

**Personal Flotation Devices (PFDs) and Commercial Fishermen:
Preconceptions and Evaluations in Actual Use
New
Information Collection Request**

Part A

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SUPPORTING STATEMENT FOR REQUEST FOR OMB APPROVAL

A. JUSTIFICATION

1. Circumstances Making the Collection of Information Necessary

NIOSH has the responsibility under P.L. 91-596 Section 20 (Attachment 1: Section 20(a)(1) Occupational Safety and Health Act of 1970) to conduct research relating to innovative methods, techniques, and approaches for dealing with occupational safety and health problems. The NIOSH Alaska Field Station is a leader in commercial fishing safety research in Alaska and has received project funds from the National Occupational Research Agenda (NORA) to expand the research program to other fishing regions in the US.

This research fits into CDC's broader research agenda by contributing to the following CDC Health Protection Goal: Healthy Workplaces: Promote and protect the health and safety of people who work by preventing workplace-related fatalities, illnesses, injuries, and personal health risks. This is a new information collection request.

Commercial fishing is the most dangerous occupation in the United States, with a fatality rate of 142 per 100,000 fishermen in 2006, 36 times higher than the national average for all workers (BLS, 2006). Drowning due to vessels sinking and falls overboard is the leading cause of death for commercial fishermen. Drowning prevention is one of the highest priorities for those who work to make the industry safer. Preventing fishermen from entering the water is the surest way of reducing the number of drowning fatalities, but given the nature of commercial fishing, this may not always be possible. When immersion does occur, personal flotation devices (PFDs) can increase the chance that the fisherman will survive.

Although the risk of drowning for commercial fishermen is high, most fishermen do not wear PFDs while on deck. From 1990 to 2005 in Alaska, 71 commercial fishermen drowned after falling overboard (Lucas and Lincoln, 2007). None of the victims were wearing a PFD, and sadly, many were within minutes of being rescued when they lost their strength, sank and drowned. Those deaths could have clearly been prevented if the victims had been wearing a PFD.

There is an urgent need to increase PFD usage among commercial fishermen. A study of commercial fishing fatalities in Alaska found that from 1990 to 2005, the number of fatal falls overboard did not show a decreasing trend, despite major decreases in other types of fishing fatalities (Lucas and Lincoln, 2007). Anecdotal evidence from fishermen and marine safety experts show that some of the most common objections among fishermen to wearing PFDs are that they are bulky, heavy, hot, and generally uncomfortable. Fishermen have also expressed concerns that PFDs create an entanglement hazard. Those arguments may have some merit; however, many new types and styles of PFDs have become available that appear to have overcome these complaints; but it is unknown how many commercial fishermen are aware of them, or if they are in fact more comfortable and wearable than the older styles. There have not been any published studies testing PFDs on commercial fishermen to measure out-of-water comfort and satisfaction.

Safety in the fishing industry has been a priority for Congress for many years. Congress intervened to improve safety in the fishing industry in 1988 when the Commercial Fishing Industry Vessel Safety Act was passed into law (CFIVSA, P.L. 100-424), but it did not contain any requirements for fishermen to wear PFDs. More recently (April 25, 2007) the House Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Marine Transportation held a hearing on commercial fishing vessel safety to address the persistent safety problems in the industry. The National Institute for Occupational Safety and Health (NIOSH) offered testimony at the hearing to describe the progress made in Alaska to improve safety in the fishing fleet, and to share how improvements implemented there could benefit other fishing regions of the United States (Attachment 3: Statement of Jennifer Lincoln, PhD). The testimony emphasized the problem of falls overboard and identified PFD use as one of the most important areas to focus prevention activities.

