

Main Hawaiian Islands Bottomfish Fishery Survey Responses to Supplemental Questions for PRA Clearance OMB Review of Individual Instruments

Project Title: Cost Earnings Study of Hawaii's Main Hawaiian Islands Bottomfish Fishery

Objective: The Main Hawaiian Islands (MHI) bottomfish fleet has undergone substantial institutional and regulatory changes in recent years including a shift to Total Allowable Catch (quota) management coupled with seasonal closures and non-commercial permitting requirements. Estimates of operational aspects of the MHI bottomfish fleet, financial performance, and its economic contribution to the state of Hawai'i are nonexistent as an extensive economic analysis of the fishery has not been conducted. Given the multitude of recent regulatory changes within the fishery and the potential for further changes in the future, it is imperative that economic and social data on the fishery are collected.

1. The potential respondent universe and any sampling or other respondent selection method to be used and the expected response rate.

Potential Respondent Universe

The potential respondent universe consists of 703¹ active bottomfish fishermen holding either Pacific Islands Regional Office (PIRO) non-commercial bottomfish permits or State of Hawaii commercial marine licenses (CML) to catch and sell (only CML holders are permitted to sell) Federal Bottomfish Management Unit Species (BMUS)². These permits must be renewed annually, and fishermen holding these permits must file monthly reports of fishing catch and effort. Active fishermen for our study are defined as those holding a valid State of Hawaii CML or PIRO bottomfish permit for fishing year 2010 (began September 1, 2009). Survey respondents will be contacted via the list of active permit holders held by the State of Hawaii Division of Aquatic Resources (DAR) and PIRO. Contact information (mailing address and phone numbers) will be provided by the Hawaii DAR office through a cooperative data sharing agreement that is currently in place. As permits must be renewed annually we are confident that valid contact information is readily available for permit holders and provides us a distinct target population.

Sampling and Other Respondent Selection Methods

The survey will be distributed to a census of the vessels in the survey population. While cost earnings surveys of the Hawaii small boat fishery have demonstrated the effectiveness of in-person interviews in collecting data and obtaining high response rates, the large size of the MHI bottomfish fleet, spatial distribution across six islands, and relatively high cost of in-person data collection make the use of this mode of administration for all members of our population impractical. As a result, we propose a mixed-mode administration featuring an initial mail

¹ State of Hawaii Division of Aquatic Resources (11/10/2009)

² This includes 15 species of snappers (both deepwater and shallow water), groupers, and jacks

instrument followed by phone, in-person, and email administration where desired by the respondent or where necessary to account for any non-response bias identified.

The initial mailing will consist of an introductory letter introducing the survey to the population. Within a week, respondents will receive a package including a cover letter and survey instrument designed to be filled out and returned in a self-addressed stamped envelope. Nonrespondents will receive a series of follow-up mailings which utilize the techniques developed by Dillman (2008)³ to increase survey response rates. In the third mailing, a postcard will be supplied allowing respondents to indicate whether they would prefer to conduct the survey over the phone or in-person. We can ensure the representativeness of our sample by comparing completed surveys to the survey population distribution (both spatial and effort-based distributions by linking respondents to commercial fishing records)

All survey recipients will be given the name, telephone number, and email of the principal investigator to contact with any questions or to schedule an interview with field staff, if desired. In addition to home mailing address, within the bottomfish license frame, 92.3% of fishers have a valid home phone number, 81.2% have a cell phone number on record, 52.3% note a business phone number, and 44.4% have submitted an email address. The same questionnaire will be used for all modes (mail, telephone, and in-person interviews).

Expected Response Rate

The expected response rate is approximately 70% with a target sample size of 492 (703*70%) completed and usable surveys. As described above, this will be accomplished through a mixed-mode instrument designed in an effort to balance cost considerations and allow for an improved response rate. We will couple a mail instrument with in-person/telephone surveys where desired by respondents or where necessary to account for non-response bias. We expect that this flexibility of survey administration will greatly improve our response rates.

There has never been a concentrated research effort on the MHI bottomfish fleet. Therefore we do not have any history of response rates for this specific fleet; however they can be classified as active members of the broader defined Hawaii small boat fishery, of which we have an established research history. Recently completed research on the Hawaii commercial small boat fishery (Hospital, Scholey, and Pan, *In Press*⁴) using intercept face-to-face interviews achieved a response rate of 74.7% while Hamilton and Huffman (1997)⁵ received a 77% response rate for in-person intercept surveys conducted on the commercial small boat fishery in Hawaii. Therefore, it is safe to assume that we will get a similar response rate from those requesting the survey to be administered in person

³ Dillman, Don, Jolene D. Smyth, and Leah Melani Christian. *Internet, Mail and Mixed-Mode Surveys: The Tailored Design Method*, John Wiley (2008)

⁴ Hospital, Justin, Skaidra Scholey, and Minling Pan. In Press. *Economic and Social Characteristics of the Hawaii Small Boat Pelagic Fishery*. Pacific Islands Fisheries Science Center. Technical Memorandum.

