

Supporting Statement for Paperwork Reduction Act Submission:

Coral Reef Valuation Study

OMB CONTROL No. 0648-xxxx

**U.S. Department of Commerce
National Ocean and Atmospheric Administration
National Ocean Service
Office of National Marine Sanctuaries and Office of Response and Restoration
1305 East West Highway, SSMC4, 9th floor
Silver Spring, MD 20910**

**Contact: Norman Meade
(301) 713-4248 ext. 201
Norman.Meade@noaa.gov
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A. JUSTIFICATION

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

Background

The National Oceanic and Atmospheric Administration (NOAA) is a member of the United States (U.S.) Coral Reef Task Force (CRTF), which was established in June 1998 through Executive Order (EO) 13089. As a member of the CRTF, and in support of the U.S. Coral Reef Initiative, NOAA has significant responsibilities for managing U.S. coral reef habitats and undertaking scientific research studies to better understand the nation's coral reef resources (see Attachment 6 for a full list of authorities).

NOAA currently manages three National Marine Sanctuaries (NMS) with coral reef resources under the National Marine Sanctuaries Act (NMSA, 16 U.S.C. 1431, et seq.): the Florida Keys National Marine Sanctuary (FKNMS), the Flower Gardens Bank National Marine Sanctuary, and the Hawaiian Islands Humpback Whale National Marine Sanctuary. NOAA also has the authority to conduct research to understand the use of MPAs under EO 13158. In order to more efficiently conduct surveys about public preferences for attributes of marine environmental resources, including coral reef ecosystems, located in the U.S.A, NOAA needs to conduct research on the validity and reliability of using Internet-based panels of respondents recruited using alternative recruitment methods and which result in varying, underlying response rates.

Request

This information collection request is for conducting up to 32 cognitive one-on-one interviews to test changes made since the first pretest, conducting a second pretest using Knowledge Networks's (KN's) established Internet Panel, and implementing the main survey concurrently using the June 2009 wave of the American National Election Study (ANES) Internet Panel recruited by KN and Stanford's Major Research Instrumentation (MRI) Internet Panel recruited by Abt SRBI, a subsidiary of Abt Associates. There is limited opportunity to have outside research projects use these panels. Because of the ANES and MRI Panel schedules, the only opportunity for administration of the coral reef survey is the June 2009 wave. **We request the Office of Management and Budget (OMB) approval to administer the survey on the June 2009 wave.**

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

How the information will be collected

This request is for up to 32 cognitive one-on-one interviews, a second pretest, and the full-scale implementation of an Internet-based survey instrument designed to estimate individuals' preferences and economic values of the Hawaiian coral reef ecosystem. Four members of the project team will conduct up to 16 cognitive one-on-one interviews on 2 consecutive nights in Denver, Colorado the week of March 30, 2009 and another 16 interviews in Washington D.C.

the week of April 6, 2009. These members will include staff from NOAA and from Stratus Consulting. We will randomly select established KN Panel members (those that are separate from the ANES Panel, which is developed by KN) to participate in the one-on-one interviews. Participants will take the survey using a computer with Internet connection, a set-up similar to conditions for the main survey. The purpose of these interviews is to test participants' understanding of the material presented to them and to evaluate certain sections of the survey or wording issues. Information gathered from these interviews is not intended to be used to make major changes to the survey instrument.

The next activity for which we are seeking approval once the cognitive interviews are completed is conducting a second pretest. Based on review by OMB and others, we have made changes to the survey instrument (see the next section called "The main survey instrument") since the first pretest, including changes to the experimental design. We plan to test these changes using a randomly selected sample of 385 established KN Panel members (of this sample, we expect to get 250 completed interviews). The purpose of this pretest is to test the programmed survey instrument. We need to make sure that there are no issues with the programming of the survey and that the experimental design (as described below) is appropriate for the full administration of the main survey. This pretest will not involve any participants from the ANES or MRI Panels. Once KN sends us the pretest data, we will analyze it using simple summary statistics, develop a presentation on the results, and make any changes, if necessary, to the programming and/or experimental design before implementing the main Internet survey using the ANES and MRI Panels in June 2009. The pretest is currently scheduled to begin the week of April 20, 2009 and is expected to be in the field for three weeks.

