trip estimator and the poststratified cpue. The trip and catch estimates are poststratified in the MRFSS for two reasons. The primary reason is for management purposes, based on areas of State and Federal responsibility as defined in the Magnuson act. However, poststratification of the intercept survey also reduces the variance of the catch per trip estimates in many cases.

#### 4.5 Weight estimates

Estimates of the weight harvested are calculated as the product of the total catch and the mean weight per fish for each species. That is, if we have a catch estimate  $\widehat{c}$  for a particular species, and a mean weight estimate of  $\bar{x}$ , then the estimated weight caught is simply the product  $\widehat{c} \bar{x}$ . Note that only type A catch are ever weighed. Estimates of type A weight harvested are made using the observed mean weight. Estimates of the type B1 weight harvested are made using the same mean weight. The assumption that the mean weight for the fish actually seen and measured (type A) is the same as the mean weight for the fish reported as harvested by the anglers (type B1) is certainly questionable. However no other data are available.

Occasionally there will be estimated harvest in a state/wave/mode/area where there are no fish actually weighed. This can occur if all of the harvest is type B1, or if for some reason the interviewers were not able to weigh any type A catch. If there is only one fish measured in the state/wave/mode/area, then a mean can be calculated, but no variance. If several fish are measured, but they all have the same weight, then the variance estimate is zero. In these cases, pooled weight estimates are used if possible. If there are valid estimates of both the mean and variance of the weight for the state/wave/mode, then they are used in the calculation of harvested weight. If no state/wave/mode estimates are available, but there are valid estimates at the subregion/wave/mode level, then they are substituted. If no subregion level estimates are available, then the weight estimates are left as missing. More elaborate substitution schemes, based on more detailed knowledge of individual fisheries, are left to the data user.

## 4.6 Variance estimators

Now we will derive the variance estimators. First, a few preliminary results will be given, then a general strategy, and finally variance estimators for each of the components and for the combined estimates will be derived.

### 4.6.1 Preliminary results

The variance of a sum of random variables is given by

$$V\left(\sum_{i=1}^n X_i\right) = \sum_{i=1}^n V(X_i) + 2\sum_{i<j} Cov(X_i, X_j) \quad 4.9$$

The basic formula for variances of products of random variables was described by Goodman (1960). Given two independent random variables  $x$  and  $y$ , the variance of the product  $xy$  is given by

$$\sigma_{xy}^2 = \mu_x^2 \sigma_y^2 + \sigma_x^2 \mu_y^2 + \sigma_x^2 \sigma_y^2. \quad 4.10$$

The unbiased estimator of 4.10 is given by

$$\widehat{V}(xy) = \widehat{\mu}_x^2 \widehat{V}(y) + \widehat{V}(x) \widehat{\mu}_y^2 - \widehat{V}(x) \widehat{V}(y). \quad 4.11$$

Note the change of sign for the last piece. This is due to the fact that  $\sigma_x^2 = E[x^2] - (\mu_x)^2$ , and thus

$$\begin{aligned} E\left[\widehat{\mu}_x^2 \widehat{V}(y) + \widehat{V}(x) \widehat{\mu}_y^2 - \widehat{V}(x) \widehat{V}(y)\right] \\ = (\sigma_x^2 + \mu_x^2)\sigma_y^2 + (\sigma_y^2 + \mu_y^2)\sigma_x^2 - \sigma_y^2\sigma_x^2 \\ = \mu_x^2\sigma_y^2 + \mu_y^2\sigma_x^2 + \sigma_y^2\sigma_x^2 \end{aligned} \quad 4.12$$

Bohrstedt and Goldgerger (1969) extended Goodman's result to the covariance of a product of random variables. Let  $x, y, u, v$  be jointly distributed random variables. If we let  $\Delta x = x - E[x]$ ,  $\Delta y = y - E[y]$ , etcetera, then the covariance between  $xy$  and  $uv$ ,  $C(xy, uv)$ , is given by the following:

$$\begin{aligned} C(xy, uv) = \mu_x \mu_u C(y, v) + \mu_x \mu_v C(y, u) + \mu_y \mu_u C(x, v) \\ + \mu_y \mu_v C(x, u) + E[(\Delta x)(\Delta y)(\Delta u)(\Delta v)] \\ + \mu_x E[(\Delta y)(\Delta u)(\Delta v)] + \mu_y E[(\Delta x)(\Delta u)(\Delta v)] \\ + \mu_u E[(\Delta x)(\Delta y)(\Delta v)] + \mu_v E[(\Delta x)(\Delta y)(\Delta u)] \\ - C(x, y)C(u, v) \end{aligned} \quad 4.13$$

Under multivariate normality, we can obtain a simpler formula for the covariance between two products:

$$C(xy, uv) = \mu_x\mu_u C(y, v) + \mu_x\mu_v C(y, u) + \mu_y\mu_u C(x, v) + \mu_y\mu_v C(x, u) + C(x, u)C(y, v) + C(x, v)C(y, u) \quad 4.14$$

Note that, similar to 4.11, the estimator  $\hat{C}(xy, uv)$  will have some sign changes and perhaps cancellations, depending on the relationships between  $x, u, y,$  and  $v$ . Note also that if  $x = u, y = v,$  and the two are independent, then 4.13 reduces to the simpler formula for the variance of the product of two independent variables given in 4.10.

If  $(y_1, y_2, y_3, \dots)$  are distributed multinomial with parameters  $p_1, p_2, p_3, \dots$  then the following results will be useful:

$$V[\hat{p}_i] = \frac{p_i(1 - p_i)}{n} \quad 4.15$$

$$V\left(\frac{1}{\hat{p}_i}\right) \approx \frac{(1 - p_i)}{p_i^3 n} \quad 4.16$$

$$C(\hat{p}_i, \hat{p}_j) = \frac{-p_i p_j}{n} \quad 4.17$$

$$C\left(\frac{1}{\hat{p}_i}, \frac{1}{\hat{p}_j}\right) \approx \frac{p_i(1 - p_i)}{n p_i^2 p_j^2} + \frac{p_j(1 - p_j)}{n p_i^2 p_j^2} - \frac{2p_i p_j}{n p_i^2 p_j^2} \quad 4.18$$

Equations 4.16 and 4.18 are approximations made via the delta method (Stuart & Ord, Vol 1. p. 324).

#### 4.6.2 General strategy for calculating variances

For each state/subregion/mode/area combination, we multiply the effort estimates by the catch per trip estimates to obtain the estimated total catch. The variances (or covariances) for the resulting estimate will follow from the covariance matrices for the estimated catch and effort.

Recall that we have a diagonal effort matrix  $\mathbf{E}_s$  and a catch per trip matrix  $\mathbf{U}_s$  from which we obtain the total catch as

$$\mathbf{C}_s = \mathbf{U}_s \mathbf{E}_s = \begin{bmatrix} \mathbf{U}_{sA} & \mathbf{U}_{sB1} & \mathbf{U}_{sB2} \end{bmatrix} \mathbf{E}_s. \quad 4.19$$

That is, the catch estimate for any particular state/subregion/mode/area is calculated as a simple product of effort and catch per unit effort in that cell. Thus we can calculate the covariance between any pair of elements of  $\mathbf{C}_s$  using 4.13.

For a given state/subregion/mode of fishing, recall that row  $s$  of the matrix  $\mathbb{E}_a, \mathbb{E}_{a(s)} = \underline{\mathcal{E}}_s$ , contains the effort estimates for state/subregion  $s$ . Let  $\Sigma_{\underline{\mathcal{E}}}$  denote the covariance matrix for the vector  $\underline{\mathcal{E}}_s$ .  $\Sigma_{\underline{\mathcal{E}}}$  will have a certain structure that arises from the way the trip estimates are calculated.

Similarly, let  $\Sigma_{\mathbf{U}}$  denote the covariance matrix for  $\mathbf{U}_s$ , that is

$$\Sigma_{\mathbf{U}} = Cov(\mathbf{U}) = C(\text{vec}(\mathbf{U}), \text{vec}'(\mathbf{U})).$$

Depending on what assumptions we choose to make,  $\Sigma_{\mathbf{U}}$  will have a particular structure. For example, if we assume no covariances between species, areas, or catch types, then  $\Sigma_{\mathbf{U}}$  will be a diagonal matrix. If we assume covariances between species and area, but not catch types, then  $\Sigma_{\mathbf{U}}$  will be a block diagonal matrix. If we assume covariances between area and catch type but not species, then  $\Sigma_{\mathbf{U}}$  will have a banded structure. Finally, we could allow covariances between all three, so that  $\Sigma_{\mathbf{U}}$  will be a general covariance matrix. The current implementation makes the simplest assumption that  $\Sigma_{\mathbf{U}}$  is a diagonal matrix, but this could be relaxed in future years.

So given whatever assumptions we choose to make about the elements of  $\Sigma_{\mathbf{U}}$  and  $\Sigma_{\underline{\mathcal{E}}}$ , and given the approximation we choose to use for the variance or covariance of a product, we can calculate the elements of  $\Sigma_{\mathbf{C}}$ , the covariance matrix for the catch.

#### 4.6.3 Variances and covariances for the trip estimators

First we will obtain the elements of  $\Sigma_{\underline{\mathcal{E}}}$ . In a given mode, the trip estimate for state/subregion  $S_k$  is given by

$$\begin{aligned} \hat{T}_k &= \sum_{i \in S_k} \sum_j \hat{t}_i N_i \hat{p}_{ij} \frac{1}{\hat{r}_k \hat{q}_k} & 4.20 \\ &= \left[ \frac{1}{\hat{r}_k \hat{q}_k} \right] \left[ \sum_i \hat{t}_i N_i \sum_{j \in S_k} \hat{p}_{ij} \right] \\ &= \hat{I}_k \hat{P}_k \end{aligned}$$

where  $\hat{I}_k$  and  $\hat{P}_k$  denote portions from the intercept and telephone survey, respectively. The trip estimate for state/subregion  $S_k$ , area  $l$ , is given by

$$\begin{aligned} \hat{T}_{kl} &= \sum_{j \in S_k} \sum_i \hat{t}_i N_i \hat{p}_{ij} \frac{1}{\hat{r}_k \hat{q}_k} \hat{\mathbb{A}}_{(kl)} & 4.21 \\ &= \hat{I}_k \hat{P}_k \hat{\mathbb{A}}_{(kl)} \\ &= \hat{T}_k \hat{\mathbb{A}}_{(kl)} \end{aligned}$$

As a reminder, the terms in the above equations are:

- $\hat{A}_{(kl)}$  = the proportion of intercepted anglers who fished in area  $l$
- $\tau_k$  = the proportion of trips made by anglers from telephone households
- $q_k$  = the proportion of trips in the intercept survey covered by the telephone frame
- $\bar{t}_i$  = the mean trips per household in dialing county  $i$
- $p_{ij}$  = the probability that a trip from dialing county  $i$  occurred in trip county  $j$
- $N_i$  = the total number of telephone households in dialing county  $i$

Since they come from two different surveys,  $\hat{I}_k$  and  $\hat{P}_k$  are independent, and thus we can use 4.11 to get the variance of the product. That is, we can calculate

$\hat{V}[\hat{T}_k]$  using 4.11 as

$$\hat{V}[\hat{T}_k] = \hat{I}_k^2 \hat{V}[\hat{P}_k] + \hat{V}[\hat{I}_k] \hat{P}_k^2 - \hat{V}[\hat{P}_k] \hat{V}[\hat{I}_k]. \quad 4.22$$

Similarly, the variance for the total trip estimate in mode  $m$ , state/subregion  $S_k$ , and area  $l$  (the diagonal elements of  $\Sigma_E$ ) is estimated as

$$\begin{aligned} \hat{V}[\hat{T}_{kl}] &= (\hat{A}_{(kl)} \hat{I}_k)^2 \hat{V}[\hat{P}_k] \\ &+ \hat{V}[\hat{A}_{(kl)} \hat{I}_k] \left[ \sum_i \hat{t}_i N_i \sum_{j \in S_k} \hat{p}_{ij} \right]^2 - \hat{V}[\hat{P}_k] \hat{V}[\hat{A}_{(kl)} \hat{I}_k]. \end{aligned} \quad 4.23$$

If we assume independence of the proportion of intercepted anglers who fished in area  $l$  and their telephone and residence status, then the estimated variance for the product of the two pieces from the intercept survey,  $\hat{A}_{(kl)} \hat{I}_k$ , is given by

$$\begin{aligned} \hat{V}[\hat{A}_{(kl)} \hat{I}_k] &= \hat{V} \left[ \frac{\hat{A}_{(kl)}}{\hat{\tau}_k \hat{q}_k} \right] \\ &= \hat{A}_{(kl)}^2 \hat{V} \left[ \frac{1}{\hat{\tau}_k \hat{q}_k} \right] + \hat{V}[\hat{A}_{(kl)}] \left[ \frac{1}{\hat{\tau}_k^2 \hat{q}_k^2} \right] - \hat{V}[\hat{A}_{(kl)}] \hat{V} \left[ \frac{1}{\hat{\tau}_k \hat{q}_k} \right]. \end{aligned} \quad 4.24$$

Covariances between  $\hat{A}_{(kl)}$  and  $\hat{A}_{(km)}$  can be used to obtain covariances between area level trip estimates for a particular state using 4.14. This is not done in the current estimation procedures. However, using 4.14 and 4.17, and assuming independence of the trip estimate and the area proportions, we can approximate the covariance between areas (the off-diagonal elements of  $\Sigma_E$ ) as:

$$\hat{C}[\hat{T}_{kl}, \hat{T}_{km}] \approx \frac{\hat{A}_{(kl)} \hat{A}_{(km)}}{n_A} \left[ (n_A + 1) \hat{V}(\hat{T}_k) - \hat{T}_k^2 \right] \quad 4.25$$

where  $n_A$  denotes the number of anglers interviewed to obtain  $\hat{A}_{(k)}$ . Note that although

for a particular state covariances between the trip estimates by area may be high, estimates for different states are independent since they come from distinct strata.