⁵ Hamilton, Marcia S., and Stephen W. Huffman, *Cost-Earnings Study of Hawaii's Small Boat Fishery, 1995-1996*, 104 pp, University of Hawaii, Joint Institute for Marine and Atmospheric Research, 1000 Pope Road, Honolulu, HI 96822, 1997.

Also, due to the extensive regulation of the MHI bottomfish fishery (arguably the most heavily regulated in Hawaii) this survey will be extremely salient to survey respondents. The nature of the survey instrument allows fishermen an opportunity to comment on past and future management, so we envision high response rates to the mail instrument.

Based on previous survey response rates, the relevance of the survey to these fishermen and the flexibility of survey methods, we envision a response rate of 70%.

Table 1
Expected Response Rates for MHI Bottomfish Fleet

Number of Fishers	Data Collection Method	Expected response rate	Expected number of responses
703	Mixed Mode*	70%	492

* All respondents will receive a mail instrument, but will be given the flexibility of making alternative arrangements to complete the survey by phone or to arrange for an in-person interview – where requested

2. Data collection procedures, including the statistical methodology for stratification and sample selection, the estimation procedures, the degree of accuracy needed for the intended purpose, expected dates of survey implementation, and any unusual problems requiring specialized sampling procedures.

Data Collection Procedures, Sample Selection and Stratification

We intend to conduct a census of the MHI bottomfish fleet using a mixed-mode survey design. Our initial mode of administration will consist of a mail instrument sent to all active State of Hawaii bottomfish fishers, holding a valid CML or non-commercial bottomfish permit for Federal BMUS species. Data collection and sample selection methods are detailed in Question 1. The most obvious stratification within the MHI bottomfish fleet is at county and island level. The Main Hawaiian Islands consists of four counties comprising seven islands across the Hawaiian archipelago. Degrees of fishery conditions, participation, and market access vary spatially both across counties and within islands (see Table 2 and Table 3). Initial stratification is not a concern as we will mail instruments to our entire population. However, stratification is a primary concern in the context of non-response bias (see question 3). Initial non-respondents will receive a series of follow-up mailings which utilize the techniques developed by Dillman, et al. (2009)⁶ to increase survey response rates.

⁶ Dillman, Don, Jolene D. Smyth, and Leah Melani Christian. *Internet, Mail and Mixed-Mode Surveys: The Tailored Design Method*, John Wiley (2009)

Table 2
Distribution MHI Bottomfish Fleet 2008, by County

County	Number of Vessels	Percentage of BMUS-licensed vessels	Percentage of total BMUS pounds caught
Hawaii	233	33	20
Maui	155	22	27
Honolulu	230	33	39
Kauai	85	12	14
Total MHI bottomfish fleet	703	100	100

Table 3
Distribution MHI Bottomfish Fleet 2008, by Island

Island	Number of Vessels	Percentage of BMUS- licensed vessels	Percentage of total BMUS pounds caught
Hawaii	233	33	20
Maui	133	19	23
Lanai	7	1	1
Molokai	15	2	3
Oahu	230	33	39
Kauai	85	12	14
Total MHI bottomfish fleet	703	100	100

Table 4
Minimum Sample Size, by County, Island, and Fishery

County (Island)	10% margin of error	5% margin of error
Hawaii	68	145
Maui	60	111
(Maui)	(56)	(99)
(Lanai)	(7)	(7)
(Molokai)	(13)	(14)
Honolulu (Oahu)	68	144
Kauai	45	70
Total Fishery	85	249

Degree of Accuracy Needed for Intended Purpose

The desired degree of accuracy, and corresponding desired response rate, depends upon the application for which the data are being used. A basic application of the survey data could be the inference of unobserved population mean values from the observed sample mean values. Given a population of 703 fishermen, a sample of 249 vessels would provide a sample mean within 5%

of the population mean. This can be reached with a response rate of 36% from our initial mail instrument – which is far less than what we expect (given recent management changes and increased regulations within this fishery, fishers are actively engaged in the management process as they must renew their license annually and are contacted regularly (through their home mailing address) by government agencies as to the current status of quota levels through quarterly newsletters).

Two reasons can be identified for desiring higher response rates than those needed to support inference of population means from sample means.

First, data from this survey may be used to develop a variety of economic models covering applications such as economic contributions of the fishery to the state economy, fishery participation, and the economic health of the fishery. In these applications, error will arise not only from how well the data used for model development represents the population, but also from model specification and estimation. Since it is not possible to completely avoid specification and estimation error in model development, there is good reason to desire a higher response rate and higher degree of accuracy in the data collection process.

Second, future applications of the data may require further disaggregating the population into smaller groups according to factors such as county, island, motivation, vessel size, or scale of operations. Identification of all such future disaggregated data needs is not possible at the present time. A higher response and higher degree of accuracy in the current data collection process will facilitate such future population disaggregation. Using our expected response rate of 70% and a sample distribution that mirrors Table 4, we can provide sample means within 5% of the population mean at the county and island level.