The main survey will be administered to two independent Internet Panels: the ANES Internet Panel and the MRI Internet Panel. KN will develop the ANES Panel and Abt SRBI will develop the MRI Panel. For the ANES Panel, KN has recruited a sample of 2,000 panel members using Random Digit Dialing (RDD). Abt SRBI has recruited a sample of 990 panel members from the U.S. Postal Service (USPS) mailing address lists for the MRI Panel.

Most Internet-based surveys currently depend on RDD recruiting to build their panels. This type of recruiting involves several steps, including initial and follow-up telephone calls, administration of a screener, and recruitment of the panel. At each step, potential panelists are lost, which results in potentially low overall survey response rates of 20%. The representativeness of telephone-recruited panels is then subject to question, but it has been difficult to evaluate the actual extent of nonresponse biases if any.

KN and Abt SRBI are developing the two Internet Panels *independent of this specific data collection effort* under a grant from the National Science Foundation (NSF). The panels are being recruited to administer a series of surveys over multiple months (waves). These panels are part of a research project (designed by KN and Abt SRBI in cooperation with Professor Jon Krosnick of Stanford University and others) to evaluate the representativeness of RDD-recruited Internet Panels. Abt SRBI will recruit the MRI Panel by contacting households face-to-face, which is expected to generate an overall response rate of approximately 63%.¹ Results from the surveys

1. This value comes from an NSF-sponsored demonstration project on face-to-face recruitment of an internet survey panel.

performed by the MRI Panel can then be used to evaluate the representativeness of the ANES Panel survey results. More details on procedure are provided below.

We propose using the June 2009 survey wave to collect information for our Coral Reef Economic Valuation Study survey. In this way, our survey can depend heavily on KN's ANES Panel for cost-effective survey implementation. At the same time, we can use responses from surveying the MRI Panel to evaluate any nonresponse biases in the RDD results.

We plan to test estimates of total value obtained from the two panels that use different recruiting methods and which result in different underlying response rates. The survey focuses on overfishing and ship groundings, which are among the most widespread threats to the reef ecosystems. Two methods of protection are presented in the survey: (1) restoration of the coral reef ecosystems of the MHI through the establishment of a special category of MPAs known as marine reserves or no-take areas; and (2) restoration of coral habitats after vessel groundings. The survey uses a stated choice conjoint framework to evaluate the willingness of study subjects to trade off these actions against each other at a cost and against taking no action. The survey has gone through extensive design, development, qualitative research, and pretesting. After we complete the one-on-one interviews and second pretest, the main survey will be ready to be fully implemented using the ANES and MRI Panels.

The study effort involves three main phases. Phase 1, which has been completed, involved the development of the initial survey instrument, qualitative research through focus groups and cognitive one-on-one interviews to test out and improve the instrument, and implementation of a small-scale pretest of the survey instrument, which OMB has previously approved (OMB NO. 0648-0531, expired 8/31/2006). Results of the pretest are provided in Attachment 2. In Phase 2, the current phase of this project, we will complete the three tasks described above that require OMB approval. Phase 3 of the effort will involve analysis of the survey data and development of a final study report. Details relating primarily to Phase 2 are presented in this supporting statement, because this application is to conduct cognitive one-on-one interviews, a second pretest, and the main survey.

The main survey instrument

This instrument has been revised in light of peer review, the first pretest results, and initial comments from OMB. The version included in this package differs from the executable version in format only. An online address to review the Web Interface version will be provided to OMB as soon as all the screens have been programmed correctly. We designed the survey to provide respondents with adequate levels of information about the MHI coral reef ecosystems, the problems facing such ecosystems, and potential management actions that might be undertaken to help protect and restore them. To ensure that the information is accurate, numerous coral reef researchers reviewed the survey instrument.

Throughout the development and presentation of materials in the survey, we have strived to present information in a balanced, neutral manner. Discussions of details of this balance are provided in the individual sections below.

As the information is presented, it is divided into sections by questions designed to encourage review and consideration of survey information and to provide us with feedback on respondents' preferences based on the information they have seen up to that point.

For purposes of review and comment, the survey instrument included in this submission has labels for Screens, where the information and/or questions will appear in the online executable version. The question numbers will not appear in the executable version; they are used only to track comments and suggestions in the review process.

Summaries of the major sections of the main survey follow.

General instructions to KN and Abt SRBI operations

The first page will not appear in the application. This is a tracking sheet for internal operations at KN and Abt SRBI. The general instructions to the KN and Abt SRBI operations begin on the second page. These instructions lay out several features and capabilities that the researchers and funding agencies want KN and Abt SRBI to implement in the online executable version of the questionnaire.