Next we will develop the components of the variance estimators, namely  $\widehat{V}[\widehat{A}_{(kl)}]$ ,  $\widehat{V}[\widehat{I}_k]$ , and  $\widehat{V}[\widehat{P}_k]$ .

For the intercept survey, note that  $\widehat{A}_{(kl)}$ ,  $\widehat{r}_k$ , and  $\widehat{q}_k$  are all proportions. So, using 4.15 and 4.16, we can write

$$\begin{aligned}\widehat{V}[\widehat{A}_{(kl)}] &= \frac{\widehat{A}_{(kl)}(1 - \widehat{A}_{(kl)})}{n_I}, \\ \widehat{V}\left[\frac{1}{\widehat{r}_k}\right] &\approx \frac{(1 - \widehat{r}_k)}{\widehat{r}_k^3 n_I}, \text{ and} \\ \widehat{V}\left[\frac{1}{\widehat{q}_k}\right] &\approx \frac{(1 - \widehat{q}_k)}{\widehat{q}_k^3 n_I};\end{aligned}\tag{4.26}$$

where  $n_I$  is the number of angler trips intercepted in this mode and state/subregion.

Note that if  $\widehat{r}_k$  or  $\widehat{q}_k$  are small then these terms could potentially be quite large. This is not as likely for  $r$  (the proportion of trips by anglers from telephone households) as it is for  $q$  (the proportion of trips by anglers covered by the telephone frame). In the party and charterboat modes especially, there is a real danger that  $q$  may be quite small, or even 0, if the telephone frame does not cover sufficient counties.

The variance of the intercept portion of 4.22,  $\widehat{V}[\widehat{I}_k]$ , can be calculated in two ways; assuming  $\widehat{r}_k$  is fixed, or treating it as random. If we use  $r_0$  as a correction factor (see section 2.6) or if the variance of  $1/\widehat{r}_k$  is negligible (e.g. if  $\widehat{r}$  is nearly 1), we have

$$\begin{aligned}\widehat{V}[\widehat{I}_k] &= \widehat{V}\left[\frac{1}{\widehat{r}_k \widehat{q}_k}\right] \\ &= \frac{1}{\widehat{r}_k^2} \widehat{V}\left[\frac{1}{\widehat{q}_k}\right] \\ &\approx \frac{1}{\widehat{r}_k^2} \frac{(1 - \widehat{q}_k)}{\widehat{q}_k^3 n_I}\end{aligned}\tag{4.27}$$

Otherwise, we have

$$\begin{aligned}\widehat{V}[\widehat{I}_k] &= \widehat{V}\left[\frac{1}{\widehat{r}_k \widehat{q}_k}\right] \\ &= \frac{1}{\widehat{r}_k^2} \widehat{V}\left[\frac{1}{\widehat{q}_k}\right] + \widehat{V}\left[\frac{1}{\widehat{r}_k}\right] \frac{1}{\widehat{q}_k^2} - \widehat{V}\left[\frac{1}{\widehat{q}_k}\right] \widehat{V}\left[\frac{1}{\widehat{r}_k}\right] \\ &\approx \frac{1}{n_I} \frac{1}{\widehat{q}_k^2 \widehat{r}_k^2} \left[ \frac{(1 - \widehat{r}_k)}{\widehat{r}_k} + \frac{(1 - \widehat{q}_k)}{\widehat{q}_k} - \frac{(1 - \widehat{q}_k)(1 - \widehat{r}_k)}{n_I \widehat{r}_k \widehat{q}_k} \right],\end{aligned}\tag{4.28}$$



where  $\widehat{V}\left[\frac{1}{\widehat{q}_k}\right]$  and  $\widehat{V}\left[\frac{1}{\widehat{r}_k}\right]$  are given in 4.26. Current estimation procedures use 4.27 since  $r_0$  is usually used and  $\widehat{r}_k$  is almost always near 1.

In estimating the variance of the telephone portion of 4.22,  $\widehat{V}\left[\widehat{P}_k\right]$ , we assume that  $\widehat{t}_i$  and  $\widehat{p}_{ij}$  are independent. That is, we assume that the mean number of trips per household is independent of the distribution of trips over counties. Given this, we can write the estimated variance  $\widehat{V}\left[\widehat{P}_k\right]$  as a sum of products of two terms as follows :

$$\begin{aligned}
\widehat{V}\left[\widehat{P}_k\right] &= \widehat{V}\left[\sum_i \widehat{t}_i N_i \sum_{j \in S_k} \widehat{p}_{ij}\right] & 4.29 \\
&= \sum_i \widehat{V}\left[\widehat{t}_i N_i \sum_{j \in S_k} \widehat{p}_{ij}\right] = \sum_i \widehat{V}\left[\left(\widehat{t}_i N_i\right) \left(\sum_{j \in S_k} \widehat{p}_{ij}\right)\right] \\
&= \sum_i \left\{ \widehat{t}_i^2 N_i^2 \widehat{V}\left[\sum_{j \in S_k} \widehat{p}_{ij}\right] + \widehat{V}\left[\widehat{t}_i N_i\right] \left[\sum_{j \in S_k} \widehat{p}_{ij}\right]^2 - \widehat{V}\left[\widehat{t}_i N_i\right] \widehat{V}\left[\sum_{j \in S_k} \widehat{p}_{ij}\right] \right\} \\
&= \sum_i N_i^2 \left\{ \widehat{t}_i^2 \widehat{V}\left[\sum_{j \in S_k} \widehat{p}_{ij}\right] + \widehat{V}\left[\widehat{t}_i\right] \left[\sum_{j \in S_k} \widehat{p}_{ij}\right]^2 - \widehat{V}\left[\widehat{t}_i\right] \widehat{V}\left[\sum_{j \in S_k} \widehat{p}_{ij}\right] \right\}.
\end{aligned}$$

Note that for a fixed  $i$ ,  $p_{ij}$  is multinomial. Thus, using 4.15 and 4.17,  $p_{ij}$  has variance  $\frac{p_{ij}(1-p_{ij})}{n}$ , and the covariance between  $p_{ij}$  and  $p_{ih}$  is  $\frac{-p_{ij} p_{ih}}{n}$ . So for county  $i$ , we have

$$\widehat{V}\left[\sum_{j \in S_k} \widehat{p}_{ij}\right] = \sum_{j \in S_k} \frac{\widehat{p}_{ij}(1-\widehat{p}_{ij})}{n_T} - 2 \sum_{\substack{j, h \in S_k \\ j < h}} \frac{\widehat{p}_{ij} \widehat{p}_{ih}}{n_T} \tag{4.30}$$

where  $n_T$  is the number of telephone contacts in telephone county  $i$ .

In the current implementation of the telephone survey, trips to states other than the state of residence are discarded. As a result, there are restrictions on which  $\mathbb{D}$  matrices are appropriate for aggregation. However, these restrictions mean we can simplify the above formulas somewhat. Since we restrict the trips to the state of residence, and since  $\mathbb{D}$  aggregates to the state level,  $\sum_{i \wedge j \in S_k} \widehat{p}_{ij} = 1$ ; all other  $\widehat{p}_{ij} = 0$ . Thus,

in this case  $\widehat{V}\left[\sum_{j \in S_k} \widehat{p}_{ij}\right] = 0$  and 4.29 reduces to the simple formula for the variance of a constant times a random variable (the middle piece of equation 4.29)

$$\widehat{V}\left[\widehat{P}_k\right] = \sum_{i \in S_k} N_i^2 \widehat{V}\left[\widehat{t}_i\right]. \tag{4.31}$$

The extension to an arbitrary  $\mathbb{P}$  is relatively easy to implement, and will allow for a more general  $\mathbb{D}$  matrix and thus a more flexible aggregation of the estimates. 4.32

#### 4.6.4 Variances for the catch per trip estimators

Under the simplest assumption for  $\Sigma_{\mathbb{U}}$ , we can use basic estimators of the variances of the catch per trip for each state/subregion, species, wave, mode, and area. This is complicated to some degree depending on how much of the clustering is taken into account and whether (and which) unequal probability estimators might be used. See the section on the intercept survey for more details. For the purposes of this section, we will assume that  $\widehat{\Sigma}_{\mathbb{U}}$  is a diagonal matrix with the variances given in section 3.6 as its diagonal elements.

#### 4.6.5 Variances for the total catch estimators

The total catch estimates in this mode, state/subregion, and area are calculated as

$$\widehat{C}_a = \widehat{U}_a \widehat{E}_{a(kl)} = \widehat{U}_a \sum_{j \in S_k} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_k \widehat{q}_k} \widehat{A}_{(kl)}. \quad 4.33$$

For any particular species and catch type, let  $\widehat{u}$  denote the estimated catch per trip (i.e. a particular element of  $\mathbb{U}$ ), with estimated variance  $\widehat{V}[\widehat{u}]$  (a diagonal element of  $\Sigma_{\mathbb{U}}$ ). So for that particular species and catch type, we can write the estimated catch as

$$\begin{aligned} \widehat{c} &= \widehat{u} \sum_{j \in S_k} \sum_i \widehat{t}_i N_i \widehat{p}_{ij} \frac{1}{\widehat{r}_k \widehat{q}_k} \widehat{A}_{(kl)} \\ &= \widehat{u} \widehat{T}_{kl} \end{aligned} \quad 4.34$$

Then we can once again apply Goodman's formula (4.11) to obtain the estimated variance for the catch of that particular species and catch type as

$$\widehat{V}[\widehat{c}] = \widehat{u}^2 \widehat{V}[\widehat{T}_{kl}] + \widehat{V}[\widehat{u}] \widehat{T}_{kl}^2 - \widehat{V}[\widehat{u}] \widehat{V}[\widehat{T}_{kl}] \quad 4.35$$

#### 4.6.6 Covariances between catch estimates

Catch per trip estimates from different areas are independent. Thus any covariances between catch estimates in different areas are induced by covariances in the trip estimates, described above in equation 4.25. So, for a particular state  $k$  and for a particular wave, mode, and species, if we denote with  $\widehat{u}_{ij}$  the catch per trip for catch type  $i$  in area  $j$  and with  $\widehat{c}_{ij}$  the associated catch estimate, then we can estimate the off-diagonal elements of the covariance matrix as

$$\widehat{C}[\widehat{c}_{ij}, \widehat{c}_{i'j'}] = \widehat{C}[\widehat{u}_{ij}\widehat{T}_{kj}, \widehat{u}_{i'j'}\widehat{T}_{k'j'}] = \widehat{u}_{ij}\widehat{u}_{i'j'}\widehat{C}[\widehat{T}_{kj}, \widehat{T}_{k'j'}]. \quad 4.36$$

Note that the diagonal elements of the catch covariance matrix (where  $i = i'$ ,  $j = j'$  and thus the covariance between cpue estimates is not 0) are calculated based on 4.35.

Catch per trip estimates for different catch types within the same area could also be considered to be independent, leading to the use of 4.36 for estimating covariances between catch estimates for different catch types in the same area (i.e. where  $i \neq i'$  but  $j = j'$ ). If we chose not to make this assumption, then the more complicated methods for calculation of covariances between weight estimates described below could be applied instead of 4.36.