Privacy Impact Assessment Information

- i. Overview of the data collection system: Data will be collected in two phases with two separate instruments. Phase 1 is a survey of fishermen's perceptions, attitudes, and beliefs regarding PFDs. This survey will be administered in-person by researchers to a sample of 400 fishermen in Southwest Alaska. Phase 2 is an evaluation by fishermen of the wearability and acceptability of several different styles of PFDs during fishing operations. The data collection instrument for the PFD evaluations is a short form asking fishermen to rate the PFD they tested for comfort and other features. The 200 participants of phase two will be selected from the 400 phase 1 respondents. The step-by-step procedure for selecting the sample and administering the surveys is outlined in Part B, Section 2 starting on page 15 of this protocol.
- ii. Listing of the items of info to be collected: In general, the items of information to be collected on the phase 1 survey are demographic and vessel/fishery information, fishermen's experiences with and perceptions of falls overboard, safety attitudes, and opinions about PFDs. The items of information to be collected on the phase 2 evaluation form are ratings of comfort and wearability of PFDs. The exact questions on both surveys can be found in attachments 7 and 8.
- iii. Does system host website? There is not a website associated with this project.

2. Purpose and Use of Information Collection

The purpose of this study is to first, identify fishermen's perceptions of the risk of falling overboard, safety attitudes, beliefs about PFDs, and experiences with falls overboard; and second, to evaluate a variety of modern PFDs with commercial fishermen to discover the features and qualities that they like and dislike. This study addresses the repeated recommendation by NIOSH that all commercial fishermen wear PFDs while on deck (NIOSH, 1994; NIOSH, 1997).

Specifically, NIOSH requests approval to conduct a two-part study; first, a survey of fishermen's perceptions, attitudes, and beliefs regarding PFDs, and second, an evaluation by fishermen of the wearability and acceptability of several different styles of PFDs during fishing operations.

The resulting information from the survey and PFD evaluations will be used as follows:

1. Results of the survey on perceptions, attitudes, and beliefs will be shared by NIOSH personnel with marine safety organizations involved with training fishermen. The information will help them understand and resolve the barriers that fishermen have regarding safety and wearing PFDs.
2. Findings from the PFD evaluation will be disseminated by NIOSH personnel to fishermen, giving them guidance and motivation for choosing and wearing a PFD that will meet their expectations.
3. Findings from the PFD evaluation will also be shared by NIOSH personnel with PFD manufacturers to help them modify or design PFDs that better meet the needs of commercial fishermen.
4. Results of both the survey and evaluation will be published by NIOSH personnel in peer-reviewed journals to contribute to the body of scientific knowledge surrounding commercial fishing safety and drowning prevention.

This study will directly benefit the commercial fishing industry. One of the first steps to increasing PFD use among commercial fishermen is gaining an understanding of fishermen's reasons for not wearing PFDs. With the empirical data in hand, safety professionals may be better equipped to address fishermen's concerns and remove the barriers that are currently in place. Findings from the PFD evaluations will provide manufacturers valuable information about commercial fishermen's PFD preferences and expectations. Because the PFD wearability ratings will be completed by fishermen during fishing operations, the results may have more credibility when they are disseminated to the industry. The PFD evaluation will supply information to fishermen about which types of PFDs were the most comfortable to wear while working.

Commercial fishermen work with several different gear types that encompass many configurations and types of vessels, equipment, activities, and crewsize (e.g. crab pot, longline, trawl, gillnet). These gear types may be associated with different issues of convenience and comfort of PFDs. Accordingly, the evaluation will be performed for several different gear types to find differences in PFD preference among them.

Privacy Impact Assessment Information

i. Why this information is being collected: As stated above, the majority of commercial fishermen do not wear PFDs while working. One possible reason is the perception that PFDs are uncomfortable and not suited for the rigors of the fishing environment. This study will collect information that will help increase PFD use among fishermen. This information has never been collected in the past, and solid data are needed to make safety improvements in this industry. Interventions created without first collecting data about the problem are less likely to have a positive impact than interventions that are research-based.

ii. Intended use of the data: Data will be analyzed and the results disseminated to fishermen, marine safety organizations, PFD manufacturers, and other researchers in the field of

occupational safety. Results will only be released in aggregate form. No sensitive information is being collected, and data collection will have little effect on respondents' privacy since we are only collecting data on their perceptions of PFDs and the wearability of the new PFDs they are evaluating. For those participants who only complete the phase 1 questionnaire, no personal identifying information will be collected. For those participants who continue into phase 2, a unique ID number will be affixed to the back of each survey at the time of administration, and the participant's name, phone number, and address will be recorded. Two datasets will be created, one containing the ID and personal identifying information, the other containing the ID and responses to the survey items. After the data collection is complete and no further contact with the participants is necessary, the dataset with the personal identifying information will be permanently deleted. This is further explained in Part A, Section 10.