Instructions/warm-up: (Screens 1 through Screens 2C)

Screen 1 begins the survey. The survey is presented with and without audio (some panel members may not have audio capability). Screen 1 and Screen 2A test whether the panel member has audio capability to determine which version of the survey they will receive. Question S2A asks if the panel member heard the music for testing the audio capability. If the respondent answers "yes" they will see Screen 2B, which informs them that some instructions are given by audio and that they should turn up their audio. Respondents are also reminded to read the screen carefully, even if audio is provided.

Screen 2C presents respondents with a question (Q2D1 or Q2D2) from the General Social Survey (GSS), which is placed at the beginning of the survey to serve both as a warm-up and to provide information to help evaluate potential attitudinal differences between the respondents to our survey and respondents to the GSS. Half the sample will randomly receive Question Q2D1 and half the sample will randomly receive Question Q2D2.

Part 1: Survey setup (Screens 3A through 3C)

Part 1 introduces the topic of the survey: management options for coral reefs in Hawaii. It gives the initial explanation of the purpose of the survey and explains why respondents' opinions are important. It explicitly identifies NOAA as a U.S. government agency funding the survey. The NOAA logo will be prominently displayed on the initial screen of the survey. At the bottom of Screen 3A, panel members (respondents) are informed that their participation is voluntary and are provided an opportunity to obtain more information. Respondents wanting more information are sent to Screen 3B, where information is provided about the policies regarding survey participation and efforts to protect their privacy (see Attachment 3 for KN's Panel Member Bill of Rights). Respondents are also provided an 800-telephone number if they have any questions.

Screen 3C informs respondents that this survey will present information about coral reefs, including pictures and maps. Respondents also learn that they can move forward or backward in the survey through links provided on the lower left corner of each screen, and return to wherever they were in the survey before linking to any information.

Part 2: Introduction (Screens 4A through 12B; Questions Q1 through Q5)

The introduction presents information about coral reefs and coral reef ecosystems using text and an illustration (Screen 4A). The text describes what a coral reef ecosystem is and where coral reefs are found, highlighting the types of marine animals found on and near coral reefs. This information is followed by Questions Q1 through Q3, which ask how often a respondent has read or heard about coral reefs (on Screen 4), how many times he/she has been to a coral reef in the U.S. or elsewhere (on Screen 5), and, if a respondent has been to a reef before, where this visit occurred (on Screen 6). The responses to Question Q3 can be used to differentiate survey respondents' level of previous familiarity with coral reefs.

On Screen 7, respondents learn that 10% of coral reefs are found around the Hawaiian Islands; most other coral reefs are found around Florida. A map is used to show respondents the location of the MHI (on Screen 8). The text below the map communicates how extensive the MHI are and how people use them. Screen 9 then shows another map of the Hawaiian Islands that highlights the NWHI. The text below the map describes more about the NWHI. The introductory section ends with Questions Q4, Q4A, and Q5, which ask whether respondents have either lived in or visited Hawaii in the past and how likely they are to visit Hawaii in the next 10 years (on Screens 10A, 10B, and 11). These questions will be used to segment those whose values might include direct economic use value versus those whose values would hold pure nonuse/passive economic use values.

On Screen 12A, respondents see four pictures of reefs and reef fish and other sea life found on Hawaii's coral reefs. These pictures provide a transition between answering questions and providing the next bit of information. The final screen in Part 2 (Screen 12B) highlights two reasons why coral reef ecosystems around Hawaii are unique: (1) 25% to 50% of the species found around the Hawaiian Islands do not occur anywhere else in the world, and (2) the NWHI reefs are in a remote location and still in a relatively unaltered natural state (i.e., mostly untouched by humans).

Part 3: Overfishing (Screens 13A through 16D; Questions Q6 through Q7)

This section introduces overfishing as the first of two main threats to coral reef health in the MHI. The section first describes what is meant by "overfishing" and the ways that it can affect reef health.

Illustrations are used to show respondents current conditions at the MHI and how the MHI looked before overfishing occurred. By seeing the two illustrations side by side, respondents can see that under conditions before overfishing occurred, there are more reef fish and healthier coral ecosystems than under current conditions.