#### 4.6.7 Variances for the weight estimates

Variances for the weight estimates are calculated in the same manner as for the catch estimates. If we denote the mean weight with  $\bar{x}$ , then the estimated weight harvested for a given species is calculated as

$$\widehat{X} = \widehat{c}\bar{x} \quad 4.37$$

and the variance of  $\widehat{X}$  is calculated using Goodman's formula (4.11) as

$$\widehat{V}[\widehat{X}] = \widehat{c}^2 \widehat{V}[\bar{x}] + \widehat{V}[\widehat{c}]\bar{x}^2 - \widehat{V}[\widehat{c}]\widehat{V}[\bar{x}]. \quad 4.38$$

#### 4.6.8 Covariances between weight estimates

Since the same mean weight is applied to all catch types within an area, the total weight estimates will have an additional positive covariance over and above that which is induced by the covariances between the catch estimates. For a particular state  $k$  and for a particular wave, mode, and species, denote with  $\widehat{u}_{ij}$  the catch per trip for catch type  $i$  in area  $j$  and with  $\widehat{c}_{ij}$ ,  $\widehat{T}_{kj}$ , and  $\bar{x}_j$  the associated catch estimate, trip estimate, and mean weight. Then using 4.14 and making the proper correction for bias, we can estimate the covariance using

$$\begin{aligned} \widehat{C}[\widehat{c}_{ij}\bar{x}_j, \widehat{c}_{i'j'}\bar{x}_{j'}] &\approx \bar{x}_j\bar{x}_{j'}\widehat{C}[\widehat{c}_{ij}, \widehat{c}_{i'j'}] + \widehat{c}_{ij}\widehat{c}_{i'j'}\widehat{C}[\bar{x}_j, \bar{x}_{j'}] \\ &\quad - \widehat{C}[\widehat{c}_{ij}, \widehat{c}_{i'j'}]\widehat{C}[\bar{x}_j, \bar{x}_{j'}] \end{aligned} \quad 4.39$$

Note that if  $i = i'$  and  $j = j'$  (i.e. the same area and catch type) then this is equivalent to the estimator based on Goodman's formula for the variance of a product. If  $j = j'$  but  $i \neq i'$  (same area, different catch type) then  $\widehat{C}[\bar{x}_j, \bar{x}_{j'}] = \widehat{V}[\bar{x}_j]$  and  $\widehat{C}[\widehat{c}_{ij}, \widehat{c}_{i'j'}] = \widehat{u}_{ij}\widehat{u}_{i'j'}\widehat{V}[\widehat{T}_{kj}]$  in the above, thus

$$\begin{aligned} \widehat{C}[\widehat{c}_{ij}\bar{x}_j, \widehat{c}_{i'j'}\bar{x}_{j'}] &\approx \bar{x}_j\bar{x}_{j'}\widehat{u}_{ij}\widehat{u}_{i'j'}\widehat{V}[\widehat{T}_{kj}] + \widehat{c}_{ij}\widehat{c}_{i'j'}\widehat{V}[\bar{x}_j] \\ &\quad - \widehat{u}_{ij}\widehat{u}_{i'j'}\widehat{V}[\widehat{T}_{kj}]\widehat{V}[\bar{x}_j] \end{aligned} \quad 4.40$$

Between different areas (i.e.  $j \neq j'$ ), weight and cpue estimates are independent, so  $\widehat{C}[\bar{x}_j, \bar{x}_{j'}] = 0$ . Thus any covariances in the weight estimates are induced by covariances in the catch estimates. Thus the above reduces to

$$\widehat{C}[\widehat{c}_{ij}\bar{x}_j, \widehat{c}_{i'j'}\bar{x}_{j'}] \approx \bar{x}_j\bar{x}_{j'}\widehat{C}[\widehat{c}_{ij}, \widehat{c}_{i'j'}] = \bar{x}_j\bar{x}_{j'}\widehat{u}_{ij}\widehat{u}_{i'j'}\widehat{C}[\widehat{T}_{kj}, \widehat{T}_{k'j'}]. \quad 4.41$$

## 5. EXAMPLE

As an example we will follow through the calculations for a single subregion, state, wave, mode, area, species, and catch type.

A note about the calculations: the formulas presented in sections 2-4 all assume the data is in raw form. In this example, to allow for concise presentation, the data have been summarized into frequency tables. Thus the frequency counts need to be used to calculate the appropriate statistics. So, for example, if  $y_i$  denotes the number of trips in trip class  $i$ ,  $f_i$  denotes the number of households in trip class  $i$ , and  $g$  denotes the number of trip classes, then we calculate the mean number of trips per household (as per equation 2.1) using

$$\bar{t} = \frac{\sum_{i=1}^g f_i y_i}{\sum_{i=1}^g f_i}. \quad 5.1$$

Similarly, if  $y_i$  denotes the total catch for group class  $i$ ,  $m_i$  denotes the number of anglers in that group class,  $f_i$  denotes the number of groups in class  $i$ ,  $n_h$  denotes the number of groups interviewed in stratum  $h$ , then based on equation 3.4 we calculate the estimated variance of the type  $A$  catch per trip in stratum  $h$  with computational formula

$$\widehat{V}[\bar{y}_{hR}] = \frac{\sum_{i=1}^g f_i m_i^2 \bar{y}_i^2 - 2\bar{y}_{hR} \sum_{i=1}^g f_i m_i^2 \bar{y}_i + \bar{y}_{hR}^2 \sum_{i=1}^g f_i m_i^2}{n_h \bar{m}_h (n_h - 1)}. \quad 5.2$$

Other formulas are modified as appropriate.

### 5.1 Trip estimates

Massachusetts has 9 coastal dialing counties. In wave 4 of 1994 the MRFSS contacted 2,968 households in Massachusetts and recorded the data for the private/rental mode shown in Table 1. The first column of the table shows the number of trips reported by the household, the subsequent columns show the number of households reporting that number of trips. So in Barnstable county, 218 households reported 0 P/R mode trips, 4 households reported 1 trip, 4 households reported 2 trips, and so on up to 1 household reporting 39 trips. The 95<sup>th</sup> percentile for P/R mode trips in this state/wave/mode is 39; thus all values larger than 39 were truncated to the 39, as shown in the table. Note that the imputation procedure has been applied to these data.

Using the data in the table, we calculate for each county the number of trips reported and the number of households contacted. These are shown in the first two rows below the data. The mean reported number of trips per household is calculated using equation 2.1 (i.e. trips reported/households contacted). Using equation 2.2 we can calculate the variance estimates, shown in the row labeled "V(tphh)".

Information from the census data are shown on the three lines labeled "total households" (the number of housing units in the county), "proportion with telephones", and "telephone households" (the derived number of households with telephones).

The total trip estimate for the coastal households with telephones is simply calculated as the product of the trips per household and the number of households with telephones. The total number of trips in each county and the variance ("V(trips)") of this estimate are calculated as in equations 4.1 and 4.31.

Once we have the estimates for each county, the estimated state total and the estimated state variance are simply the sums of the county level estimates for the state. This is shown in Table 2.

Using information from the intercept survey, we can now adjust for the unintentional frame undercoverage using equation 4.3. Out of 1306 coastal resident intercepts, 1298 lived in households covered by the phone survey and 7 did not, and one refused to answer the question (Table 2). The test of  $\hat{p} = p_0$  was rejected in this case (see section 2), so we use the intercept data to adjust for this undercoverage. Thus we estimate  $502,300 * (7/1298) = 2709$  trips by coastal residents without telephones, or alternatively a total of  $502,300 * 1305/1298 = 505,009$  trips by coastal residents (see section 4.2 for a discussion of these alternatives).

The intentional frame adjustment (as described in equation 4.4) is based on the 1306 coastal residents, 192 non-coastal residents, and 379 out of state residents in the intercepts (Table 2). This adjustment results in a trip estimate of 725,806 (i.e.  $505,009 * 1877/1306$ , or alternatively  $505,009 * [1 + 192/1306 + 379/1306]$ ).

Variance estimates for the trip estimate are shown in Tables 3 and 4. Table 3 shows the raw counts from the intercept data, the ratios used to adjust the trip estimate, and the appropriate variance for that ratio, based on the formulas in section 4.6.3.

Table 4 shows the trip estimates and their variances. The trip estimates are shown in the first column. The variances in column 2 are calculated using the formulas for the variances of a product shown in section 4.6.3 (equation 4.11). Standard errors and the proportional standard error are then easily calculated as the square root of the variance and then (std. error)/estimate.

The estimated covariance between trip estimates in different areas is shown in Table 5. These are calculated using equation 4.25. Note that the variance for the total trip estimate (from Table 4) is equal to the sum of the entries in this matrix, following the relationship noted in equation 4.9. Based on the covariance matrix, we can estimate the correlation between trip estimates as shown in Table 5.

## 5.2 Catch per trip estimates

Tables 6 and 7 show details of the catch per trip calculations for bluefish in Massachusetts private/rental mode wave 4 1994. Type A catch is shown in Table 6, and type B is shown in Table 7. In each table, frequency tables show the actual counts of

catch per intercept (groups for type A, individuals for type B) for each area. This is the raw data in the form of a frequency table.

Using equations 3.1 and 3.2 (for type B catch), or 3.3 and 3.4 (for type A catch) we calculate the catch per angler trip and the cpue variance estimate for each catch type and area as shown at the bottom of each table. For the example, we use computational formulas as described above since the data are presented as a frequency table. Note that the number of type A groups, the number of contributors to the type A catch, and the number of anglers interviewed for type B catch information are all distinct.

The cpue estimates are simply calculated by summing the catch for the particular species and catch type, and then dividing by the appropriate denominator (groups, contributors, or anglers interviewed). For example, in Table 6, following equation 3.3, the cpue for type A catch in area 5 (inland) is calculated by dividing the 93 type A fish seen by the 962 contributors to the type A catch in that area to obtain an estimate of 0.09667. The type A cpue variance estimates are calculated using 3.4. The estimated variance for the cpue in this area is 0.00084. Calculations for the type B catch (Table 6) follow equations 3.1 and 3.2 and are somewhat simpler.

### **5.3 Total catch estimates**

Once we have trip estimates and catch per trip estimates, we multiply appropriate terms to estimate total catch and variance of the total catch. This is shown in Table 8. Simply put, the estimated number of angler trips in a particular state, wave, mode, and area are multiplied by the estimated catch per trip in that same area to produce an estimate of catch. Variances are all calculated based on Goodman's formula (equation 4.11) and the detailed description in section 4.6.

Estimates can now be combined (summed) as desired to obtain total catch, total removals, etcetera, as shown in Table 9. Note that the variances in this table do not include covariance terms, they are simply the sum of the variances for the individual components of the sum.

### **5.4 Weight estimates**

The final step is to estimate the total weight harvested. The weight harvested is calculated as the product of the catch and the mean weight per harvested fish. This is appropriate for the type A and the type B1 catch. Unfortunately, for the type B1 catch (by definition) there are no weights available. The mean weight for the type A catch is used as a surrogate for lack of any other information. Users are free to make whatever adjustments they see fit to the type B1 weight estimates.

Table 10 summarizes by area the data on fish weights in this state, wave, and mode. These mean weights are multiplied by the estimated catch to estimate the total weight harvested, as shown in Table 11. These calculations are described in detail in sections 3.7, 4.5, and 4.6.6. The estimates can then be aggregated to whatever level is

desired, as shown in columns 5-6 of Table 11. Once this is done, standard error estimates and proportional standard errors then follow easily. Again, the variances shown in the this table do not include covariance components.

### **5.5 Covariances in catch estimates**

Covariances between catch estimates in different areas can be estimated using equations 4.35 and 4.36. Results of these calculations are shown in Table 12. The estimated covariances and the resulting correlations are shown in this table. The labels on the margin indicate both catch type and area. Note that although the trip estimates are highly correlated (Table 5), multiplying by independent estimates of cpue reduces the correlation substantially. Table 13 shows the estimated total harvest and catch with the covariance-adjusted error estimates. The net result of accounting for the covariances in the type A+B1 harvest is an increase in the pse from 13.3% to 17.1%.

### **5.6 Covariances in weight estimates**

Based on the estimates presented in Tables 10 and 12, we can estimate the covariances between weight estimates using equation 4.38. Results of these calculations are shown in Table 14. The summarized weight estimates with covariance-adjusted variance estimates are shown in Table 15. The net effect of accounting for covariances in the A+B1 weight harvested estimates is an increase in pse from 13.5% to 17.5%.