3. Use of Improved Technology and Burden Reduction

Only those data necessary for the purposes of this study will be collected in the survey and PFD evaluation. We have conducted a thorough literature review, as well as a review of other available data sources, and will include only questions that provide information unavailable from other sources. This will consist of measures of perceptions, attitudes, and beliefs in the survey, and ratings of PFD attributes during the evaluation. No other source is available for collecting this information. Questions on the phase 1 survey will ask participants basic information about their fishery and gear, perceptions of the risk of falling overboard, opinions about PFDs, and attitudes regarding safety in general. Questions on the phase 2 survey ask the participant to rate different features of the PFD they are evaluating.

All of the survey respondents and evaluation participants are located in rural Alaska, where internet access is often expensive, slow, or simply not available. Additionally, commercial fishermen are isolated on their vessels for extended periods of time. Using the internet as a primary survey approach is either not possible or would increase both the time and monetary burden on our respondents.

4. Efforts to Identify Duplication and Use of Similar Information

An exhaustive literature search failed to reveal any studies that analyzed commercial fishermen's risk perceptions and safety attitudes about falls overboard, their beliefs about PFDs, or their evaluations of PFDs while working. There have been four studies conducted since 1998 that tested and rated PFDs for recreational boaters. One study was conducted by Consumer Reports and the other three were conducted by BoatUS. These evaluations of PFDs for recreational boaters are useful in helping to design the present study; however, the differences between recreational boaters and commercial fishermen are large enough that the results of one group cannot be generalized to the other. Additionally, there are several new PFDs available now that were not on the market at the time of the recreational PFD evaluations.

1. In 1998, BoatUS staff tested seven models of inflatable PFDs for performance, in-water comfort, and features. Inflatable PFDs have a cartridge of compressed gas that inflates a bladder when activated.

2. In 1999, Consumer Reports had six testers wear 25 different PFDs in and out of the water and rated their performance, comfort, and features. Most of the PFDs tested were inherently buoyant foam-core vests, and seven were inflatable PFDs.
3. In 2000, BoatUS examined four more models of inflatable PFDs. The testers compared the types of inflation mechanisms, colors, reflective tape, cost, and weight.
4. Most recently (2004), BoatUS tested seven belt pack style inflatable PFDs for out-of-water wearability, in-water comfort, sense of security, and ease of repacking.

Although these PFD tests were for recreational boating, involved few participants, and may be outdated given the rapid evolution of inflatable PFDs, they do have value for the current study. They provide many different ideas for rating methods and identify important features to test. They may also aid in selecting styles and models to test on commercial fishermen in this study.

PFDs are a form of Personal Protective Equipment (PPE). The literature review identified many studies of workers in industries other than commercial fishing which examined the comfort and product satisfaction of many types of PPE, such as respirators, eye protection, and helmets.

In a study of Latino farm workers in Illinois and Michigan, Forst et al. (2006) explored worker's reasons for wearing or not wearing safety glasses. The researchers distributed glasses to workers for two seasons and observed and questioned those who wore them and those who did not. The most common reasons for not wearing the safety glasses were misperception of risk, perceived lack of protection, discomfort, undesirable appearance, interference with visual acuity, and the absence of a mandate from employers. The study was able to make several recommendations for ways to improve safety glasses; for example, reducing fogging, improving comfort and fit, and including bands to hold glasses on.

Dissatisfaction with PPE was also studied by Akbar-Khanzadeh (1998) among workers at a metal refining plant. The researchers questioned workers about their satisfaction with seven types of PPE, and reasons for dissatisfaction. Like the Latino farm workers, they believed the PPE was not needed, created a new hazard, interfered with work, was too heavy, was hard to wear, irritated skin, and had an undesirable appearance.