A solution to the overfishing problem — implementation of no-fishing zones — is then described. Respondents learn that this management tool has been effective in other locations

such as Florida to help improve coral reef health. Respondents are told that other activities such as recreational diving can still occur in no-fishing zones. The text also highlights some undesirable consequences associated with developing no-fishing zones, including additional government spending, potential loss of commercial fishing jobs, and displacement of recreational fishing. Presenting this information demonstrates to respondents that protection comes at a cost.

Following the discussion of no-fishing zones, Question Q6 asks respondents whether they agree with statements about three issues: commercial fishing jobs, sport fishing opportunities, and federal government involvement. This question serves two purposes. First, it breaks up the presentation of important information and second, it provides additional information to assess respondents' preferences for protecting coral reefs.

Next, respondents learn about a proposal to increase no-fishing zones from the current 1% to a new level of 25% of the coral reef ecosystems in the MHI. We present some reasons for and against enlarging no-fishing zones to ensure that a balanced and neutral presentation on these issues is given to respondents.

Screen 16A through 16C address the proposal in detail. Illustrations are used to compare conditions in 10 years (1) if no-fishing areas continue to protect only 1% of coral reefs, and (2) if no-fishing areas are expanded to protect 25% of coral reefs. Finally, Question Q7 asks respondents if they have any comments about the information provided so far.

Part 4: Ship accidents (Screens 17A through 19B; Questions Q8 through Q9)

Part 4 introduces the second of the two main threats to coral reef health in the MHI: ship accidents. Ship accidents occur about 10 times a year in the MHI, and these can significantly impact a localized area of the reef. This section describes the effects of ship groundings in the MHI and highlights the fact that natural recovery of the reefs from these groundings typically takes about 50 years. During this time, a reef's health, and many of the coral reef-associated activities such as snorkeling and diving, may be affected. The ship grounding scenario provides a description of localized impacts on ecosystem health, contrasting with the broader effects associated with overfishing. It is included to help elicit a range of values for the types of management actions that are available to help improve the coral reef health in the MHI.

Illustrations are used to compare current conditions of coral reefs in the MHI and conditions immediately following a ship accident (e.g., a damaged reef).

On the next screen, Question Q8 asks respondents whether they ever heard about, read about, or seen where ship accidents have injured coral reefs in Hawaii or elsewhere.

Next, respondents learn that management actions, such as planting living coral from coral farms into injured areas and restoring injured coral that is still alive, could help the reef recover faster after ship accidents (10 years rather than 50 years). This section explains that these actions have been effective in other locations, such as Florida, in restoring the reefs in a much shorter period compared to natural recovery.

The next screen tells respondents that the federal government, with the State of Hawaii, is considering a new program to repair ship injuries to coral reefs that would repair about 10 sites

(about 5 acres) each year. Again, as with the overfishing solution, the respondents are given the pros and cons of this management action.

Respondents are told it is not possible to make boat and ship owners pay for repairs because it is often difficult to track which ship caused the injury. This information helps avoid protest amongst respondents who think it was not fair for them to pay for the injuries because the boat and ship owners are responsible.

Finally, Question Q9 asks respondents if they have any comments about the information provided so far.

Part 5: Choice questions/follow-up evaluation (Screens 20A through 41; Questions Q10 through Q29, A1 through A2a, and D1 through D2)

In Part 5, respondents are asked to identify which combination, if any, of the management actions they prefer. The two management actions (no-fishing zones, and restoration of ship accident damages) are summarized, and a series of stated-choice questions is asked. To clarify this task for respondents, a warm-up question is presented on Screen 20C. On this screen, respondents will see the Current Program (the status quo) and either the No-Fishing Zone Program or the Reef Repair Program. The question on the screen asks respondents to pick their most preferred alternative out of the two choices.

Starting with Screen 20D, each stated choice question asks respondents to choose between the presented programs, with each program described in terms of management actions and cost to the respondent's household in the form of increased federal income taxes. The Current Program is always the status quo: no new no-fishing zones in the MHI, no additional efforts to restore vessel grounding damages, and no additional taxes. The Full Program includes a combination of new no-fishing zones in the MHI and additional efforts to restore vessel grounding damages, which results in the greatest increase in new taxes. The No-Fishing Zones and Reef Repair Programs include one management action beyond the status quo (based on their respective titles) and some increase in taxes.