## 6. DISCUSSION

The MRFSS is a complicated, constantly evolving survey that attempts to cover almost all of the marine recreational fishing in the US. Thus it is unique in its scope and complexity. This paper has attempted to first, document as completely as possible the statistical procedures used in the MRFSS, and second, to describe methodologies that have been recently developed. The major improvements included here are the capability to poststratify the estimates to whatever level desired (using a general  $\mathbb{P}$  matrix), the beginning of accounting for the cluster sampling in the intercept, and the description and estimation methods for covariances induced via multiplication of multiple catch per trip estimates by a single trip estimate. Further work on pps estimators for both the telephone and intercept surveys is needed. Incorporation of mark-recapture methodologies, techniques for sample allocation, list-based sampling, and bootstrap or jackknife variance estimators are all other possibilities for future work. Reduction of bias, or elimination of sources of potential bias, is a never-ending task in any major survey. In short, much still remains to be done.

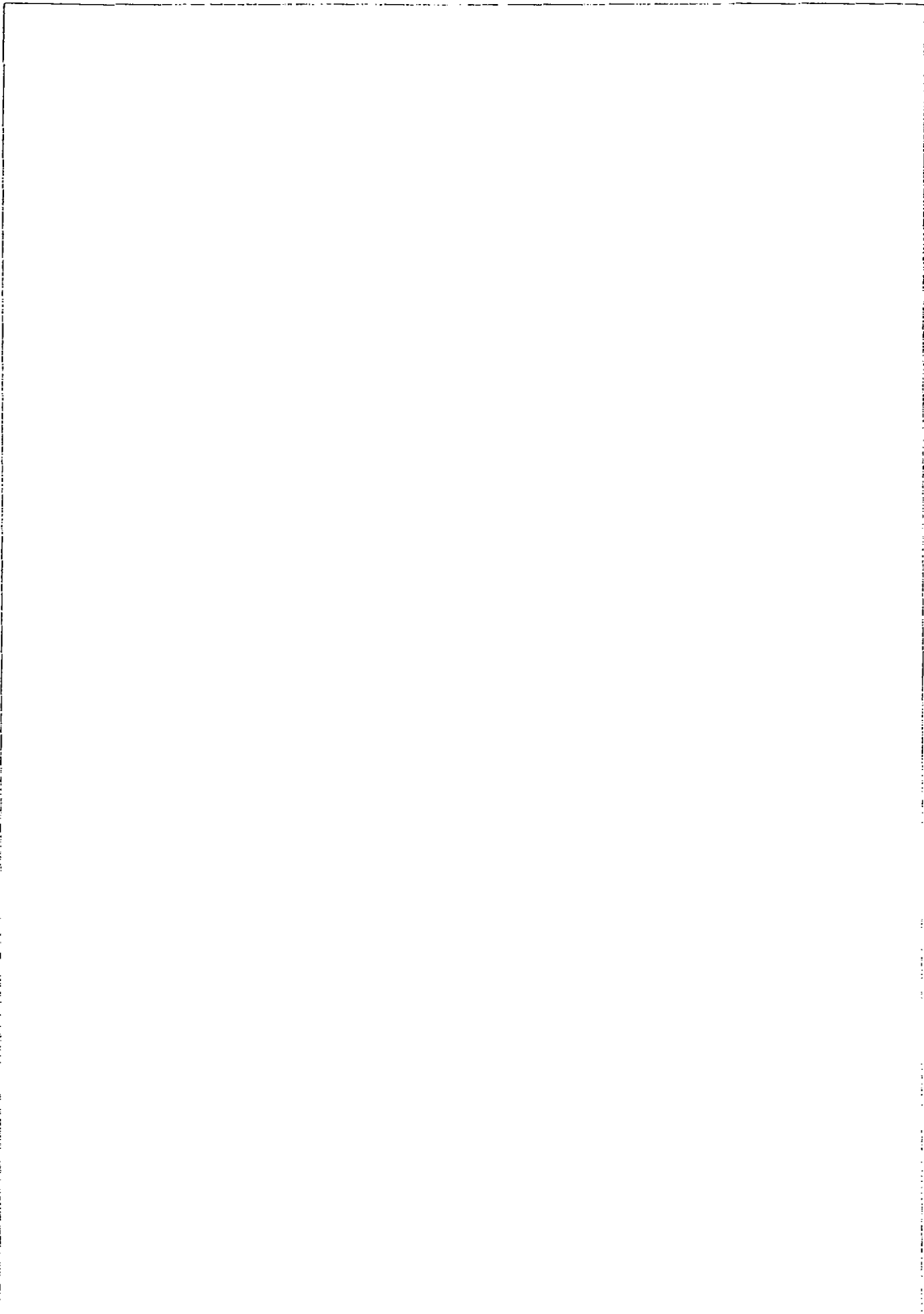
MRFSS estimates (raw SAS data, SAS estimate files, interactive querying of the database, and assorted online documents) are all available on our WWW site:  
<http://remora.ssp.nmfs.gov/mrfss>.

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**APPENDIX A: current MRFSS intercept questionnaire**





LEFT OUT:

gender bias in telephone survey

private-access trip discussion

night trip discussion

tournament trip discussion

net effects of type A clustering and covariances

Table 1. MRFSS telephone data and coastal county resident trip estimates, MA wave 4 P/C mode, 1994.

county FIPS no.	Barnstable 1	Bristol 5	Dukes 7	Essex 9	Middlesex 17	Nantucket 19	Norfolk 21	Plymouth 23	Suffolk 25
tphh									
0	218	357	55	408	608	38	399	308	420
1	4	3	2	4	4	3	5	8	2
2	4	2	1	4	3	0	1	5	4
3	1	0	0	1	1	0	2	1	0
4	6	2	1	1	1	2	3	2	0
5	0	0	0	2	0	0	2	1	0
6	0	1	0	3	2	0	1	0	0
7	1	1	0	1	0	0	0	2	0
8	1	1	1	2	0	1	0	1	0
9	0	1	0	1	1	0	2	2	0
10	3	0	0	1	1	1	0	2	1
11	1	0	0	0	0	0	0	0	0
12	1	2	0	0	0	0	0	2	0
13	0	1	0	0	0	0	0	0	0
14	0	0	0	0	0	0	1	1	0
15	1	0	0	0	0	0	0	0	0
16	1	0	0	0	0	0	1	0	0
18	0	1	0	1	0	1	0	2	0
19	1	0	0	0	0	0	0	0	0
20	0	1	0	0	0	0	0	0	2
21	0	0	1	0	0	0	0	0	0
22	0	0	0	0	0	0	1	0	0
24	0	0	1	0	0	0	0	2	0
27	0	0	0	0	0	0	2	0	0
30	0	0	0	1	0	0	0	0	0
32	1	0	0	0	0	0	0	0	0
39	1	0	0	1	0	1	0	0	0
trips reported households contacted	228	120	61	176	48	86	165	216	60
trips per household	0.9306	0.3217	0.9839	0.4084	0.0773	1.8298	0.3929	0.6372	0.1399
V(tphh) total	0.0665	0.0102	0.2758	0.0175	0.0008	0.8726	0.0151	0.0241	0.0050
households	81,300	190,100	5,300	252,000	520,000	2,600	228,900	151,500	252,700
proportion with telephones	0.987	0.977	0.983	0.973	0.988	0.975	0.994	0.982	0.966
telephone households	80,232	185,732	5,209	245,110	513,674	2,535	227,494	148,774	244,216
trip estimate	74,665.1	59,753.0	5,124.9	100,091.5	39,704.3	4,638.4	89,372.7	94,794.3	34,156.1
V(trips)	4.28E+08	3.52E+08	7.48E+06	1.05E+09	1.99E+08	5.61E+06	7.80E+08	5.34E+08	2.95E+08

**Table 2.** Adjustments to MRFSS coastal resident trip estimates resulting in the total trip estimate, MA wave 4 P/C mode, 1994.

	intercept data			
	<u>count</u>	<u>ratio</u>		
phone&coastal	1298		trips by coastal phone households	502300.3
no phone & coastal	7	0.0054	trips by non-phone households	<u>2708.9</u>
	<u>1305</u>		state total coastal resident trips	505009.1
coastal resident	1306			
noncoastal	192	0.1470	noncoastal trips	74243.3
out-of-state	379	0.2902	out-of-state trips	<u>146553.2</u>
	<u>1877</u>		total trip estimate	725805.6

Table 3. MRFSS intercept counts, ratios, and variances for use in trip variance estimation, MA wave 4 P/C mode, 1994.

	intercept count	intercept ratio	variance of ratio
phone&coastal	1298		
no phone & coastal	7	0.994636	4.1772E-06
coastal resident	1306		
noncoastal and out-of state	571	0.695791	4.8114E-04
ocean < 3	506	0.269579	1.0490E-04
ocean > 3	437	0.232818	9.5159E-05
inland	934	0.497603	1.3319E-04
total interviews	1877		



**Table 4.** MRFSS trip estimates and variance calculations for MA wave 4 P/C mode, 1994.

	<u>trip estimate</u>	<u>trip variance</u>	<u>std. error</u>	<u>prop. std. error</u>
phone&coastal	502,300	3,650,104,467	60,416	12.0%
no phone & coastal	2,709			
<b>coastal resident total</b>	<b>505,009</b>	<b>3,689,580,010</b>	<b>60,742</b>	<b>12.0%</b>
coastal resident	505,009			
noncoastal and out-of state	220,796			
<b>total trip estimate</b>	<b>725,806</b>	<b>7,742,057,470</b>	<b>87,989</b>	<b>12.1%</b>
ocean < 3 trips	195,662	617,088,755	24,841	12.7%
ocean > 3 trips	168,981	469,045,957	21,657	12.8%
inland trips	361,163	1,986,129,291	44,566	12.3%
<b>total trip estimate</b>	<b>725,806</b>			

**Table 5.** Estimated covariance and correlation matrix for MRFSS trip estimates, MA wave 4 P/C mode, 1994.

covariance matrix			
	<b>ocean &lt;3</b>	<b>ocean &gt;3</b>	<b>inland</b>
<b>ocean &lt; 3</b>	617,088,755	468,558,429	1,001,449,822
<b>ocean &gt; 3</b>	468,558,429	469,045,957	864,888,483
<b>inland</b>	1,001,449,822	864,888,483	1,986,129,291
<b>variance of total</b>			7,742,057,470

correlation matrix			
	<b>ocean &lt;3</b>	<b>ocean &gt;3</b>	<b>inland</b>
<b>ocean &lt; 3</b>	1.00	0.87	0.90
<b>ocean &gt; 3</b>		1.00	0.90
<b>inland</b>			1.00

**Table 6.** Type A catch per trip data and estimates for bluefish, MA wave 4 P/C mode 1994

group size	catch	area		
		1	2	5
1	0	453	386	820
1	1	10	7	11
1	2	6	1	2
1	3	0	1	2
1	4	0	1	0
1	5	0	1	0
1	6	0	1	0
1	10	0	0	1
2	0	5	6	25
2	1	1	1	0
2	2	1	0	2
2	3	0	0	1
2	4	2	1	3
2	6	1	1	0
2	7	0	0	1
2	8	1	0	0
3	0	6	4	8
3	3	1	1	0
3	5	1	0	0
3	6	0	0	2
3	9	0	1	0
4	0	0	1	5
4	1	0	0	2
4	3	0	1	0
4	5	1	0	0
4	6	0	1	0
4	7	0	0	0
4	8	0	1	0
4	22	0	0	1
5	1	0	1	0
<b>groups</b>		<b>489</b>	<b>418</b>	<b>886</b>
<b>contributors</b>		<b>519</b>	<b>455</b>	<b>962</b>
<b>fish caught</b>		<b>60</b>	<b>68</b>	<b>93</b>
<b>cpue</b>		<b>0.11561</b>	<b>0.14945</b>	<b>0.09667</b>
<b>V(cpue)</b>		<b>0.00079</b>	<b>0.00153</b>	<b>0.00084</b>

area 1 = ocean < 3 miles; area 2 = ocean > 3 miles; area 5 = inland  
type A catch are those fish available for examination by the interviewer