Expected Dates of Survey Implementation

Preferred start date for initiating the mail treatment of the survey is April 1, 2010. Following established methodologies by Dillman, et al. (2009)⁷ we intend to allow respondents ample time (8 weeks) to complete the mail instrument or opt for an in-person/phone treatment. For non-respondents to the mail instrument or for respondents preferring an in-person interview, field staff will initiate contact to arrange interviews at the convenience of fishers. This is an ideal time to engage this fishery as the spring is generally a low effort period for bottomfish fishing and also is prior to the pelagic season which peaks in the mid-to-late summer months. Additionally, collection of economic data may be timelier given the proximity to tax season.

3. The methods used to maximize response rates and address non-response. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses.

Strategy to Maximize Response Rates

⁷ Dillman, Don, Jolene D. Smyth, and Leah Melani Christian. *Internet, Mail and Mixed-Mode Surveys: The Tailored Design Method*, John Wiley (2009)

There are a number of reasons why a response rate of approximately 70% is anticipated for this survey. For one, the MHI bottomfish fishery is arguably the most heavily regulated fishery in Hawaii – managed through a total allowable catch and the requirement on non-commercial permits with reporting requirements to catch bottomfish species. Secondly, we have a distinct population actively involved in the fishery management process – due to intense regulation.

In addition, numerous outlets are available to us for getting survey information directly to bottomfish fishers. Fishery agencies are already in direct contact with these fishers during the fishing year by way of a mailed newsletter which update fishers on the status of the quota level and alert them to a potential fishery closure. Extensive outreach activities will help our response rate. Informing the fishermen about the purpose and need for the cost-earnings survey will be important to the success of the survey. Outreach will occur on a number of levels:

- Written materials: A summary of the research goals and methods will be provided directly to our target population in advance of fieldwork through the State of Hawaii *Bottomfish News* newsletter. A similar article will be submitted to trade magazines such as *Hawaii Fishing News* and *Lawai'a*. In addition, fact sheets will be made available at dealer establishments licensed to purchase and sell Federal BMUS. All disseminated written material will describe the purpose and need of the survey, how it will be administered, address confidentiality concerns, and provide principal investigator contact information.
- Informational web page on the Pacific Islands Fisheries Science Center web site as well as the official Hawaii Bottomfish web site administered jointly by the State of Hawaii, Western Pacific Regional Fishery Management Council, and National Marine Fisheries Service
- Informational materials promoting/detailing the survey will be provided at upcoming Western Pacific Regional Fishery Management Council meetings
- Variety of people, including Pacific Islands Fisheries Science Center and Western Pacific Regional Fishery Management Council staff, are available to assist in this research

Strategy to Address Non-Response

All fishers licensed to catch Federal BMUS must file monthly catch reports. Additionally, the State of Hawaii requires all fishers that sell fish to own a commercial marine license and each transaction is monitored through a State of Hawaii dealer database. Using these resources, we are aware of the spatial distribution of licensed fishers by island (and county) across the State of Hawaii, as well as the distribution of fishing effort and revenues. Based on the distribution of survey responses that we receive these databases provide a direct link, both spatial and effort-based, to validate the representativeness of our sample. If non-response bias appears evident in our survey responses, efforts will be made to contact groups that are under-represented or weighting methods could be developed to account for non-response.

Accuracy of Data Collected

NMFS needs to measure the economic performance of MHI bottomfish fishers in order to meet legal and regulatory requirements, support fisheries management decision making, and undertake economic research. Currently, no cost earnings data are available to meet these needs. This study will collect data that is needed to construct key economic performance measures such as profitability, productivity, economic impacts, and social aspects of the fishery. The data gathered and performance measures constructed will be used to address a wide range of issues.

While the data will be used to comply with legal and regulatory requirements, these requirements do not specify a level of data accuracy. As explained in the response to Question 2, greater precision is desired than would be achieved from responses resulting in a sample mean within 5% of the population mean..

4. How the survey instrument was developed, including the steps taken to validate the questionnaire design.

The survey instrument closely mirrors an instrument developed, approved by OMB, and successfully implemented by Hospital, Scholey, and Pan (*In press*)⁸. While a distinct fleet, the population in this past survey treatment approximates the survey population for the study at hand. The survey has been reviewed and pre-tested with Federal staff of the NMFS Pacific Islands Fisheries Science Center (PIFSC), State of Hawaii, and Western Pacific Regional Fishery Management Council, many of whom work very closely with fishermen in our target population. All comments were considered in the design of the final survey format.

5. The reporting and use of the results of the survey

Use of Survey Results

NMFS needs to measure the economic performance of MHI bottomfish fishers in order to meet legal and regulatory requirements, support fisheries management decision making, and undertake economic research. Currently, no cost earnings data are available to meet these needs. This study will collect data that is needed to construct key economic performance measures such as profitability, productivity, economic impacts, and social aspects of the fishery. The data gathered and performance measures constructed will be used to address a wide range of issues.