Respondents are asked in Question Q10 to specify which of the four programs is their most preferred. Respondents are reminded to consider the effectiveness of each management option and their budget constraints, and then asks respondents to specify their most preferred program in Q10. Question Q11 then asks respondents to provide a brief comment explaining why they chose the program they did. In particular, this information can help distinguish between true zero values and protest answers. In addition, it allows the research team to better understand the overall confidence that respondents had in their answers and whether or not respondents were taking the choice task seriously. This question also provides a space for respondents to comment on their answers to Question Q10. This can provide insights into the individual's thought process, and subsequently help identify valid and invalid responses. Second, it provides the opportunity for individuals to express how they feel about being asked this type of question. This is especially important for those respondents that clearly dislike some element of the question. This comment question is not repeated for other choice questions because experience indicates little additional information is gained from repeating the question.

Next, respondents are presented with the remaining three programs and asked to check which of these is their most preferred. The screen is then replaced once more with the two remaining programs and respondents are asked to choose their most preferred. Each respondent is asked three stated choice questions to limit potential respondent fatigue. As has become standard practice in stated preference studies, we introduce a “certainty question” after each choice question.

Asking respondents to identify their most preferred, next most-preferred, and then their most preferred from the remaining two programs, provides a complete ranking of all the programs in each choice set. Complete rankings provide potent information on preferences that will be very useful in data analysis and value estimation.

Next, Screen 22 tells respondents they will answer some questions about what they were thinking when choosing the programs they prefer. Question Q17 asks respondents whether or not they believe overfishing has caused the changes in coral reefs they were told about earlier. Questions Q18 and Q19 then ask how serious the effects of overfishing would be without additional no-fishing zones and how effective no-fishing zones would be if adopted.

In respect to ship accidents, Question Q20 asks the respondents to evaluate how serious the effects of ship accidents are on the MHI coral reef ecosystem. Questions Q21 and Q22 ask respondents how effective they thought the Reef Repair Program would be in speeding up recovery and if they thought recovery would take more than, less than, or about 10 years under the Reef Repair Program.

Questions Q23-Q28 are used to evaluate the validity of the survey instrument. These questions elicit respondent attitudes about the proposed programs in the instrument, various groups and institutions in the United States, and their environmental attitudes.

Question Q29 asks if anyone in the household paid any federal income taxes in 2008. This will be used to assess the use of federal income taxes as a payment vehicle.

Respondents who had audio were asked in Questions A1-A2a if they thought the audio presentation was helpful and whether they thought additional audio instructions would have been helpful. This is followed by Questions D1 and D2, which ask for information on the equipment used by panel members to participate in the survey. This will allow assessment of differences in survey responses by capabilities in receiving survey information.

Finally, the last screen reminds respondents that the survey is eliciting information useful to NOAA and other agencies to estimate the value of coral reef ecosystems; it does not necessarily represent actual government policy. These statements were developed in consultation with the State of Hawaii and NOAA’s National Marine Sanctuary Program (NMSP). Peer reviewers were adamant that these statements not be presented until respondents had completed and submitted their survey responses.

Our plan is to administer the main survey using the ANES and MRI Internet Panels. When these panels are recruited, a portion of each recruitment interview, independent of this specific Coral Reef Valuation survey, will measure socio-demographics and other generic measures, including

contact information and questions to gauge Internet access.² We will be able to utilize this socioeconomic data for our analysis. Additionally, it will have the interviewers conduct a brief, , face-to-face interview; invite the respondents to accept a free computer and other incentives; and join the panel. The ANES and MRI Panel members will agree to complete one questionnaire every month via the Internet.

Use of illustrations

The survey is designed to solicit preferences from the ANES and MRI Panels on three coral reef conservation programs: (1) increasing the no-fishing zones around the MHI from 1% to 25% of coral reef ecosystems, (2) annually repairing coral injuries caused by ship groundings, and (3) increasing the no-fishing zones *and* repairing coral injuries around the MHI. Obtaining reliable expressions of individuals' preferences for these programs requires that the respondents have an accurate understanding of the potential future status of coral reef ecosystems with and without these three programs.

This data collection effort is complicated by several factors. First, it is expected that the majority of the respondents have never visited a coral reef ecosystem and, thus, are likely to be unfamiliar with this habitat type, beyond what has been learned from television, movies, books, and magazines. Second, given the complexity of the ecosystem, it is unlikely that the respondents could develop a relatively complete mental image of the habitat by solely relying on the textual information contained in the instrument. Third, because of the lack of direct personal experience with the habitat, it is expected that coral reef ecosystem conservation will be an issue of low salience for many respondents. Forth, the instrument contains significant technical detail on the potential habitat changes that would result with and without the three alternative programs. If the respondents are unlikely to be able to form a detailed mental image of a generic coral reef ecosystem, they cannot be expected to picture the fine distinctions that would result from the three conservation programs based solely on the textual descriptions.