Table 7. Type B catch per trip data and estimates for bluefish, MA wave 4 P/C mode 1994

catch	area 1 (ocean < 3 miles)		area 2 (ocean > 3 miles)		area 5 (inland)	
	B1	B2	B1	B2	B1	B2
0	482	456	423	411	925	910
1	12	9	4	7	1	7
2	3	15	3	4	6	8
3	3	4	3	3	1	3
4	1	4	3	3	0	3
5	4	6	1	1	1	0
6	1	7	0	1	0	3
7	0	1	0	0	0	0
8	0	1	0	1	0	0
9	0	0	0	1	0	0
10	0	1	0	2	0	0
11	0	0	0	0	0	0
12	0	1	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	1	0	0
15	0	0	0	1	0	0
16	0	0	0	1	0	0
17	0	0	0	0	0	0
18	0	1	0	0	0	0
contributors	506	506	437	437	934	934
fish caught	57	194	36	129	21	62
cpue	0.11265	0.38340	0.08238	0.29519	0.02248	0.06638
V(cpue)	0.00077	0.00461	0.00059	0.00600	0.00007	0.00025

type B catch are those fish unavailable for examination by the interviewer

**Table 8.** MRFSS estimated catch and variance for bluefish, MA wave 4 P/C mode, 1994

	type A catch		type B1 catch		type B2 catch	
	estimate	variance	estimate	variance	estimate	variance
ocean < 3	22,620	37,843,007	22,041	36,807,467	75,017	264,296,746
ocean > 3	25,254	53,402,366	13,921	19,845,043	49,882	209,345,343
inland	34,915	126,737,283	8,120	9,631,367	23,974	40,869,146
total	82,789	217,982,655	44,082	66,283,878	148,873	514,511,235

**Table 9.** Summarized MRFSS estimated catch and variance for bluefish, MA wave 4 P/C mode, 1994

	<b>estimate</b>	<b>variance</b>	<b>std. error</b>	<b>pse</b>
<b>harvest (A)</b>	82,789	217,982,655	14,764	17.8%
<b>total harvest (A+B1)</b>	126,871	284,266,534	16,860	13.3%
<b>released (B2)</b>	148,873	514,511,235	22,683	15.2%
<b>total catch (A+B1+B2)</b>	275,744	798,777,769	28,263	10.2%

**Table 10.** Observed mean weight and variance for bluefish, MA wave 4 P/C mode, 1994

	fish weighed		
	number	mean (kg)	variance
ocean < 3	40	3.536	0.031
ocean > 3	20	4.932	0.076
inland	34	3.703	0.066

Table 11. MRFSS bluefish estimated weight caught and variance, MA wave 4 P/C mode, 1994.

	type A weight		type B1 weight		type A+B1 weight			
	estimate	variance	estimate	variance	estimate	variance	std. error	pse
ocean < 3	79,984	487,945,382	77,937	474,223,376	157,921	962,168,758	31,019	19.6%
ocean > 3	124,554	1,343,405,071	68,656	495,942,553	193,211	1,839,347,624	42,888	22.2%
inland	129,290	1,809,940,765	30,070	135,783,709	159,360	1,945,724,474	44,110	27.7%
<b>total</b>	<b>333,828</b>	<b>3,641,291,218</b>	<b>176,663</b>	<b>1,105,949,638</b>	<b>510,491</b>	<b>4,747,240,856</b>	<b>68,900</b>	<b>13.5%</b>





**Table 13.** Summarized MRFSS estimated catch and covariance-adjusted variance estimates for bluefish, MA wave 4 P/C mode, 1994

	<u>estimate</u>	<u>variance</u>	<u>std. error</u>	<u>pse</u>
harvest (A)	82,789	281,550,077	16,779	20.3%
total harvest (A+B1)	126,871	472,371,150	21,734	17.1%
released (B2)	148,873	640,569,188	25,309	17.0%
total catch (A+B1+B2)	275,744	1,654,978,386	40.681	14.8%

**Table 14.** Estimated covariance and correlation between MRFSS bluefish weight estimates (kilograms) by catch type and area, MA wave 4 P/C mode, 1994.

covariances

	A<3	A>3	A in.	B1<3	B1>3	B1 in.
A<3	487,945,382	141,182,376	146,550,374	115,784,653	77,822,295	34,084,072
A>3	141,182,376	1,343,405,071	228,214,002	137,569,112	166,748,192	53,077,056
A in.	146,550,374	228,214,002	1,809,940,765	142,799,727	125,795,711	77,623,891
B1<3	115,784,653	137,569,112	142,799,727	474,223,376	75,830,598	33,211,762
B1>3	140,149,382	166,748,192	125,795,711	75,830,598	495,942,553	29,257,039
B1 in.	34,084,072	53,077,056	77,623,891	33,211,762	29,257,039	135,733,709
	variance of total					7,980,669,665

correlations

	A<3	A>3	A in.	B1<3	B1>3	B1 in.
A<3	1.00	0.17	0.16	0.24	0.16	0.13
A>3		1.00	0.15	0.17	0.20	0.12
A in.			1.00	0.15	0.13	0.16
B1<3				1.00	0.16	0.13
B1>3					1.00	0.11
B1 in.						1.00

**Table 15.** Summarized MRFSS estimated weight (Kg) and covariance-adjusted variance estimates for bluefish, MA wave 4 P/C mode, 1994

	<u>estimate</u>	<u>variance</u>	<u>std. error</u>	<u>pse</u>
<b>A</b>	333,828	4,673,184,722	68,361	20.5%
<b>A+B1</b>	510,491	7,980,669,665	89,335	17.5%

ATTACHMENT 9a

**ATTACHMENT 9a: ECONOMIC INTERCEPT SURVEY ADD-ON – Southeast Region**

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

3. INTERVIEWER ID

4. YR/MO/DAY

5. INTERCEPT NO.

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

7. STATE CODE   8. COUNTY CODE    9. SITE CODE

10. INTERVIEW STATUS  
 1  Fully Complete 3  Initial Refusal  
 2  Partially Complete 4  Less than 16 Years

In order to qualify for this survey, respondent must be at least 16 years of age. If you are unable to determine respondent's age, please ask: Are you at least 16 years of age? If respondent is not at least 16 years of age, code q. 10 as 4 and terminate interview.

11. Is this fishing trip part of a longer trip in which you will spend at least one night away from your permanent residence, or is this a one-day fishing trip?

1  One Day – Code q. 12, 13 & 14 as 998 – Don't Know 8  Don't Know  
 2  Longer 9  Refused

18. How much did you, personally, spend on bait, tackle, licenses, food and ice for this trip? Please do not include charter/guide services and boat rental fees.

\$     .

-998  Don't Know/Not applicable  
 -999  Refused

12. How many nights will you be away from your residence on this trip?

No. of Nights  
 998  Don't Know/Not applicable  
 999  Refused

19. Did you take time off from work without pay in order to make this fishing trip?

1  Yes 8  Don't Know/Not applicable – Code q. 20 & 21 as 998  
 2  No – Code q. 20 & 21 as 998 9  Refused – Code q. 20 & 21 as 998

13. How many days of this trip will you go fishing?

No. of Nights  
 998  Don't Know/Not applicable  
 999  Refused

20. How many hours a week do you usually work?

.00 Hrs per week  
 998  Don't Know/Not applicable  
 999  Refused

14. Did you make this trip primarily to go fishing?

1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

21. Which of the following best describes your personal [NOT household] total annual income, before taxes? (Show income card.)

1  \$0 - \$15,599  
 2  \$15,600 – 31,199  
 3  \$31,200 – 46,799  
 4  \$46,800 – 62,399  
 5  \$62,400 – 77,999  
 6  \$78,000 – 93,599  
 7  \$93,600 – 109,199  
 8  \$109,200 – 124,799  
 9  \$124,800 – 139,999  
 10  >\$140,000  
 998  Don't know/Not applicable  
 999  Refused

15. Refer to q. 17 on the MRFSS survey. If the answer is NO particular species then code q. 15a as "98"; otherwise:

a. Counting today, within the last 2 months, how many days have you fished for (primary species) from (specify mode) in this state?

01  One Day – Code q. 15b & 16 as "98"  
  No. of Days (2-62) – Code q. 15b as "98"  
 98  Don't Know/Not applicable  
 99  Refused

b. Counting today, within the last 2 months, how many days have you fished from (specify mode) in this state?

01  One Day – Code q. 16 as "8"  
  No. of Days (2-62)  
 98  Don't Know/Not applicable  
 99  Refused

16. Did you fish at, or launch from, this city/town (or general area) on all of those days?

1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

22. Do you, or does anyone living in your household, own a boat that is ever used for marine recreational fishing?

1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

17. How would you rank your saltwater fishing ability on a scale of 1 to 5 – 1 being a novice and 5 being an expert?

1  2  3  4  5   
 8  Don't Know  
 9  Refused

23. I appreciate your time for this interview. Would you be willing to participate in a follow-up telephone survey?

1  Yes 8  Don't Know/Not applicable  
 2  No 9  Refused

**BOX A:** Refer to q. 24 on MRFSS Intercept form. If angler did not release name an/or telephone number during MRFSS portion of survey (q. 24), state: To participate, may I please have your name and a telephone number?  Angler Released Number in q. 24 – Thank and Terminate

ANGLER'S NAME

Day or Night Telephone Number

--    --

ATTACHMENT 9b

## ATTACHMENT 9b

### ECONOMIC INTERCEPT FOLLOW-UP TELEPHONE SURVEY QUESTIONNAIRE

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

I am calling to ask a few follow-up questions that could not be collected in the field.

Your participation in this survey is voluntary. Your responses will be treated as confidential records under the Privacy Act of 1974 and NOAA Administrative Order 216-100.

**Q1.** How many years have you been saltwater recreational fishing?

- 001 Record number of years
- 888 Don't know
- 999 Refused

**Q2. If mode of intercepted trip was "charter boat" or "partyboat" GO TO Q10.** Have you been saltwater fishing since [TRIPDATE], the day you were interviewed?

- 1 Yes
- 2 No **SKIPTO Q10.**
- 8 Don't know **SKIPTO Q10.**
- 9 Refused **SKIPTO Q10.**

**Q3.** Please think of your **most recent** day of saltwater fishing. Did you fish from a

- 1 Party/charter boat
- 2 Private boat
- 3 Rental boat
- 4 Shore (beach, bank, jetty, pier)
- 8 Don't know
- 9 Refused

**Q4.** Were you targeting or hoping to catch any particular species or kinds of fish?

**Accept up to two target species**

- 9997 Anything/no particular species
- 0001 Record species name and appropriate MRFSS code (*NMFS to provide species list with codes*)
- 9995 Other (specify)
- 9996 Other (specify)
- 9998 Don't know
- 9999 Refused

**Q5. If mode (Q3) is not private or rental boat, ask:** In what city and state did you fish?

**If mode (Q3) is private or rental boat, ask:** From which city and state did you launch your boat?

First, what was the state?

- 1 Record state name and appropriate FIPS code.

In what city?

- 1 Record city name
- 98 Don't Know
- 99 Refused



**Q6.** Was that day of fishing part of a longer trip in which you spent at least one night away from your residence?

- 1 Yes
- 2 No **SKIPTO Q10.**
- 8 Don't know **SKIPTO Q10.**
- 9 Refused **SKIPTO Q10.**

**Q7.** How many nights were you away from residence on that trip?

- 01 Record number of nights **If 0, SKIPTO Q10.**
- 98 Don't Know
- 99 Refused

**Q8.** How many days of the trip were spent fishing? I am asking about the number of days that were actually spent fishing on the most recent trip, and **not** the total number of days you were away.

- 01 Record number of days
- 98 Don't Know
- 99 Refused

**Q9.** Did you make the trip **primarily** to go fishing?

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

**Q10.** Now I would like to ask you about expenses you made for consumable items during your most recent trip. I'm interested in expenditures for the whole trip, not just for the time spent fishing. How many people, including yourself, contributed to expenses for the trip?

- 01 Record number of people
- 98 Don't Know
- 99 Refused

About how much did you individually spend for the following items? **If Q10 > 1, then ask:** If you can't recall how much you spent individually for each question, please tell me how much was spent by the group of people who went on the trip with you.

**Q11.** How much was spent for food, drink and refreshments?

- 00 Zero/Nothing **SKIP TO Q12**
- 01 Record amount
- 98 Don't Know **SKIP TO Q12**
- 99 Refused **SKIP TO Q12**

**Q11A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q12.** How much was spent for lodging at motels, cabins, lodges or campgrounds?

- 00 Zero/Nothing **SKIP TO Q13**
- 01 Record amount
- 98 Don't Know **SKIP TO Q13**
- 99 Refused **SKIP TO Q13**

**Q12A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q13.** How much was spent for transportation other than your own car, such as plane, train, bus or car rental?