Salazar et al. (2001) studied the factors affecting hazardous waste workers' use of respirators. The researchers interviewed and administered a written survey to 255 workers in order to measure their beliefs and attitudes about the use of respirators. The study found that the factors for use were mostly based on knowledge, beliefs and attitudes. Factors for non-use were mostly physical comfort complaints like communication impairment, personal comfort, and effect on vision.

There is evidence that workers can adapt to initial feelings of discomfort in PPE when it is worn regularly. Abeysekera and Shahnavaz (1990) tested this with Sri Lankan workers' wearing of safety helmets. Workers were asked to wear safety helmets six hours a day for 30 days, with incentives and supervision to insure compliance. Ratings of wearability improved in the areas of hotness, harness pain, fit, and inconvenience during the one month period. The authors

concluded that adaptation to initial discomfort in PPE is possible if the device is worn consistently for at least one month.

In the studies reviewed above, common reasons given for non-use of PPE included discomfort, misperceptions of risk, and negative attitudes about PPE efficacy. Among commercial fishermen, there may be similar perceptions and attitudes. Fishermen may feel that a PFD will be uncomfortable and impede them in their work. There may also be concern that a PFD not designed for their working conditions could endanger them by restricting their movements, or by being an entanglement hazard.

Misperceptions of risk, safety attitudes, and beliefs about PFDs may be resolved with an educational approach. Other concerns that surface during the PFD evaluation regarding comfort and wearability may be addressed as suggested by Akbar-Khanzadeh and Bisesi (1995): “The comfort and fit of PPE can be considerably improved when employees actively participate in the selection and testing of PPE.”

The proposed research will engage commercial fishermen in testing and evaluating PFDs to ascertain how comfortable and wearable today’s models of PFDs are in their work environment. The information generated may help fishermen select models that they will wear consistently. It may also help overcome any generalized resistance on their part to wearing PFDs. To the extent that such resistance exists, it may be due partly to fishermen’s impressions of older PFD styles, and a lack of knowledge and experience of newer PFD technologies and designs. These problems are addressed by the proposed study.

5. Impact on Small Businesses or Other Small Entities

The fishermen that will be included in this study are considered to be small businesses. We are keeping the length of the initial (phase 1) questionnaire as short as possible to minimize the amount of time required to complete it. The PFD evaluation (phase 2) will also only require minimal time outside of the fishermen’s normal work schedule, since they will be testing the PFDs while they conduct their normal work.

6. Consequences of Collecting the Information Less Frequently

The initial phase 1 questionnaire of fishermen’s perceptions, attitudes, and beliefs of PFDs is a one time survey. For those fishermen who elect to participate further in phase 2 by wearing and evaluating a PFD during their fishing season, a short form will be provided to them to record their ratings of different attributes of the PFD they are testing. This PFD rating form will be completed by the fishermen at two different times during their fishing season - shortly after the beginning and then at the end of one month.

The literature shows that workers can adapt to certain elements of discomfort when wearing PPE consistently for at least one month. In order to measure adaptation to PFDs over time, the duration of the evaluation phase (phase 2) of this study will be one month (the minimum time thought to be required for adaptation to a PFD), and there will be two data points, one at the

beginning and one at the end. Additional data points might be desirable, but to keep the burden on respondents at a minimum there will only be two in this phase of the study.

7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

- a. *More often than quarterly: No study participant will be involved for more than approximately one month, although data will be collected three times within this one-month period.* The initial phase 1 questionnaire is a one time survey. Those fishermen who elect to participate further (phase 2) in the study by evaluating a PFD will be asked to fill out a short form two times during their fishing season to record their ratings of PFD attributes. The rating form will be completed during the first week of wearing the PFD and then after one month. After the last time the form is completed, the data collection will conclude and no further contact with participants will be necessary.

All other guidelines of 5 CFR 1320.5 are met by this study.