To address these four challenges, the instrument includes a series of six professionally developed, color illustrations (see Attachment 5). Appearing as pairs , these illustrations depict how a typical reef location may appear with and without each management option. Including illustrations in the instrument provides several benefits. First, for those respondents unfamiliar with coral reefs, the illustrations provide a visual complement to the textual information. This visual component will most likely strengthen respondents' understanding of the habitat of interest. Second, the graphics interspersed among the mostly text-based instrument are likely to help respondents maintain interest and to focus on completing the questionnaire. This will act to increase both the survey's response rate and the accuracy of our data collection as the respondents will be more engaged with the instrument. Finally, and most importantly, illustrations allow the researchers to accurately display the potential different states of the environment with and without the programs in a manner that can be comprehended by nearly all respondents.

2. Recruitment information for the ANES and MRI panels are being collected independently of this request and are not part of the Coral Reef Valuation Study request to OMB.

The first pair of illustrations presents the current conditions at the MHI and conditions before overfishing occurred there. The illustration on the left shows a representation of current conditions at the MHI. The one on the right shows what the MHI looked like before overfishing occurred. As compared with the status quo image (the image on the left), the illustration on the right contains a greater number of fish, larger fish, the presence of fish schools in the background, and less benthic macro algae.

The second pair of illustrations is designed to show the potential effects of increasing no-fishing zones around the MHI from 1% to 25% of coral reef ecosystems in about 10 years. The first illustration within this pair depicts the potential view of the reef if the status quo of 1% no-fishing zones is maintained, and the second illustration captures the potential view with no-fishing expansion to 25%. As compared with the status quo image, the second illustration contains a greater number of fish, larger fish, the presence of fish schools in the background, and less benthic macro algae.

The third pair of illustrations shows the potential effects of ship groundings on coral reef ecosystems in the MHI. The illustration on the left depicts current conditions of the MHI coral reefs. The illustration on the right shows how the current MHI scene would change immediately following a ship grounding. The illustration contains a hull scar of crushed coral fragments, with larger pieces of coral rubble forming berms to either side of the scar. The large coral heads have been fractured, and there is a decrease in the number of fish present at the location. This illustration is consistent with photographs of coral reef ship groundings from the Florida Keys.

Experimental design

This section describes the experimental design for the Coral Reef Valuation Study survey. The developed design will be pretested using a subset of the overall design. Adjustments to the final design for the main survey will be based upon the results of the pretest. The remainder of this section describes the method and layout of the experimental design that will be used for the main survey. We expect the attribute levels presented here to be final. If necessary, we will modify the final cost estimates based on the results of the pretest.

There are three programs in the revised Coral Reef Valuation Study survey: (1) increasing the no-fishing zones from 1% to 25% around the MHI (protecting reefs), (2) repairing reefs from ship injuries so that injuries last 10 years rather than 50 years (repairing reefs), and (3) implementing no-fishing zones *and* repairing reefs from ship injuries (both). Thus, there are two attributes for the Coral survey: the percentage of Main Hawaiian Island reefs protected and the years for reefs to be repaired from ship injuries. The individual programs, protecting reefs and repairing reefs, have two levels apiece: the status quo or some positive action. As summarized in Table A.1, the alternative levels for protecting and repairing reefs are 25% of reefs protected versus 1% under the status quo, and injuries being repaired in 10 years rather than 50 years under the status quo, respectively.

There are four possible combinations of attribute levels (referred to as alternatives) representing the combinations of programs: the status quo, protecting reefs only, repairing reefs only, and both protecting and repairing reefs. Because there are only four possible combinations, it is possible to obtain a full ranking of a respondent's preferences using only one choice set (with

four alternatives).

We have assigned each attribute a vector of bid amounts to represent the cost of implementing the program to produce the desired attribute levels (Table A.1). The bid amounts were selected as follows. We used the results from the Phase I pretest to create a distribution of willingness to pay (WTP) estimates for the no-fishing zones and reef repair programs. We then simulated probabilities of a respondent selecting each alternative using the parameter estimates from the pretest and randomized error terms. We experimented with the bids to rebalance the probabilities and to capture the overall range of WTP values.