- 00 Zero/Nothing **SKIP TO Q14**
- 01 Record amount
- 98 Don't Know **SKIP TO Q14**
- 99 Refused **SKIP TO Q14**

**Q13A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q14.** How much was spent for boat fuel?

- 00 Zero/Nothing **SKIP TO Q15**
- 01 Record amount
- 98 Don't Know **SKIP TO Q15**
- 99 Refused **SKIP TO Q15**

**Q14A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q15.** How much was spent on guide or package fees for party or charter boats?

- 00 Zero/Nothing **SKIP TO Q16**
- 01 Record amount
- 98 Don't Know **SKIP TO Q16**
- 99 Refused **SKIP TO Q16**

**Q15A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q16.** How much was spent for access and/or boat launching fees for access to pier, park, launch?

- 00 Zero/Nothing **SKIP TO Q17**
- 01 Record amount
- 98 Don't Know **SKIP TO Q17**
- 99 Refused **SKIP TO Q17**

**Q16A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q17.** How much was spent on equipment rental for boat, fishing or camping equipment?

- 00 Zero/Nothing **SKIP TO Q18**
- 01 Record amount
- 98 Don't Know **SKIP TO Q18**
- 99 Refused **SKIP TO Q18**

**Q17A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q18.** How much was spent on live, cut or prepared bait?

- 00 Zero/Nothing **SKIP TO Q19**
- 01 Record amount
- 98 Don't Know **SKIP TO Q19**
- 99 Refused **SKIP TO Q19**

**Q18A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 01 Individual
- 02 Group

**Q19.** How much was spent on ice?

- 00 Zero/Nothing **SKIP TO Q20**
- 01 Record amount
- 98 Don't Know **SKIP TO Q20**
- 99 Refused **SKIP TO Q20**

**Q19A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 03 Individual
- 04 Group

**Q20.** How much was spent on cleaning fees? [These are fees paid at the dock for filleting and cleaning fish]

- 00 Zero/Nothing **SKIP TO Q21**
- 01 Record amount
- 98 Don't Know **SKIP TO Q21**
- 99 Refused **SKIP TO Q21**

**Q20A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 05 Individual
- 06 Group

**Q21. IF RESPONSES TO Q11-Q20 ARE ALL "DON'T KNOW" OR "REFUSED", THEN ASK:** Could you estimate the **total** amount that was spent for the trip?

- 00 Zero/Nothing **SKIP TO Q22**
- 01 Record amount
- 98 Don't Know **SKIP TO Q22**
- 99 Refused **SKIP TO Q22**

**Q21A. If Q10 > 1, then ask:** And was that your individual expenses or the group's expenses?

- 07 Individual
- 08 Group

**Q22.** On an annual basis, how much do you usually spend on mooring, storage, maintenance, and insurance for your fishing boat? [If the respondent owns more than one boat that is used for saltwater fishing, ask about the boat that is used the most.]

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

For the next several questions, I'd like you to think about fishing equipment that you purchased during the last 60 days.

**Q23.** How much did you spend on rods, poles, reels, and lines?

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

**Q24.** How much did you spend on tackle and gear (lures, hooks, leaders, sinkers, flies, and fly-tying supplies/tackle boxes, landing nets, bait containers, minnow seines, knives)?

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

**Q25. IF Q23 AND Q24 ARE "DON'T KNOW" OR "REFUSED" ASK:** Could you tell me the total amount that was spent for fishing equipment purchases during the last 60 days?

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

And we're interested in how much you spent for several items purchased during the last 60 days, where the items were purchased **primarily** for use in saltwater recreational fishing. Some of these next items that I'll ask about are multi-purpose items which could be used for other things in addition to salt water recreational fishing. Please limit your responses to items purchased **primarily** for saltwater recreational fishing, even if you use them for other things.

**Q26.** During the last 60 days, how much did you spend on camping equipment (such as sleeping bags, packs, tents) primarily used for saltwater recreational fishing?

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

**Q27.** During the last 60 days, how much did you spend for binoculars, field glasses, or similar equipment?

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

**Q28.** During the last 60 days, how much did you spend for special fishing clothing such as foul weather gear, boots, and waders?

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

**Q29.** During the last 60 days, how much did you spend on processing and taxidermy fees?

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

**Q30.** During the last 60 days, how much did you spend on subscriptions to magazines devoted to recreational fishing.

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

**Q31.** During the last 60 days, how much did you spend on dues or contributions to national, state or local recreational fishing clubs or organizations.

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

**Q32.** During the last 60 days, how much did you spend on saltwater fishing licenses or fees.

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

**Q33.** During the last 60 days, how much did you spend on any other miscellaneous expenses for items which you primarily use for saltwater recreational fishing that were not listed elsewhere?

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

**Q34. IF Q26-Q33 ARE ALL "DON'T KNOW" OR "REFUSED" ASK:** Could you tell me the total amount that was spent for these types of items during the last 60 days, where the items were purchased **primarily** for saltwater recreational fishing?

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

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

**Q35.** During the past 12 months, how much did you spend on new motor boats or motor boat accessories, including hull, motor and accessories?

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

**Q36.** During the past 12 months, how much did you spend to purchase a canoe or other non-motor boat?

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

**Q37.** During the past 12 months, how much did you spend to purchase a depth/fish finder or other electronic fishing devices?

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

**Q38.** During the past 12 months, how much did you spend to purchase vehicles (such as pickup, camper, RV, motor home, or trailer/hitch) used primarily for saltwater recreational fishing?

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

**Q39.** During the past 12 months, how much did you spend to purchase a second home used primarily for saltwater recreational fishing?

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

**Q40. IF Q35-Q39 ARE "DON'T KNOW" OR "REFUSED" THEN ASK:** Could you tell me the total amount that was spent for durable fishing equipment purchases such as these during the last twelve months?

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

**Q41.** Compared to your other recreational activities such as golfing, hiking, hunting and tennis, would you rate fishing as... [Read list]

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

**Q42.** Do you usually keep some of the fish you catch?

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

**Q43. IF STATE OF TRIP IS SAME AS STATE OF RESIDENCE, THEN ASK:** If conservation measures

were implemented in [STATE OF RESIDENCE] that prohibited marine recreational anglers from keeping fish, though catch and release would be allowed, would you [read list]:

- 01 Travel to another state to fish,
- 02 Continue fishing in [STATE OF RESIDENCE] even though you could not keep any of the fish you caught,
- 03 Continue fishing in [STATE OF RESIDENCE] even though you could not keep any of the fish you catch, but spend more of your money on other recreational activities within [STATE OF RESIDENCE],
- 04 Stop fishing in [STATE OF RESIDENCE] but spend your money on other recreational activities within [STATE OF RESIDENCE],
- 05 Other (specify)
- 98 Don't know
- 99 Refused

**That's all the questions I have for you. Thank you very much for your time and assistance.**

ATTACHMENT 10



**ATTACHMENT 1**

**Magnuson-Stevens  
Fishery Conservation and Management Act**

**Public Law 94-265**

As amended through October 11, 1996

**AN ACT**

To provide for the conservation and management of the fisheries,  
and for other purposes.

J.Feder version (12/19/96)

**TITLE III -- NATIONAL FISHERY MANAGEMENT PROGRAM**

**SEC. 303. CONTENTS OF FISHERY MANAGEMENT PLANS 16 U.S.C. 1853**

95-354, 99-659, 101-627, 104-297

(a) **REQUIRED PROVISIONS.**--Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall--

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are--

(A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery;

(B) described in this subsection or subsection (b), or both; and

(C) consistent with the national standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law;

(2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and

Indian treaty fishing rights, if any;

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;

(4) assess and specify-- (A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3),

(B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing, and

(C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery;

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management

measures on--

(A) participants in the fisheries and fishing communities affected by the plan or amendment; and

(B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants;

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority--

(A) minimize bycatch; and

(B) minimize the mortality of bycatch which cannot be avoided;

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors; and

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery.

97-453, 99-659, 101-627, 102-251, 104-297

(b) DISCRETIONARY PROVISIONS.--Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, may--

(1) require a permit to be obtained from, and fees to be paid to, the Secretary, with respect to--

(A) any fishing vessel of the United States fishing, or wishing to fish, in the exclusive economic

zone [or special areas,]\* or for anadromous species or Continental Shelf fishery resources beyond such zone [or areas]\*;

(B) the operator of any such vessel; or

(C) any United States fish processor who first receives fish that are subject to the plan;

(2) designate zones where, and periods when, fishing shall be limited, or shall not be permitted, or shall be permitted only by specified types of fishing vessels or with specified types and quantities of fishing gear;

(3) establish specified limitations which are necessary and appropriate for the conservation and management of the fishery on the--

(A) catch of fish (based on area, species, size, number, weight, sex, bycatch, total biomass, or other factors);

(B) sale of fish caught during commercial, recreational, or charter fishing, consistent with any applicable Federal and State safety and quality requirements; and

(C) transshipment or transportation of fish or fish products under permits issued pursuant to section 204;

(4) prohibit, limit, condition, or require the use of specified types and quantities of fishing gear, fishing vessels, or equipment for such vessels, including devices which may be required to facilitate enforcement of the provisions of this Act;

(5) incorporate (consistent with the national standards, the other provisions of this Act, and any other applicable law) the relevant fishery conservation and management measures of the coastal States nearest to the fishery;

(6) establish a limited access system for the fishery in order to achieve optimum yield if, in developing such system, the Council and the Secretary take into account--

(A) present participation in the fishery,

(B) historical fishing practices in, and dependence on, the fishery,

(C) the economics of the fishery,

(D) the capability of fishing vessels used in the fishery to engage in other fisheries,

(E) the cultural and social framework relevant to the fishery and any affected fishing communities, and

(F) any other relevant considerations;

(7) require fish processors who first receive fish that are subject to the plan to submit data (other than economic data) which are necessary for the conservation and management of the fishery;

(8) require that one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery; except that such a vessel shall not be required to carry an observer on board if the facilities of the vessel for the quartering of an observer, or for carrying out observer functions, are so inadequate or unsafe that the health or safety of the observer or the safe operation of the vessel would be jeopardized;

(9) assess and specify the effect which the conservation and management measures of the plan will have on the stocks of naturally spawning anadromous fish in the region;

(10) include, consistent with the other provisions of this Act, conservation and management measures that provide harvest incentives for participants within each gear group to employ fishing practices that result in lower levels of bycatch or in lower levels of the mortality of bycatch;

(11) reserve a portion of the allowable biological catch of the fishery for use in scientific research; and

(12) prescribe such other measures, requirements, or conditions and restrictions as are determined to be necessary and appropriate for the conservation and management of the fishery.

97-453, 104-297

(c) PROPOSED REGULATIONS.--Proposed regulations which the Council deems necessary or appropriate for the purposes of--

(1) implementing a fishery management plan or plan amendment shall be submitted to the Secretary simultaneously with the plan or amendment under section 304; and

(2) making modifications to regulations implementing a fishery management plan or plan amendment may be submitted to the Secretary at any time after the plan or amendment is approved under section 304.

104-297

(d) INDIVIDUAL FISHING QUOTAS.--

(1) (A) A Council may not submit and the Secretary may not approve or implement before

October 1, 2000, any fishery management plan, plan amendment, or regulation under this Act which creates a new individual fishing quota program.

(B) Any fishery management plan, plan amendment, or regulation approved by the Secretary on or after January 4, 1995, which creates any new individual fishing quota program shall be repealed and immediately returned by the Secretary to the appropriate Council and shall not be resubmitted, reapproved, or implemented during the moratorium set forth in subparagraph (A).

(2) (A) No provision of law shall be construed to limit the authority of a Council to submit and the Secretary to approve the termination or limitation, without compensation to holders of any limited access system permits, of a fishery management plan, plan amendment, or regulation that provides for a limited access system, including an individual fishing quota program.

(B) This subsection shall not be construed to prohibit a Council from submitting, or the Secretary from approving and implementing, amendments to the North Pacific halibut and sablefish, South Atlantic wreckfish, or Mid-Atlantic surf clam and ocean (including mahogany) quahog individual fishing quota programs.

(3) An individual fishing quota or other limited access system authorization--

(A) shall be considered a permit for the purposes of sections 307, 308, and 309;

(B) may be revoked or limited at any time in accordance with this Act;

(C) shall not confer any right of compensation to the holder of such individual fishing quota or other such limited access system authorization if it is revoked or limited; and

(D) shall not create, or be construed to create, any right, title, or interest in or to any fish before the fish is harvested.