8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

A. A 60-day Federal Register Notice was published in the *Federal Register* on August 16, 2007, vol.72, No. 158, pp. 46083-46084 (Attachment 2: Federal Register Notice). One comment was received from the public (Attachment 4: Public Comments and Responses to FRN). No changes were made to the proposed project based on this response, as the public comment did not relate to the utility and scope as proposed.

B. The study proposal was peer reviewed by two experts in the field of commercial fishing safety outside of CDC (Attachment 12: Peer Reviewers Comments with Responses). Their feedback was integrated into the study protocol. In addition, NIOSH consulted with the following industry representatives, government agencies, and marine safety organizations while designing the study.

- 2007, Jerry Dzugan, Director, Alaska Marine Safety Education Association (AMSEA), Sitka, Alaska (Phone: 907-747-3287, email: director@amsea.org).
- 2007, Leslie Hughes, Executive Director, North Pacific Fishing Vessel Owners Association (NPFVOA), Seattle, Washington (Phone: 206-285-3383, email: leslie@npfvoa.org).
- 2007, Dan Barr, President, Bristol Bay Drift-Netters Association, Seattle, Washington (Phone: 206-285-1111, email: danfbar@msn.com).
- 2007, Robert Lee, Pacific Area Coordinator, United States Coast Guard (USCG), Alameda, California (Phone: 510-437-2963, email: george.r.lee@uscg.mil).
- 2007, Shane DeWitt, Business Development Manager, Mustang Survival, British Columbia, Canada (Phone: 604-270-8631, email: sdewitt@mustangsurvival.com).
- 2007, Jim Cermak, Industrial Sales Manager, Stearns Inc., St. Cloud, Minnesota (Phone: 320-656-3218, email: jimc@stearnsnet.com)

9. Explanation of Any Payment or Gift to Respondents

No payments will be made to respondents of the survey or participants of the PFD evaluation. However, participants of the PFD evaluation will be invited to keep the PFD that they evaluated during their fishing season, or if they do not want the PFD they tested, they will be given another PFD of their choice from the study.

10. Assurance of Confidentiality Provided to Respondents

Privacy Impact Assessment Information

A. *The OMB application has been reviewed by ICRO, who determined that the Privacy Act is applicable.* The data are covered under the Privacy Act System of Records 0920 0147, “Occupational Health Epidemiological Studies, HHS/CDC/NIOSH.” For those participants who only complete the phase 1 questionnaire, no personal identifying information will be collected. For those participants who continue into phase 2, a unique ID number will be affixed to the back of each survey at the time of administration, and the participant’s name, phone number, and address will be recorded. Two datasets will be created, one containing the ID and personal identifying information, the other containing the ID and responses to the survey items. After the data collection and analyses are completed and the results are sent to the participants (as dictated by the Informed Consent Form), no further contact with the participants will be necessary and the dataset with the personal identifying information will be permanently deleted.

- B. The datasets will be stored in a secure, password protected location on the NIOSH network. The hard copies of the surveys will be maintained in a locked file cabinet. Access to this information will be restricted to NIOSH scientists directly involved with the study. After the data collection and analyses are completed and the results are sent to the participants (as dictated by the Informed Consent Form), no further contact with the participants will be necessary and the dataset with the personal identifying information will be permanently deleted.
- C. Respondents are advised of this in the “Instructions to Respondents” (Attachment 5: Instructions to Respondents) and in the consent form (Attachment 6: Informed Consent Form) which also includes:
- information on the authority and purpose for data collection,
 - participation is voluntary,
 - responses will not be used in enforcement actions against them, and
 - the survey results will be made available to them, industry, safety organizations, federal agencies, and other interested parties in a summary format only -- without any personal identifiers.

The consent form will be read and signed by all participants of the phase 2 PFD evaluations. Data will be treated in a secure manner, unless otherwise compelled by law.