Reporting of Survey Results

Survey results will be reported through a series of summaries prepared for the general fishing public, fisheries managers, and academics. Results will be reported directly to fishers through the State of Hawaii's quarterly *Bottomfish News* newsletter (mailed directly to our target population) and *Hawaii Fishing News*, a monthly publication targeted to the fishing community of Hawaii. It is anticipated that results will also be reported in the form of a technical

⁸ Hospital, Justin, Skaidra Scholey, and Minling Pan. In Press. *Economic and Social Characteristics of the Hawaii Small Boat Pelagic Fishery*. Pacific Islands Fisheries Science Center. Technical Memorandum.

memorandum of the Pacific Fisheries Science Center, academic publications, and presentations at conferences. All reporting of survey results will conform to data confidentiality requirements. Qualified researchers with data access and confidentiality agreements will have access to raw data for performing future analyses.

Information Quality Guidelines and Confidentiality

It is anticipated that the information collected will be disseminated to the public or used to support publicly disseminated information. As explained in the previous paragraphs, the information gathered has utility. NMFS 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. In particular, the data collected will be kept confidential as required by section 402(b) of the Magnuson-Stevens Act 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.

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.

6. Contact information for agency coordinator and principal investigator.

Agency Coordinator

Sarah Malloy
NOAA Fisheries
Pacific Islands Fisheries Science Center
2570 Dole St.
Honolulu, HI 96822
808-983-5364
Sarah.Malloy@noaa.gov

Principal Investigator

Justin Hospital
NOAA Fisheries
Pacific Islands Fisheries Science Center
1601 Kapiolani Blvd, suite 1110
Honolulu, HI 96814
808-944-2188
Justin.Hospital@noaa.gov

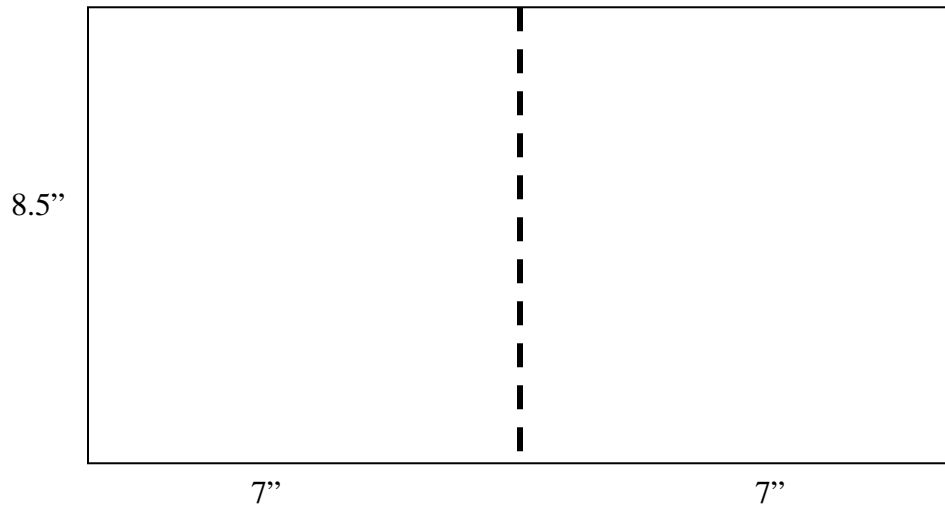
7. Estimated burden and number of respondents

Completing the survey is expected to take 45 minutes per respondent. As a result, the survey is expected to impose a total of 369 burden hours on the MHI bottomfish fleet.

Total Target Population	703
Expected survey response rate	70%
Expected # survey respondents	492
Average burden hours/survey	45 minutes
Total in-person burden hours	369
Total annual burden hours	369

SURVEY INSTRUMENT

Legal size paper – landscape format – booklet



Aloha, help us to better understand bottomfish fishing in Hawaii. Your thoughts, opinions, and details of fishing activity are important for getting accurate results. We want to best represent bottomfish fishers in Hawaii and we can only do that by hearing from as many fishers as possible. While your response is voluntary, we hope that you can help us in this research

SECTION A. YOUR FISHING EXPERIENCES

1. Approximately how many total fishing trips did you take over the past 12 months? _____

2. How many of these fishing trips, over the past 12 months, did you primarily target **bottomfish** _____

Fishermen in Hawaii use many gear types and target multiple species

3. In the past 12 months, what percent of your fishing trips were **primarily**:

- a. Shallow water bottomfish _____%
b. Deep water bottomfish _____%
c. Trolling _____%
d. Other _____%

(please check that a+b+c+d equals 100%)

4. In the past 12 months, what percentage of your **bottomfish** trips did you fish for bottomfish in

- a. State waters only (0-3nm) _____%
b. Federal waters only (greater than 3nm) _____%
c. Both State and Federal waters _____%

(please check that a+b+c equals 100%)

5. How long is your average **bottomfish** trip? _____ hours

6. Do you always fish out of the same boat ramp or harbor? yes ->go to Q7 no ->go to Q6a

If no:

6a. On average, how many different boat ramps or harbors do you use in a year? _____

If trailered, indicate one-way distance to most common launch ramp; If moored, please indicate one-way distance to slip

7. On average, how far do you travel to launch? _____ miles

8. In the past 12 months, approximately how many total pounds of **bottomfish** did you catch?

- 0 - 50 pounds 51 - 100 pounds 101 - 500 pounds 501 - 1000 pounds 1001 - 2500 pounds
 More than 2500 pounds