(4) (A) A Council may submit, and the Secretary may approve and implement, a program which reserves up to 25 percent of any fees collected from a fishery under section 304(d)(2) to be used, pursuant to section 1104A(a)(7) of the Merchant Marine Act, 1936 (46 U.S.C. App. 1274(a)(7)), to issue obligations that aid in financing the--

(i) purchase of individual fishing quotas in that fishery by fishermen who fish from small vessels; and

(ii) first-time purchase of individual fishing quotas in that fishery by entry level fishermen.

(B) A Council making a submission under subparagraph (A) shall recommend criteria, consistent with the provisions of this Act, that a fisherman must meet to qualify for guarantees under clauses (i) and (ii) of subparagraph (A) and the portion of funds to be allocated for guarantees under each clause.

(5) In submitting and approving any new individual fishing quota program on or after October 1, 2000, the Councils and the Secretary shall consider the report of the National Academy of Sciences required under section 108(f) of the Sustainable Fisheries Act, and any recommendations contained in such report, and shall ensure that any such program--

(A) establishes procedures and requirements for the review and revision of the terms of any such program (including any revisions that may be necessary once a national policy with respect to individual fishing quota programs is implemented), and, if appropriate, for the renewal, reallocation, or reissuance of individual fishing quotas;

(B) provides for the effective enforcement and management of any such program, including adequate observer coverage, and for fees under section 304(d)(2) to recover actual costs directly related to such enforcement and management; and

(C) provides for a fair and equitable initial allocation of individual fishing quotas, prevents any person from acquiring an excessive share of the individual fishing quotas issued, and considers the allocation of a portion of the annual harvest in the fishery for entry-level fishermen, small vessel owners, and crew members who do not hold or qualify for individual fishing quotas.

104-297, sec. 108(b), M-S Act SS 303 note

IMPLEMENTATION.--Not later than 24 months after the date of enactment of this Act [P.L. 104-297], each Regional Fishery Management Council shall submit to the Secretary of Commerce amendments to each fishery management plan under its authority to comply with the amendments made in subsection (a) of this section [i.e., the P.L. 104-297 revisions to SS 303(a)(1), (5), (7), and (9), and the addition of SS 303(a)(10)-(14)].

104-297, sec. 108(i), M-S Act SS 303 note

EXISTING QUOTA PLANS.--Nothing in this Act [P.L.104-297] or the amendments made by this Act shall be construed to require a reallocation of individual fishing quotas under any individual fishing quota program approved by the Secretary before January 4, 1995.

## ATTACHMENT 11





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Friday  
June 9, 1995

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**Part IX**

**The President**

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**Executive Order 12962—Recreational Fisheries**

**Memorandum of June 6, 1995—Delegation of Certain Presidential Authorities Under the African Conflict Resolution Act of 1994**



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# Presidential Documents

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**Title 3—****Executive Order 12962 of June 7, 1995****The President****Recreational Fisheries**

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in furtherance of the purposes of the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-d, and e-j), the Fish and Wildlife Coordination Act (16 U.S.C. 661–666c), the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), and the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801–1882), and other pertinent statutes, and in order to conserve, restore, and enhance aquatic systems to provide for increased recreational fishing opportunities nationwide, it is ordered as follows:

**Section 1. Federal Agency Duties.** Federal agencies shall, to the extent permitted by law and where practicable, and in cooperation with States and Tribes, improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities by: (a) developing and encouraging partnerships between governments and the private sector to advance aquatic resource conservation and enhance recreational fishing opportunities;

(b) identifying recreational fishing opportunities that are limited by water quality and habitat degradation and promoting restoration to support viable, healthy, and, where feasible, self-sustaining recreational fisheries;

(c) fostering sound aquatic conservation and restoration endeavors to benefit recreational fisheries;

(d) providing access to and promoting awareness of opportunities for public participation and enjoyment of U.S. recreational fishery resources;

(e) supporting outreach programs designed to stimulate angler participation in the conservation and restoration of aquatic systems;

(f) implementing laws under their purview in a manner that will conserve, restore, and enhance aquatic systems that support recreational fisheries;

(g) establishing cost-share programs, under existing authorities, that match or exceed Federal funds with nonfederal contributions;

(h) evaluating the effects of Federally funded, permitted, or authorized actions on aquatic systems and recreational fisheries and document those effects relative to the purpose of this order; and

(i) assisting private landowners to conserve and enhance aquatic resources on their lands.

**Sec. 2. National Recreational Fisheries Coordination Council.** A National Recreational Fisheries Coordination Council (“Coordination Council”) is hereby established. The Coordination Council shall consist of seven members, one member designated by each of the following Secretaries—Interior, Commerce, Agriculture, Energy, Transportation, and Defense—and one by the Administrator of the Environmental Protection Agency. The Coordination Council shall: (a) ensure that the social and economic values of healthy aquatic systems that support recreational fisheries are considered by Federal agencies in the course of their actions;

(b) reduce duplicative and cost-inefficient programs among Federal agencies involved in conserving or managing recreational fisheries;

(c) share the latest resource information and management technologies to assist in the conservation and management of recreational fisheries;

(d) assess the implementation of the Conservation Plan required under section 3 of this order; and

(e) develop a biennial report of accomplishments of the Conservation Plan.

The representatives designated by the Secretaries of Commerce and the Interior shall cochair the Coordination Council.

**Sec. 3. Recreational Fishery Resources Conservation Plan.** (a) Within 12 months of the date of this order, the Coordination Council, in cooperation with Federal agencies, States, and Tribes, and after consulting with the Federally chartered Sport Fishing and Boating Partnership Council, shall develop a comprehensive Recreational Fishery Resources Conservation Plan ("Conservation Plan").

(b) The Conservation Plan will set forth a 5-year agenda for Federal agencies identified by the Coordination Council. In so doing, the Conservation Plan will establish, to the extent permitted by law and where practicable; (1) measurable objectives to conserve and restore aquatic systems that support viable and healthy recreational fishery resources, (2) actions to be taken by the identified Federal agencies, (3) a method of ensuring the accountability of such Federal agencies, and (4) a comprehensive mechanism to evaluate achievements. The Conservation Plan will, to the extent practicable, be integrated with existing plans and programs, reduce duplication, and will include recommended actions for cooperation with States, Tribes, conservation groups, and the recreational fisheries community.

**Sec. 4. Joint Policy for Administering the Endangered Species Act of 1973.** All Federal agencies will aggressively work to identify and minimize conflicts between recreational fisheries and their respective responsibilities under the Endangered Species Act of 1973 ("ESA") (16 U.S.C. 1531 *et seq.*). Within 6 months of the date of this order, the Fish and Wildlife Service and the National Marine Fisheries Service will promote compatibility and reduce conflicts between the administration of the ESA and recreational fisheries by developing a joint agency policy that will; (1) ensure consistency in the administration of the ESA between and within the two agencies, (2) promote collaboration with other Federal, State, and Tribal fisheries managers, and (3) improve and increase efforts to inform nonfederal entities of the requirements of the ESA.

**Sec. 5. Sport Fishing and Boating Partnership Council.** To assist in the implementation of this order, the Secretary of the Interior shall expand the role of the Sport Fishing and Boating Partnership Council to: (a) monitor specific Federal activities affecting aquatic systems and the recreational fisheries they support;

(b) review and evaluate the relation of Federal policies and activities to the status and conditions of recreational fishery resources; and

(c) prepare an annual report of its activities, findings, and recommendations for submission to the Coordination Council.

**Sec. 6. Judicial Review.** This order is intended only to improve the internal management of the executive branch and it is not intended to create any right, benefit or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any other person.



THE WHITE HOUSE,  
June 7, 1995.

ATTACHMENT 11a

**ATTACHMENT 11a**  
**For-Hire Economic Add-on Telephone Survey**

**Vessel Name** \_\_\_\_\_

**Vessel No.** \_\_\_\_\_

**Randomly Selected Trip Day:** \_\_\_\_\_

**(A. No trips made this day or later in week** - If respondent did not take a trip with paying passengers on the designated day or later in the survey week, please check this box and leave remainder of form blank.) +

**(B. Trip Number** – The sequential number of this trip from effort form. \_\_\_\_\_ (Use a separate form for each trip that ended on the selected trip day)

**Intro.** Now I would like to ask you some additional questions to collect costs and earnings information about your trip(s) that ended on (date). (RECORD ACTUAL DATE SURVEYED:) \_\_\_\_\_

**1. (Party Boat:) Average Passenger Fare** – “What was the average fare for one passenger on this partyboat trip?

**OR** \$ \_\_\_\_\_

**2. (Charter Boat:) Charter Boat Fee** – “What was the total cost of the charter?” \$ \_\_\_\_\_

**3. Landing Owns Vessel** – “Is this vessel owned by the landing?” + yes + no

**4. Commission Paid to Landing Office** – “Was a commission paid to a landing office for this trip?”

+ yes (CONTINUE) + no (SKIP TO Q6)

(IF YES:) “In dollars or as a percentage of receipts (fares), how much was that commission?”

\$ \_\_\_\_\_ OR \_\_\_\_\_ % of receipts

**5. Services included in Commission** – “Were fees for booking passengers, moorage, or other services included in the commission?”

+ booking fees + moorage + other (SPECIFY) \_\_\_\_\_

**6. Other Vessel Receipts** – “Excluding passenger fares and charter fees, what were the other vessel receipts for the trip? Please include tackle sales, gear rental, and vessel sales of food or drink.” \$ \_\_\_\_\_

**7. Crew Size** – “How many crew, including the skipper, that were on board for this trip?” \_\_\_\_\_

**8. Skipper & Crew Payments** – “What was the total amount paid by the vessel to the crew and the skipper for this trip?” \$ \_\_\_\_\_

**9. Estimated Food & Drink Sales by Crew** – “Did the crew sell food and drink to passengers?”

+ yes (CONTINUE) + no (SKIP TO Q10B)

(IF YES:) “How much would you estimate were the **receipts** the crew received for food & drink they sold?”

(If vessel sold food & drink, enter zero.) \$ \_\_\_\_\_ (NOW GO TO Q10A)

**10. Cost of Food & Drink Purchases to Crew/Vessel–**

A. “How much would you estimate was the **cost** of food and drink that were sold by the crew?”

\$ \_\_\_\_\_

B. “How much would you estimate was the **cost** of food and drink that were sold by the vessel?”

\$ \_\_\_\_\_

**11. Gallons of fuel used this trip** – “How much fuel was used on this trip?” \_\_\_\_\_ gallons

**12. Trip fuel cost** – “What price per gallon was paid for the fuel?” \$ \_\_\_\_\_ per gallon

**13. Bait Usage** – “How much bait, measured in either scoops or pounds, was taken/used on this trip?”

\_\_\_\_\_ scoops or \_\_\_\_\_ lbs.

**14. Bait Cost** – “In dollars or as a percentage of receipts (fares), how much did you pay for bait taken/used on this trip?” \$ \_\_\_\_\_ or \_\_\_\_\_ %

**15. City/County Taxes** – “In dollars or as a percentage of receipts (fares), how much was paid to the city or county in taxes for this trip? Do not include annual permits or fees or any sales taxes.”

\$ \_\_\_\_\_ or \_\_\_\_\_ %

**16. Foreign License Fees (IF OCEAN FISHING IN MEXICAN WATERS:)** – “How much was paid to the Mexican government for licenses and other expenses associated with this trip? Do not include annual permits or fees.” \$ \_\_\_\_\_

ATTACHMENT 11b

**ATTACHMENT 11b**

**In-Person Survey Instrument for Open Party and Charter Recreational Fishing Vessels**

**Read the following:** Your participation in this survey is voluntary. Your responses will be treated as confidential records under the Privacy Act of 1974 and NOAA Administrative Order 216-100.

1) **Vessel Name and ID** [we provide and confirm with interviewee] \_\_\_\_\_

**Characteristics of Firm**

2.1) Does the owner generally operate this vessel? Y / N

2.2) Does this firm own vehicles or buildings that are used primarily for the charter business? Y / N

2.2 a) If yes, what is the total estimated current market value of these assets combined?  
\$ \_\_\_\_\_

2.3. Did the owner of this vessel own other charter or open party vessels in 2000? Y / N

If yes, please fill in the tables below for those 2000 costs shared by more than one vessel. If no, proceed to 2.4.

**Characteristics of other Vessels**

Vessel Name	Vessel ID	Port	Length	Gross Tons
b) _____				
c) _____				
d) _____				
e) _____				

**Multi-vessel costs in 2000**

- f) Advertising \$ \_\_\_\_\_
- g) Professional services (legal, accounting, etc.) \$ \_\_\_\_\_
- h) Association fees \$ \_\_\_\_\_
- i) Telephones \$ \_\_\_\_\_



- j) Other office expenses \$ \_\_\_\_\_
- k) Labor for shorebased personnel \$ \_\_\_\_\_
- l) Rent or payment for motor vehicles \$ \_\_\_\_\_
- m) Other \$ \_\_\_\_\_

2.4) If only one vessel is owned, or if any of the costs listed above can be attributed only to the vessel identified at the beginning of this survey in Item 1, please fill in the following table.