A waiver of informed consent has been requested for respondents who only complete the phase 1 initial questionnaire based on the following four criteria from CFR 46.116(d):

1. The research involves no more than minimal risk to the subjects. As stated in Attachment 9: Additional Information for HSRB Review, there are no potential risks to respondents during phase 1 (the initial questionnaire). Fishermen will be asked to complete a short survey that asks only non-intrusive questions about their perceptions and opinions. There are no sensitive questions, and no identifying questions. No names or other identifying information will be collected.
2. The waiver or alteration will not adversely affect the rights and welfare of the subjects. No names or other identifying information will be collected, so responses to the survey items will be anonymous.
3. The research could not practicably be carried out without the waiver or alteration. The sample size for phase 1 is large and we expect that few fishermen on the docks would be willing to take the time to complete the questionnaire if a formal consent process was included.
4. Whenever appropriate, the subjects will be provided with additional pertinent information after participation. Since no identifiers are being collected on this anonymous questionnaire, no contact is possible or necessary after participation.

This study protocol has received NIOSH HSRB approval (Attachment 9: Additional Information for HSRB Review; Attachment 10: HSRB Form 1250; and Attachment 11: HSRB Form 1379).

D. Respondents are informed in “Instructions to Respondents” that participation is voluntary and data will only be shared in non-identifiable format.

11. Justification for Sensitive Questions

No questions of a sensitive nature will be asked. Because participation is entirely voluntary, respondents may skip any survey items they do not wish to answer. The demographic items to be gathered are standard in social science research.

12. Estimates of Annualized Burden Hours and Costs

There is only one type of respondent involved with this study - fishermen. There are two parts or phases of the study that involve different instruments and numbers of respondents. Phase 1 involves 400 fishermen completing a questionnaire (Attachment 7: Phase 1 Questionnaire) that may take up to 20 minutes to complete (Table I). This estimate of completion time was reached by a pilot test with eight fishermen volunteers. They also gave feedback after completing the survey. They reported that they had ready-made answers to all 32 of the short questions, and since none of the questions were open-ended, checking the provided answer boxes was a fast and simple process.

Phase 2 involves 200 fishermen wearing and evaluating a PFD during their fishing season. Because wearing the PFD will occur during normal work operations, there is no time burden. The fishermen will complete an evaluation form (Attachment 8: Phase 2 Form) at two times during their fishing season to rate aspects of the PFD. The form will take approximately 10

minutes each time it is completed (Table I). It contains 20 questions with supplied answer choices. This form was pilot tested by the same eight fishermen who tested the phase 1 questionnaire, and questions were modified based on their comments.

Table I. Estimated Annualized Burden Hours

Type of Respondent	Form Name	No. of Respondents	No. Responses per Respondent	Average Burden per Response (in hours)	Total Burden Hours
Fishermen	Fishing for Facts: A survey of fishermen’s opinions about the risk of falls overboard and PFDs	400	1	20/60	133
Fishermen	PFD Evaluation Form	200	2	10/60	67
Total					200

Table II. Estimated Annualized Burden Costs

Type of Respondent	No. of Respondents	No. Responses per Respondent	Average Burden per Response (in hours)	Total Burden Hours	Hourly Wage Rate¹	Total Respondent Costs
Fishermen (Survey)	400	1	20/60	133	\$16.92	\$2250
Fishermen (Evaluation)	200	2	10/60	67	\$16.92	\$1134
Total						\$3384

¹Source: Alaska Dept. of Labor and Workforce Development

13. Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers

None

14. Annualized Cost to the Government

The total cost of this study to the Federal government will be approximately \$160,000 over an estimated two year period of data collection and analysis, for an annual cost to government of \$80,000 (Table III). This figure includes labor and material costs, which are further described in the project plan and budget for the NORA funded project “Reducing Fatalities Due to Falls Overboard.”