9. In the past 12 months, what percentage of your **bottomfish** catch was:

- a. Sold _____% -> if sold = 0% go to question 14
b. Consumed at home _____%
c. Given to crew _____%
d. Given to friends/neighbors/coworkers _____%

(please check that a+b+c+d adds to 100%)

If any of the catch was sold:

10. Where did you sell your **bottomfish** catch?

(check box if yes, and please indicate percentage of catch sold to outlet)

- Auction _____%
 Dealer/Wholesaler _____%
 Markets/stores _____%
 Restaurants _____%
 Friends/neighbors/coworkers _____%
 Roadside sales _____%
 Other (specify) _____%

(please check that total adds to 100%)

If any of the catch was sold:

11. Can you usually sell all of your fish if you want to? yes no

If NO: why not? _____

If any of the catch was sold:

12. In the past 12 months what percent of your personal income, before taxes, came from fishing?

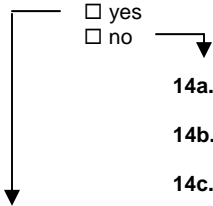
- 0% to 25% 26% to 50% 51% to 75% 76% to 100%

If any of the catch was sold:

13. In the past 12 months what percent of your fishing income, before taxes, came from bottomfish fishing?
 0% to 25% 26% to 50% 51% to 75% 76% to 100%

SECTION B. VESSEL AND GEAR

14. Do you own the boat that you fish bottomfish on?



14a. Do you individually report your bottomfish catch? always sometimes rarely never

14b. Do you always fish bottomfish on the same boat? yes no

14c. Do you always fish bottomfish with the same captain? yes no -> Go to Section C

If own:

15. What is the length of your boat? _____ feet

If own:

16. In what year was the boat built? _____

If own:

17. Do other people (other than family members) use the boat without you?
 often sometimes rarely never

If own:

18. Did you purchase this boat specifically for bottomfish fishing? yes no

If own:

19. In what year did you purchase the boat you bottomfish on? _____
(if homebuilt – when did you complete it)

If own:

20. How much did you pay to purchase the boat you bottomfish on? \$ _____
(if homebuilt – how much did it cost to build it)

If own:

21. How did you purchase this boat? cash only cash and loan loan only

If cash and loan or loan only:

21a. What was the original loan amount? _____

22. What is the approximate market value, in dollars (considering age and current condition), of the electronics you currently use to fish? \$ _____

23. When did you last upgrade your fishing electronics (GPS, fishfinder)?
 this year one to three years ago over three years ago

24. What is the approximate market value, in dollars (considering age and current condition), of the gear and equipment you currently use to fish (not including electronics)? \$ _____

25. What is the approximate market value, in dollars (considering age and current condition), of your boat (including motor(s) and trailer, but not including gear, equipment, or electronics mentioned above)?
\$ _____

SECTION C. YOUR FISHING EXPENDITURES AND COSTS

In an effort to better understand your economic contribution to the state of Hawaii we would like to ask about your fishing-related expenditures in 2009. In the table below please indicate how much, if any, was spent on the following items during

2009. Enter "0" if you did not have any expenses in a category. **Please Do Not Leave Blank.** Remember that all your answers are strictly confidential. If you purchased any of these items out of state (online or through a catalog and shipped to Hawaii) please indicate the percentage of each category that was purchased out of state.

26.

Cost Category	2009 Expenditure (dollars)	% purchased out of State
Boat insurance	\$	
Loan payments	\$	
Financial services (accounting, taxes)	\$	
Moorage fees	\$	
Repair, maintenance, and improvements for vessel, engines, or trailer	\$	
Oil and lube	\$	
Gear (lines, lures, gaffes, rods, reels, coolers, etc.)	\$	
Electronics	\$	
Fees (CML, ramp, registration for truck and trailer, dry dock fees, fishing club dues, etc.)	\$	
Safety Equipment	\$	
Other (specify) _____	\$	

27. Think about your last **bottomfish** trip, in what month was this trip made? _____

28. How much money was spent on your most recent **bottomfish** trip?

Variable Cost	Expenditure (most recent trip)	
Boat Fuel	\$	<input type="checkbox"/> gas <input type="checkbox"/> diesel
Truck Fuel (round-trip)	\$	<input type="checkbox"/> gas <input type="checkbox"/> diesel
Ice	\$	
Bait	\$	
Food and Beverage	\$	
Other (specify) _____	\$	

29. What percentage of these costs did **you** pay? _____ %

30. How many people in total, including yourself, are on board for an average **bottomfish** trip? _____

31. If you are the boat captain on **bottomfish** trips, how do you compensate your crew?
 (if you are not the captain on the boat you fish bottomfish on, how are you compensated for your time)?