Table A.1. Program attributes and associated levels.

Attribute	Status quo level	Alternate level	Cost (\$)
% reefs protected	1%	25%	30, 60, 80, 110
Years for reefs to be repaired from ship injuries	50	10	20, 40, 60, 85

The bid amounts represent the cost of implementing the individual programs. For the program that involves both protecting and repairing, the bid amount is equal to the total cost of the program (i.e., the sum of the individual project costs) plus a bundling adjustment. The bundling adjustment is included to test if respondents are willing to pay a different amount for the combination of programs (both protecting and repairing reefs) than for the individual programs separately. This allows us to estimate an interaction term and to test whether this interaction term is positive or negative. We have included two positive and one negative bundling adjustment to account for respondents who are willing to pay less or more to have both programs implemented. The bundling adjustment also accounts for the fact that the two programs could have economies or diseconomies of scale. The bundling adjustments in this design are (-5), 0, 10, and 15.

The design and bid amounts will be pretested to reinforce our understanding of how people are trading off the individual programs. We will use the results of the pretest to re-estimate the parameters and repeat the above process to refine the distribution of WTP estimates that reflect these trade-offs.

There are 16 possible choice sets for the main survey that contain all the different combinations of individual program costs. In each choice set, the cost of the combined program is the sum of the individual program costs plus a bundling adjustment. Each individual program cost level appears four times in the design matrix, and each time it appears it is paired with a different bundling adjustment. Table A.2 presents the current experimental design matrix. As stated above, the methodology, layout, and attribute levels for the main survey will match this design, but the cost estimates may be revised based on the results of the pretest.

Table A.2. Experimental design matrix.

Alternative	Protecting reefs: % protected	Repairing reefs: Years to recovery	Cost (\$)
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$30

Repairing reefs only	1%	10	Cost repairing = \$20
Both	25%	10	\$30 + \$20 - (-5)
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$30
Repairing reefs only	1%	10	Cost repairing = \$40
Both	25%	10	\$30 + \$40 - 0
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$30
Repairing reefs only	1%	10	Cost repairing = \$60
Both	25%	10	\$30 + \$60 - 10
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$30
Repairing reefs only	1%	10	Cost repairing = \$85
Both	25%	10	\$30 + \$85 - 15
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$60
Repairing reefs only	1%	10	Cost repairing = \$20
Both	25%	10	\$60 + \$20 - 0
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$60
Repairing reefs only	1%	10	Cost repairing = \$40
Both	25%	10	\$60 + \$40 - (-5)

Table A.2. Experimental design matrix (cont.).

Alternative	Protecting reefs: % protected	Repairing reefs: Years to recovery	Cost (\$)
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$60
Repairing reefs only	1%	10	Cost repairing = \$60
Both	25%	10	\$60 + \$60 - 15
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$60
Repairing reefs only	1%	10	Cost repairing = \$85
Both	25%	10	\$60 + \$85 - 10
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$80
Repairing reefs only	1%	10	Cost repairing = \$20
Both	25%	10	\$80 + \$20 - 10
Status quo	1%	50	\$0

Protecting reefs only	25%	50	Cost protecting = \$80
Repairing reefs only	1%	10	Cost repairing = \$40
Both	25%	10	\$80 + \$40 - 15
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$80
Repairing reefs only	1%	10	Cost repairing = \$60
Both	25%	10	\$80 + \$60 - (-5)
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$80
Repairing reefs only	1%	10	Cost repairing = \$85
Both	25%	10	\$80 + \$85 - 0
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$110
Repairing reefs only	1%	10	Cost repairing = \$20
Both	25%	10	\$110 + \$20 - 15
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$110
Repairing reefs only	1%	10	Cost repairing = \$40
Both	25%	10	\$110 + \$40 - 10

Table A.2. Experimental design matrix (cont.).

Alternative	Protecting reefs: % protected	Repairing reefs: Years to recovery	Cost (\$)
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$110
Repairing reefs only	1%	10	Cost repairing = \$60
Both	25%	10	\$110 + \$60 - 0
Status quo	1%	50	\$0
Protecting reefs only	25%	50	Cost protecting = \$110
Repairing reefs only	1%	10	Cost repairing = \$85
Both	25%	10	\$110 + \$85 - (-5)

The experimental design will be tested using a pretest. The experimental design used in the pretest will be a subset of the matrix presented in Table A.2. It will consist of eight choice sets formed by dropping the (-5) and 15 bundling adjustments. We will use the results from the pretest to modify the cost options to accurately depict respondents' preferences for the main survey.