Table III. Annual Cost to Government

Project Item	Cost
Personnel salaries and benefits	56,250
Research assistants' compensation	7,500
Travel	8,500
Equipment (including PFDs)	7,750
Total annual cost to government	80,000

Details on line items:

- Personnel salaries and benefits: Reflects the cost of the three NIOSH scientists at the Alaska Field Station who will be working on the study at the following rates:
 - o Devin Lucas, .3 FTE ~ \$23,000
 - o Jennifer Lincoln, .15 FTE ~ \$20,000
 - o Philip Somervell, .15 FTE ~ \$13,250
- Research assistants' compensation: Six research assistants will be compensated \$2,500 each for aiding in the collection of data in the three fishing communities where the study will take place.
- Travel: Projected cost for personnel at the Alaska Field Station in Anchorage to fly to the three communities in Southwest Alaska to complete data collection activities.
- Equipment: The costs of purchasing the 200 PFDs for phase 2 participants to wear. PFDs included in the study will be purchased at discounted rates directly from the manufacturers.

15. Explanation for Program Changes or Adjustments

This is a new data collection.

16. Plans for Tabulation and Publication and Project Time Schedule

The time schedule for this study is outlined in Table IV at the end of this section. The data collection will occur in two phases. In phase 1, a questionnaire will be administered to fishermen to collect data on risk perceptions, safety attitudes, and beliefs about PFDs. The sample size for this initial survey is 400 fishermen. In phase 2, fishermen who complete the initial survey of phase 1 will be invited to participate further in the study by wearing and evaluating a particular PFD during their fishing season. Five different PFD models (Appendix Attachment 13: PFD Models) will be distributed and tested by the fishermen participating in the evaluation. Each fisherman will be assigned a single model to wear, and will be asked to rate the comfort and other attributes of the PFD he is wearing at two times during the evaluation period (during the first week and after one month), using an evaluation form. The sample size for this phase of the study is 200 fishermen. The sample size for the phase 2 evaluations has been dictated by logistical and financial feasibility. Since it is a smaller sample, it is possible that we will recruit all 200 participants before reaching the sample size for phase 1 (400 fishermen). If that situation occurs, then phase 1 participants will no longer be asked to evaluate a PFD.

Fishermen who operate vessels using different types of fishing gear may have different preferences for PFDs. This study will include fishermen who work on four different types of

vessels: crabbers (pot gear), gill-netters, longliners, and trawlers. Vessels with different gear types operate at different times of the year; for example, a vessel using pots usually fishes for crab during the winter, while a vessel using gillnets usually fishes for salmon during the summer. Because the weather conditions are so different between summer and winter, fishermen who work during the winter may have different preferences for PFDs than fishermen who work during the summer, and vice versa. Both phase1 and phase 2 will occur in summer and winter fisheries.

The data collected by the initial surveys and subsequent evaluation forms will be coded and entered into a dataset for analysis. The analyses of phase 1 data will include descriptive statistics and tabulation of responses to each of the 32 questions on fishermen’s perceptions and attitudes regarding the risks of falling overboard and the advantages and disadvantages of PFDs. Analyses of phase 2 data will include descriptive statistics and tabulation of responses to each of the 20 questions regarding each PFD style.

Other analyses will be performed to explore the associations between fishermen’s prior perceptions about PFDs (measured in the phase 1 survey), and their evaluations of the PFDs after using them in phase 2. However, these analyses will be exploratory in nature since the relatively small sample of phase 2 may lack the statistical power necessary to measure those correlations.

The results of this study will be published in a peer-reviewed journal to disseminate the findings to the scientific community. Findings will also be published in fishing industry newsletters and magazines.

Table IV. Project Time Table

Activity	Time Schedule
Administration of phase 1 survey to summer fisheries (Gillnet vessels, longline vessels)	1 month after OMB approval
Phase 2 evaluation of PFDs in summer fisheries (Gillnet vessels, longline vessels)	2 - 5 months after OMB approval
Administration of phase 1 survey to winter fisheries (Pot-gear vessels, trawlers)	6 months after OMB approval
Phase 2 evaluation of PFDs in winter fisheries (Pot-gear vessels, trawlers)	7 - 13 months after OMB approval
Data coding and analysis	14 - 20 months after OMB approval
Initial reporting/publication	21 - 24 months after OMB approval

17. Reason(s) Display of OMB Expiration Date is Inappropriate

The OMB expiration date will be displayed.

18. Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.