- Percentage (%)
- Given a percentage of total fish caught _____
 - Given a percentage of trip revenues _____
 - Crew pays a percentage of trips costs _____
 - Crew keeps all the fish they catch _____
 - I always fish alone _____

If you have some other compensation arrangement that you could detail please describe below:

SECTION D. ABOUT YOU

32. In what year were you born? _____

33. How long have you targeted **bottomfish**? _____ years

34. How would you describe your race? (check all that apply)

- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White

35. Are you currently employed?

- Employed Full-time
- Employed Part-time
- Retired
- Student (full-time)
- Student (part-time)
- Unemployed
- Other (specify) _____

36. What is the highest level of education you have completed?

- Less than 9th grade
- Some High school (no diploma)
- High school graduate (including GED)
- Some college (no degree)
- Associates degree or technical school
- College graduate (bachelor degree)
- Advanced, Professional, or doctoral degree

37. What was your total household income, before taxes, in 2008, including fishing income?

- Less than \$10,000
- \$10,000 to \$14,999
- \$15,000 to \$24,999
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 to \$199,999
- \$200,000 or more

SECTION E. WHAT DO YOU THINK?

Fishermen in Hawaii have different perceptions of current fishing conditions and attitudes toward current management actions. We'd like to hear what you think

38. When you fish for bottomfish do you *primarily* target

- Shallow water bottomfish Deep water bottomfish I don't have any particular target species Don't know

The bottomfish fishery underwent significant changes three years ago with the institution of a total allowable catch limit for deep 7 (onaga, opakapaka, ehu, hapu'upu'u, lehi, kalekale, gindai) bottomfish in the main Hawaiian Islands. For the following three questions, please express your opinion on a scale of "improved greatly" to "gotten much worse"

39. Over the past 3 years, do you feel that the number of your *target* bottomfish species available to catch has...

- Improved greatly Improved somewhat Remained about the same Gotten slightly worse Gotten much worse
 Don't Know

40. Over the past 3 years, do you feel that your ability to catch your *target* bottomfish species has...

- Improved greatly Improved somewhat Remained about the same Gotten slightly worse Gotten much worse
 Don't Know

41. Over the past 3 years, do you feel that your ability to sell your *target* bottomfish species has...

- Improved greatly Improved somewhat Remained about the same Gotten slightly worse Gotten much worse
 Don't Know
 I don't sell bottomfish

People have different opinions on the definition of commercial fishing...

42. How would you define a fisherman as commercial? (check all that apply)

- Sells at least one fish
- Sells a portion of fish after a good trip to cover trip expenses
- Sells fish over and above trip expenses to make a profit
- Sells fish only to friends and neighbors
- Trades fish for goods and/or services
- Earns the majority of their income from fishing
- Relies solely on fishing to provide income
- Other _____

43. How do you define yourself as a bottomfish fisherman? (check all that apply)

- Full-time commercial Part-time commercial Recreational Subsistence Other (specify) _____

44. Are the bottomfish you catch an important source of food for your family? yes no

45. Are the non-bottomfish fish you catch an important source of food for your family? yes no

We'd like to now ask your level of satisfaction with current fishery management agencies

46. How satisfied are you with Federal management of the Hawaii bottomfish fishery?

- Extremely Satisfied Somewhat Satisfied Neutral Somewhat Dissatisfied Extremely Dissatisfied
 Don't Know

47. How satisfied are you with State of Hawaii management of the Hawaii bottomfish fishery?

- Extremely Satisfied Somewhat Satisfied Neutral Somewhat Dissatisfied Extremely Dissatisfied
 Don't Know

48. On a scale of 'extremely effective' (1) to 'not effective at all' (5) please circle your opinion of previous and current management actions on promoting healthy bottomfish populations in Hawaii

	Extremely Effective			Not Effective at all		
Bag limits for non-commercial fishermen	1	2	3	4	5	don't know
Summer closure in 2007	1	2	3	4	5	don't know
Seasonal Closures in 2008 and 2009	1	2	3	4	5	don't know
Total Allowable Catch levels for Deep 7	1	2	3	4	5	don't know
Old bottomfish restricted areas (BFRAs)	1	2	3	4	5	don't know
New bottomfish restricted areas (BFRAs)	1	2	3	4	5	don't know
Non-commercial bottomfish permit requirements	1	2	3	4	5	don't know

If you wish to add additional comments to clarify your response you may do so here:

In the United States, and worldwide, many fisheries are being managed by 'catch share' systems. These systems allocate a specific portion of the total allowable catch of a fishery to individuals, cooperatives, communities, or other entities. Each existing program is designed differently to address the specific conditions of the fishery.

49. How familiar are you with 'catch share' systems?

- Extremely familiar Somewhat familiar I have not heard of it Don't Know



50. In thinking about how to manage the Hawaii bottomfish fishery in the future, please indicate your level of approval for establishing a form of a 'catch share' system

- Strongly Support Somewhat Support Neutral Somewhat Oppose Strongly Oppose Don't Know

51. What characteristics of a 'catch share' program would you support?

	Strongly Support			Strongly Oppose		
a total allowable catch that only applies to commercial fishing	1	2	3	4	5	don't know
allocation between commercial and recreational fishing	1	2	3	4	5	don't know
allocation between commercial, recreational, and charter fishing	1	2	3	4	5	don't know
a total allowable catch that is allocated by island	1	2	3	4	5	don't know
a quota limit for each individual fishermen that cannot be transferred	1	2	3	4	5	don't know
a quota limit for each individual fishermen that is transferable	1	2	3	4	5	don't know