Single vessel costs in 2000

- a) Advertising \$ \_\_\_\_\_
- b) Professional services (legal, accounting, etc.) \$ \_\_\_\_\_
- c) Association fees \$ \_\_\_\_\_
- d) Telephones \$ \_\_\_\_\_
- e) Other office expenses \$ \_\_\_\_\_
- f) Labor for shorebased personnel \$ \_\_\_\_\_
- g) Rent or payment for motor vehicles \$ \_\_\_\_\_
- h) Other \$ \_\_\_\_\_

2.5) In what State and County does the principal owner reside? \_\_\_\_\_

**3) Characteristics of Vessel** (we provide and confirm with interviewee)

- a) Length overall (ft) \_\_\_\_\_ feet
- b) Gross registered tons \_\_\_\_\_ tons
- c) Year built (hull) \_\_\_\_\_
- d) Horsepower of main engines \_\_\_\_\_ hp
- e) Type of fuel \_\_\_\_\_
- f) Cruising speed (knots) \_\_\_\_\_ knots
- g) Passenger capacity \_\_\_\_\_
- h) Market value with permits \$ \_\_\_\_\_
- i) Market value without permits \$ \_\_\_\_\_
- j) Cost of vessel when purchased by present owner \$ \_\_\_\_\_

k) Year purchased \_\_\_\_\_

**Annual Information for Vessel in 2000**

4.1) In what Port did the boat conduct most of its activities? \_\_\_\_\_

4.2) Annual Expenditures

- a) Haulout \$ \_\_\_\_\_
- b) Engine overhaul \$ \_\_\_\_\_
- c) All other vessel maintenance \$ \_\_\_\_\_
- d) Electronics maintenance \$ \_\_\_\_\_
- e) Moorage \$ \_\_\_\_\_
- f) Insurance \$ \_\_\_\_\_
- g) Fuel \$ \_\_\_\_\_
- h) Supplies \$ \_\_\_\_\_
- i) Fees paid to foreign or domestic governments \$ \_\_\_\_\_
- j) Landing taxes (if any) \$ \_\_\_\_\_
- k) Food and drink (for crew and passengers, if supplied by the vessel) \$ \_\_\_\_\_
- l) All payments to skipper and crew (wages, shares, salaries, bonuses, and benefits) \$ \_\_\_\_\_
- m) All commissions paid for booking trips \$ \_\_\_\_\_
- n) Payments for bait (including commissions where relevant) \$ \_\_\_\_\_
- o) Mortgage payments \$ \_\_\_\_\_  
Purchase of gear or equipment (include electronics, deck gear, engines, angling equipment, etc.):
- p) Replacement \$ \_\_\_\_\_
- q) Upgrades \$ \_\_\_\_\_

4.3) Annual revenue

- a) Total receipts from all vessel activities in 2000 \$ \_\_\_\_\_
- b) % of vessel receipts from recreational angling trips, including receipts for gear rental, food, etc.) \_\_\_\_\_ %
- c) % of vessel receipts from other charter activities such as whale watching, dive trips, burials at sea, etc. \_\_\_\_\_ %
- d) % receipts from other sources (commercial fishing, tendering, etc.) \_\_\_\_\_ %

4.4) Other annual information

a) Number of full-time employees

\_\_\_\_\_

b) Number of part-time or seasonal employees

\_\_\_\_\_

c) Full-time equivalence of part-time and seasonal employees

\_\_\_\_\_

ATTACHMENT 12

### International Trade Commission Notification

In accordance with section 733(f) of the Act, we have notified the ITC of our preliminary affirmative determination of sales at less than fair value. Because we have postponed the deadline for our final determination to 135 days from the date of publication of this preliminary determination, section 735(b)(2) of the Act requires the ITC to make its final determination as to whether domestic industry in the United States is materially injured, or threatened with material injury, by reason of imports of wooden bedroom furniture, or sales (or the likelihood of sales) for importation, of the subject merchandise within 45 days of our final determination.

### Public Comment

Case briefs or other written comments may be submitted to the Assistant Secretary for Import Administration no later than seven days after the date of the final verification report issued in this proceeding and rebuttal briefs limited to issues raised in case briefs, no later than five days after the deadline date for case briefs. A list of authorities used and an executive summary of issues should accompany any briefs submitted to the Department. This summary should be limited to five pages total, including footnotes.

In accordance with section 774 of the Act, we will hold a public hearing, if requested, to afford interested parties an opportunity to comment on arguments raised in case or rebuttal briefs. If a request for a hearing is made, we will intend to hold the hearing three days after the deadline of submission of rebuttal briefs at the U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230, at a time and location to be determined. Parties should confirm by telephone the date, time, and location of the hearing two days before the scheduled date.

Interested parties who wish to request a hearing, or to participate if one is requested, must submit a written request to the Assistant Secretary for Import Administration, U.S. Department of Commerce, Room 1870, within 30 days after the date of publication of this notice. See 19 CFR 351.310(c). Requests should contain the party's name, address, and telephone number, the number of participants, and a list of the issues to be discussed. At the hearing, each party may make an affirmative presentation only on issues raised in that party's case brief and may make rebuttal presentations only on arguments included in that party's rebuttal brief.

We will make our final determination no later than 135 days after the date of publication of this preliminary determination, pursuant to section 735(a)(2) of the Act.

This determination is issued and published in accordance with sections 733(f) and 777(i)(1) of the Act.

Dated: June 17, 2004.

**James J. Jochum,**

*Assistant Secretary for Import Administration.*

[FR Doc. 04-14361 Filed 6-23-04; 8:45 am]

**BILLING CODE 3510-DS-P**

## DEPARTMENT OF COMMERCE

### International Trade Administration

(C-122-848)

#### Hard Red Spring Wheat from Canada: Notice of Extension of Time Limit for Countervailing Duty Expedited Review

**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.

**SUMMARY:** The Department of Commerce is extending the time limit for the preliminary results of the countervailing duty expedited review of hard red spring wheat from Canada. The period of review is August 1, 2001, through July 31, 2002.

**EFFECTIVE DATE:** June 24, 2004.

**FOR FURTHER INFORMATION CONTACT:**

Daniel J. Alexy, Office of AD/CVD Enforcement I, Import Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone (202) 482-1540.

**SUPPLEMENTARY INFORMATION:**

**Background:**

On December 23, 2003, the Department of Commerce ("the Department") initiated a countervailing duty expedited review of Richelain Farms. See *Notice of Initiation of Countervailing Duty Expedited Review*, 68 FR 75490 (December 31, 2003). The preliminary results are currently due no later than June 21, 2004.

**Time Limits**

Sections 351.214(k)(3) and 351.214(i)(1) of the Department's regulations require the Department to issue the preliminary results within 180 days after the date on which the expedited review is initiated. However, if the proceeding is extraordinarily complicated, section 351.214(i)(2) of the regulations allows the Department to extend this deadline to a maximum of 300 days.

### Extension of Time Limit

The Department has determined that additional time is necessary to issue the preliminary results in this expedited review for the reasons stated in the memorandum from Susan Kubbach to Jeffrey May, dated June 16, 2004. Therefore, in accordance with sections 351.214(k)(3) and 351.214(i) of the Department's regulations, we are extending the time limit of the preliminary results of this expedited review until no later than October 18, 2004.

This notice is published pursuant to section 777(i)(1) of the Act.

Dated: June 18, 2004.

**Jeffrey May,**

*Deputy Assistant Secretary for Import Administration, Group 1.*

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**BILLING CODE 3510-DS-S**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

[I.D. 061804G]

#### Proposed Information Collection; Comment Request; Marine Recreational Fishery Statistics Survey

**AGENCY:** National Oceanic and Atmospheric Administration (NOAA).

**ACTION:** Notice.

**SUMMARY:** The Department of Commerce, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)).

**DATES:** Written comments must be submitted on or before August 23, 2004.

**ADDRESSES:** Direct all written comments to Diana Hynek, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6625, 14th and Constitution Avenue, NW, Washington, DC 20230 (or via the Internet at [dHynek@doc.gov](mailto:dHynek@doc.gov)).

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the information collection instrument and instructions should be directed to Nicole D. Bartlett, U.S. Department of Commerce, NOAA, National Marine Fisheries Service, Fisheries Statistics Division, F/ST1, Room 12427, 1315 East-West Highway,

Silver Spring, MD 20910, Phone: (301) 713-2328, ext. 216.

**SUPPLEMENTARY INFORMATION:**

**I. Abstract**

Marine recreational anglers are surveyed for catch and effort data, fish biology data, and angler socioeconomic characteristics. These data are required to carry out provisions of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*), as amended, regarding conservation and management of fishery resources.

**II. Method of Collection**

A random-digit-dialing telephone survey of coastal zone households collects data on the proportion of marine fishing households and the number of shore and private/rental boat fishing trips by residents of those households. A directory telephone survey of boat operators collects data on the numbers of angler fishing trips on party and charter boats. On-site intercept interviews of marine recreational anglers collect data on the catch per trip by species. Supplemental surveys collect economic data about marine recreational fishing.

**III. Data**

*OMB Number:* 0648-0052.

*Form Number:* None.

*Type of Review:* Regular submission.

*Affected Public:* Individuals or households; business or other for-profit organizations.

*Estimated Number of Respondents:* 770,504.

*Estimated Time Per Response:* 7 minutes for fishing households; 7 minutes for party/charter boat operators; 4.5 minutes for intercepted anglers; 3 minutes for supplemental economic data from fishing households; 5 minutes for supplemental economic data from party/charter boat operators; 8 minutes for supplemental economic data from intercepted anglers; 1.5 minutes for verification calls; 1 minute for non-fishing households; and .5 minutes for non-households.

*Estimated Total Annual Burden Hours:* 34,887.

*Estimated Total Annual Cost to Public:* \$0.

**IV. Request for Comments**

Comments are invited on: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden (including hours and cost) of the

proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: June 17, 2004.

**Gwellnar Banks,**

*Management Analyst, Office of the Chief Information Officer.*

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**BILLING CODE 3510-22-S**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

[I.D. 061804F]

**Proposed Information Collection; Comment Request; Saltonstall-Kennedy Grant Program (S-K Program) Applications and Reports**

**AGENCY:** National Oceanic and Atmospheric Administration (NOAA).

**ACTION:** Notice.

**SUMMARY:** The Department of Commerce, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104-13 (44 U.S.C. 3506(c)(2)(A)).

**DATES:** Written comments must be submitted on or before August 23, 2004.

**ADDRESSES:** Direct all written comments to Diana Hynek, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6625, 14th and Constitution Avenue, NW, Washington, DC 20230 (or via the Internet at [dHynek@doc.gov](mailto:dHynek@doc.gov)).

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the information collection instrument and instructions should be directed to Alicia Jarboe, F/MB5, Room 13112, 1315 East-West Highway, Silver Spring, MD 20910-3282 (telephone 301-713-2358, ext. 199 or e-mail [alicia.jarboe@noaa.gov](mailto:alicia.jarboe@noaa.gov)).

**SUPPLEMENTARY INFORMATION:**

**I. Abstract**

The S-K Program provides financial assistance on a competitive basis for research and development projects that benefit the U.S. fishing industry (commercial and recreational). In addition to standard Federal government grant application requirements, S-K applications must provide a project summary form (NOAA Form 88-204), use NOAA Form 88-0205 instead of SF-424A for budget information, and provide one original and nine copies of applications. Successful grants applicants are required to submit semi-annual progress reports and a final report.

**II. Method of Collection**

Final reports must be submitted in electronic form unless an exemption is granted. The other documentation is in paper form.

**III. Data**

*OMB Number:* 0648-0135.

*Form Number:* NOAA Forms 88-204 and 88-205.

*Type of Review:* Regular Submission.

*Affected Public:* Not-for-profit institutions; business or other for-profit organizations; individuals or households; and state, local, or tribal government.

*Estimated Number of Respondents:* 210.

*Estimated Time Per Response:* 1 hour for a project summary form; 1 hour for a budget form; 2.5 hours for a semi-annual report; and 13 hours for a final report.

*Estimated Total Annual Burden Hours:* 985.

*Estimated Total Annual Cost to Public:* \$606.

**IV. Request for Comments**

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden (including hours and cost) of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection;