SUPPORTING STATEMENT
EVALUATION OF PUBLIC VISITORS' EXPERIENCE OF EXHIBITS AT
MOKUPAPAPA DISCOVERY CENTER
OMB CONTROL NO. 0648-xxxx

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.

	Mokupapapa Discovery Center (MDC)
Annual total visitor attendance (avg.) at Mokupapapa Discovery Center (MDC)	60,000 persons
Annual attendance by GENERAL PUBLIC visitors at MDC (excludes school groups and professional visitors)	55,000 persons
Estimated number of adult visitors (age 18+) in the MDC general public visitor audience	40,000 adults
Desired sample size of general public adult visitors in the MDC audience	278-294 visitors will be approached to obtain a sample of 250 adults
Respondent selection method	One adult per randomly selected visitor group, when exiting from the exhibit area of MDC
Estimated rate of cooperation of randomly selected adult visitors	85% [**x** 294 or fewer visitors for a final sample of 250]

Note: In the experience of the social scientist researcher who will direct this study, the actual rate of cooperation at similar facilities (aquariums, museums) averages about 90%; the rate from about 20 projects in the last two years has ranged from 72% to 98%.

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.

The characteristics of visitor populations at visitor centers and museums vary considerably and randomly (e.g., a local family may be followed by a tourist couple who may be followed by a single adult tourist, and so on). In places with relatively low volumes of visitors (such as the Mokupapapa Discovery Center, compared to high volume places such as the Smithsonian) a representative random sample of visitor groups can be obtained by using a "next available" protocol, as follows:

> The interviewer is positioned near the exit from the exhibit space (the 'space' is essentially a storefront, with exhibits and an auditorium located behind the exhibit space in the rear of the building). As any visitor group (usually 1-4 people) nears the exit, the interviewer approaches and makes eye contact with the 'first adult' (in practice: the one who is physically closest to the interviewer) and requests their participation in giving feedback about the exhibits. The cooperation rate for this type of intercept interview (using a brief introduction that explains the purpose in one sentence) typically averages about 90%. If the adult visitor agrees, the interview is completed. Upon completion, the interviewer will tend to step aside to complete their work on the interview form (documenting the date and time of the interview, adding their own initials to it, reviewing the form to check for completeness and readable handwriting, and also to put away that completed interview form and have a new blank one ready); this process usually takes 2-5 minutes. When the interviewer is then prepared with a new blank interview form and related materials (e.g., a photo board about the exhibits, used for some of the interview questions), s/he looks up and selects the "next available" visitor group who are moving to the exit.

The principle of this and other sampling methods is that the interviewer does not *choose* who to interview by appearance, or by facial expression that might indicate enjoyment or not, or by whether there are or are not children in the group; in essence, the visitor group *selects themselves* (although they don't know the sampling parameters) by deciding when to exit (e.g., there may be another group being interviewed at the time when this group leaves, in which case they would not be selected). Depending on the visitor flow, the next visitor group might be leaving right then, or the interviewer might have to wait for 5-10 minutes for the next group to leave. This characteristic of 'low volume' visitor facilities makes it impractical to use other methods such as selecting every 4th visitor group, or using a random number chart (for example, from 1 to 5) to decide which visitor group to select. Ultimately, however, it is not the efficiency of interviewer time that is critical, it is the representativeness of the sample that matters. While additional methods could be used to provide reliability assessments of the sampling method,[1] the budget is

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[1] Periodically over the course of conducting hundreds of studies like this (intercept interviews with visitors at museums, aquariums, visitor centers, historic sites) this social scientist research contractor has used reliability studies to check on the characteristics of the sampling. The most common way of assessing reliability has been to use a different method such as 'entrance interviews' or admissions information collected by a cashier (i.e., a process which has 100% or near-

modest in this particular project, and we are choosing to put relatively more effort in the analysis of open-ended questions than in conducting a rigorous reliability study, trusting that a well-conducted random sampling of "next available" visitor groups will result in a sufficiently representative sample.

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.

Prior experience with intercept interviewing of visitors in museums and interpretive centers leads our social science researcher to expect a response rate of 85%-90%. Therefore, non-response is not likely to be a big factor in this study. Typically, experience has shown that inviting visitors to give their opinions is a positive motivator, and that the way in which that invitation is delivered can enhance or detract from visitors' desire to cooperate (e.g., neat appearance of the interviewer, a clear voice, pleasant demeanor, and in a small proportion of interactions: giving assurances that the interview won't take too long, or that it won't be too hard).

When the survey instrument and procedures are approved for implementation, we will begin monitoring the cooperation rate. If it is below 75% we will experiment with fine-tuning of the logistics of the survey (where the interviewer stands, which sentence of the explanation comes first) to seek improvements in the cooperation rate. In the very unlikely event that we encounter an ongoing response rate below 75%, we will consider developing a 'mail-back' questionnaire that could be handed to non-respondents, or a web-link survey, to be completed at their convenience later (however, immediate cooperation for an on-site intercept interview is about twice as likely as cooperation for follow-up questionnaires, so we would not use mail-back or web-link as a primary method).

Due to routinely successful cooperation rates, we are consciously choosing to not give visitors advance notification (when they enter the Center) that we will be seeking their opinions and feedback, since this tends to cue people in ways that sometimes leads to changing their behavior and use of exhibits (e.g., staying longer, feeling that they will be "tested" later), and we are seeking to generalize to the normally occurring pattern of visitor experience. Of course, some visitors will see that other visitors are being interviewed at the exit, but without knowing why those people are being interviewed, this circumstance is unlikely to affect visitor behavior.

100% cooperation) to obtain a few pieces of information from a different sample of visitors, or perhaps from all visitors (depending on the volume of attendance). Such information would typically include group composition [adults-only vs. families-with-children], place of residence [local vs. out-of-area, or specific states], and prior experience [first-time-visitor vs. repeat-visitor]). However, in almost all such examples, the 'next available' method of sampling visitor groups in exit interviews has produced a sample that varies by only a few percentage points from the reliability study, a degree of accuracy which would be sufficient for this research (the notable variations have occurred where a museum has multiple exits, or a large lobby where it is difficult to identify exiting vs. entering visitors, etc.).

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 under the Paperwork Reduction Act.

A pilot survey of 8 visitors has been conducted, which has intuitively confirmed the essential prerequisites for this survey, namely that visitors did not need an incentive to participate, appeared to understand the questions, were able to give reasonable answers to those questions, and each completed the interview (did not discontinue part way through). If, after the survey is approved and the formal data collection begins, circumstances seem to change, ideas about experiments and strategies for maintaining the scientific quality of the research will be considered (e.g., as described in answer to the previous question: location of the interviewer, the use of optional mail-back questionnaires).

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.

The social scientist researcher who developed the research design, and composed the survey instrument, is:

Jeff Hayward, Ph.D., Director of People, Places & Design Research (www.ppdresearch.com); 413-586-9003.

He will also supervise the beginning of the implementation of the survey, including training (about random selection, techniques for conducting intercept interviews and maintaining rapport with visitors) for interviewers, and will coach and support the MDC staff coordinator Yumi Yasutake (regarding the monitoring of the quality of interviewers' work) who will organize and manage the data collection process.

Dr. Hayward (with 30 years of work in the field of visitor studies) and his experienced staff (with 8 to 15 years of experience in this specialty) will analyze and interpret the data.

Linda Schubert, Manager of Mokupapapa Discovery Center, will be NOAA's principal representative in interpreting the data and articulating the possible implications for exhibits, programs, and related ways of educating the public about the NWHI National Monument.