- I would not support any form of 'catch share' program

If you wish to add additional comments to clarify your response you may do so here:

Mahalo for participating in this survey. The information you have provided will improve our understanding of the Hawaii bottomfish fishery

52. Do you have any suggestions for how Hawaii's bottomfish fisheries should be managed

53. Are there topics that you feel need further study?

Paperwork Reduction Act Statement. The information you provide will remain strictly 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. We will combine your responses with information provided by other participants, and report it in summary form so that responses for any individual vessel can not be identified. Public reporting burden for this information collection, including time for gathering data needed and completing the survey, is estimated to average 45 minutes per respondent. Please provide comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Justin Hospital, NOAA Fisheries, 1601 Kapiolani Blvd, Suite 1110., Honolulu, HI 96814, 808-944-2188, Justin.Hospital@noaa.gov. Notwithstanding any other provision 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 requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

INTRODUCTORY LETTER



<< Date >>

<< Name >>

<< Address >>

Dear << Name >>,

Aloha << First Name >>, I am writing to ask your help in understanding bottomfish fishing in Hawaii. This study, conducted by NOAA Fisheries, has two primary objectives: most importantly, we wish to collect information on fishing costs, fishing activity and assess the financial performance of the MHI bottomfish fleet. Secondly, we would like to explore *your* motivations for bottomfish fishing, *your* attitudes and perceptions towards current management issues in the fishery, and *your* suggestions for future management. This information will provide feedback to managing agencies of the important economic contributions your bottomfish fishing activities provides to the State and will help establish a baseline for assessing the economic impacts of future management plans, management alternatives, and actions.

As a licensed Main Hawaiian Islands (MHI) bottomfish fisherman, we are hoping that you can help in this study. Your contact information was obtained from the State of Hawaii Division of Aquatic Resources through a cooperative agreement between DAR and NOAA Fisheries. Your answers will never be associated with your mailing address and will be kept confidential. While your response is voluntary, we hope that you can help us in this research. If you have any questions or concerns pertaining to this survey, please call Justin Hospital, by telephone at 808-944-2188 or by email at Justin.Hospital@noaa.gov.

You can expect to receive a survey questionnaire in the mail within a week.

Your kokua is greatly appreciated.

Mahalo,

< Signature >

Justin Hospital
Economist, National Marine Fisheries Service
Pacific Islands Fisheries Science Center
1601 Kapiolani Blvd, suite 1110
Honolulu, HI 96814
(808) 944-2188
Justin.Hospital@noaa.gov



**COVER LETTER GIVEN TO RESPONDENT
ACCOMPANYING FIRST MAILING OF
SURVEY INSTRUMENT
(+one week from intro letter)**

<< NOAA Fisheries Letterhead >>

<< Date >>

<< Name >>

<< Address >>

Dear << Name >>,

Aloha << First Name >>, I am writing to ask your help in understanding bottomfish fishing in Hawaii. This study, conducted by NOAA Fisheries, has two primary objectives: most importantly, we wish to collect information on fishing costs, fishing activity and assess the financial performance of the MHI bottomfish fleet. Secondly, we would like to explore *your* motivations for bottomfish fishing, *your* attitudes and perceptions towards current management issues in the fishery, and *your* suggestions for future management. This information will provide feedback to managing agencies of the important economic contributions your bottomfish fishing activities provides to the State and will help establish a baseline for assessing the economic impacts of future management plans, management alternatives, and actions

As a licensed Main Hawaiian Islands (MHI) bottomfish fisherman, we are hoping that you can help in this study. Your contact information was obtained from the State of Hawaii Division of Aquatic Resources through a cooperative agreement between DAR and NOAA Fisheries. Your answers will never be associated with your mailing address and will be kept confidential. While your response is voluntary, we hope that you can help us in this research. If you have any questions or concerns pertaining to this survey, please call Justin Hospital, by telephone at 808-944-2188 or by email at Justin.Hospital@noaa.gov.

By taking a few minutes to share your thoughts, opinions, and fishing details you will be helping us out a great deal. I hope you enjoy completing the questionnaire and I look forward to receiving your responses.

Your kokua is greatly appreciated.

Many Thanks,

< Signature >

Justin Hospital
Economist, National Marine Fisheries Service
Pacific Islands Fisheries Science Center
1601 Kapiolani Blvd, suite 1110
Honolulu, HI 96814
(808) 944-2188 Justin.Hospital@noaa.gov



**REMINDER / THANK YOU POSTCARD
(+one week from first mailing)**



< Date >

Last week a questionnaire was mailed to you to help in a study of bottomfish fishing in the Main Hawaiian Islands because you currently hold an active bottomfish license.

If you have already completed and returned the questionnaire, please accept my sincere thanks. If not, please take a moment to participate and let your voice be heard. I am especially grateful for your help with this important study.

If you did not receive a questionnaire, or if it was misplaced, please call Justin Hospital at 808-944-2188 or email at Justin.Hospital@noaa.gov, and I will get another one in the mail for you today.

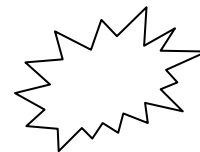
<< Signature >>

Justin Hospital, Economist – NOAA Fisheries

If you have any questions or concerns pertaining to the study or wish to request another copy of the survey form, please contact Justin Hospital, at 808-944-2188, or email: Justin.Hospital@noaa.gov

< NOAA Fisheries Letterhead >

< Return Address >



< Name >

< Address >

SECOND MAILING
(+two weeks from first mailing)

<< NOAA Fisheries Letterhead >>

<< Date >>

<< Name >>

<< Address >>

Dear << Name >>,

Aloha << First Name >>, a few weeks ago we sent you a questionnaire about bottomfish fishing in Hawaii. To the best of my knowledge, it has not yet been returned.

I am writing to ask your help in understanding bottomfish fishing in Hawaii. Your thoughts, opinions, and details of fishing activity are important for getting accurate results. We want to best represent bottomfish fishermen in Hawaii and we can only do that by hearing from as many fishers as possible. As a licensed Main Hawaiian Islands (MHI) bottomfish fisherman, we are hoping that you can help in this study.

As a reminder, this study conducted by NOAA Fisheries, has two primary objectives: most importantly, we wish to collect information on fishing costs, fishing activity and assess the financial performance of the MHI bottomfish fleet. Secondly, we would like to explore *your* motivations for bottomfish fishing, *your* attitudes and perceptions towards current management issues in the fishery, and *your* suggestions for future management.

Your contact information was obtained from the State of Hawaii Division of Aquatic Resources through a cooperative agreement between DAR and NOAA Fisheries. Your answers will never be associated with your mailing address and will be kept confidential. While your response is voluntary, we hope that you can help us in this research. If you have any questions or concerns pertaining to this survey, please call Justin Hospital, by telephone at 808-944-2188 or by email at Justin.Hospital@noaa.gov.

Your kokua is greatly appreciated.

Many Thanks,

< Signature >

Justin Hospital
Economist, National Marine Fisheries Service
Pacific Islands Fisheries Science Center
1601 Kapiolani Blvd, suite 1110
Honolulu, HI 96814
(808) 944-2188 Justin.Hospital@noaa.gov



THIRD MAILING
(+four weeks from first mailing)
using Fed Ex – 2day mail

<< NOAA Fisheries Letterhead >>

<< Date >>

<< Name >>

<< Address >>

Dear << Name >>,

Aloha << First Name >>, in early April we sent you a questionnaire about bottomfish fishing in Hawaii, and a follow up was sent in early May. To the best of my knowledge, it has not yet been returned. We wanted to make one last effort to give you an opportunity to participate in this study. If you would prefer that field staff contact you to complete the survey in person or over the phone – or to opt out of participating - please complete the enclosed postcard with your contact information.

Your thoughts, opinions, and details of fishing activity are important for getting accurate results. We want to best represent bottomfish fishermen in Hawaii and we can only do that by hearing from as many fishermen as possible. As a licensed Main Hawaiian Islands (MHI) bottomfish fisherman, we are hoping that you can help in this study.

As a reminder, this study conducted by NOAA Fisheries, has two primary objectives: most importantly, we wish to collect information on fishing costs, fishing activity and assess the financial performance of the MHI bottomfish fleet. Secondly, we would like to explore *your* motivations for bottomfish fishing, *your* attitudes and perceptions towards current management issues in the fishery, and *your* suggestions for future management.

Your contact information was obtained from the State of Hawaii Division of Aquatic Resources through a cooperative agreement between DAR and NOAA Fisheries. Your answers will never be associated with your mailing address and will be kept confidential. While your response is voluntary, we hope that you can help us in this research. If you have any questions or concerns pertaining to this survey, please call Justin Hospital, by telephone at 808-944-2188 or by email at Justin.Hospital@noaa.gov.

Your kokua is greatly appreciated.

Many Thanks,

< Signature >

Justin Hospital
Economist, National Marine Fisheries Service
Pacific Islands Fisheries Science Center
1601 Kapiolani Blvd, suite 1110
Honolulu, HI 96814
(808) 944-2188 Justin.Hospital@noaa.gov



**IN-PERSON/PHONE SURVEY
OPTION POSTCARD
INCLUDED IN THIRD CONTACT**

Aloha, < First Name >, we have not yet received your completed survey but want to ensure you have the opportunity to participate and let your voice be heard. If you would prefer our field staff to contact you to arrange for an interview please provide contact information below. **Your contact information will be kept confidential**

I would prefer to conduct the survey over the phone or in-person with field interview staff

AM Weekday

PM Weekend

_____ (phone number)

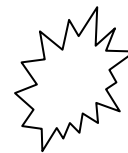
_____ (ideal contact time)

I do not wish to participate in the survey

Analyzed data will be aggregated by various characteristics and will not reveal individual vessel information. **All your answers will be held in strict confidentiality.** If you have any questions or concerns pertaining to the study please contact Justin Hospital, at 808-944-2188, or by email at: Justin.Hospital@noaa.gov



Survey ID# XXX



< NOAA Fisheries >
< Address >