Use of stated choice questions

Stated choice methods have been identified as a useful tool to better understand individuals' preferences and values for environmental amenities that are not traded in markets. While there is some use of coral reef ecosystems around the MHI, protection of coral reefs there has a large public good component. No markets are available to study the value of protecting and restoring these coral reef ecosystems. Stated choice methods also allow for the evaluation of a full range of management alternatives, including alternatives currently in force and novel combinations of management alternatives like those being considered for implementation in Hawaii.

Stated choice methods are well established in the literature on environmental economics (Kanninen, 2007). This approach evolved from conjoint analysis, a method used extensively in marketing and transportation research (Louviere et al., 2000).³ Conjoint analysis requires respondents to rank or rate multiple alternatives where each alternative is characterized by multiple characteristics (e.g., Johnson et al., 1995; Roe et al., 1996; Holmes and Adamowicz, 2003). Choice questions require respondents to choose the most preferred alternative (a partial ranking) from multiple alternative goods (i.e., a choice set), where the alternatives within a choice set are differentiated by their characteristics.

There are many desirable aspects of stated choice questions, not the least of which is the nature of the choice being made. Choosing the most preferred alternative from some set of alternatives is a common experience. Morikawa et al. (1990) note that responses to choice questions often

3. Cattin and Wittink (1982) and Wittink and Cattin (1989) survey the commercial use of conjoint analysis, which is widespread. For survey articles and reviews of conjoint analysis, see Louviere (1988, 1992), Green and Srinivasan (1990), and Batsell and Louviere (1991). Transportation planners use choice questions to determine how commuters would respond to a new mode of transportation or a change in an existing mode. Hensher (1994) gives an overview of choice questions applied in transportation.

contain useful information on tradeoffs among characteristics. Quoting from Mathews et al. (1997), stated choice “models provide valuable information for restoration decisions by identifying the characteristics that matter to anglers and the relative importance of different characteristics that might be included in a fishing restoration program.” Johnson et al. (1995) note “The process of evaluating a series of pair wise comparisons of attribute profiles encourages respondents to explore their preferences for various attribute combinations.” Choice questions encourage respondents to concentrate on the tradeoffs between characteristics, rather than to take a position for or against an initiative or policy. Adamowicz et al. (1998a) note that the repeated nature of choice questions makes it difficult to behave strategically.

As mentioned previously, choice questions allow for the construction of goods characterized by levels that currently do not exist. This feature is particularly useful in marketing studies whose purpose is to estimate preferences for proposed goods, where various characteristics can be manipulated in arriving at final product designs.⁴ For example, Beggs et al. (1981) assess the potential demand for electric cars. Similarly, researchers estimating the value of environmental goods are often valuing a good or condition that does not currently exist, e.g., an MPA around coral reef systems.

Choice questions, rankings, and ratings are increasingly used to estimate the value of environmental goods. For example, Magat et al. (1988) and Viscusi et al. (1991) estimate the value of reducing health risks; Adamowicz et al. (1994, 1998b, 2004), Breffle et al. (2005), and Morey et al. (1999a) estimate recreational site choice models for moose hunting, fishing, and mountain biking; Breffle and Rowe (2002) estimate the value of broad ecosystem attributes (e.g., water quality, wetlands habitat); Adamowicz et al. (1998a) estimate the value of enhancing the population of a threatened species; Layton and Brown (1998) estimate the value of mitigating forest loss resulting from global climate change; and Morey et al. (1999b) estimate WTP for monument preservation in Washington, DC. In each of these studies, a price (e.g., tax or a measure of travel costs) is included as one of the characteristics of each alternative, so that preferences for the other characteristics can be measured in terms of dollars. Other examples of choice questions to value environmental commodities include Swait et al. (1998), who compare prevention versus compensation programs for oil spills, and Mathews et al. (1997) and Ruby et al. (1998), who ask anglers to choose between two saltwater fishing sites as a function of their characteristics.

Alternatively, a number of environmental studies have used ratings, in which survey respondents rate the degree to which they prefer one alternative to another. For example, Opaluch et al. (1993) and Kline and Wichelns (1996) develop a utility index for the characteristics associated with potential noxious facility sites and farmland preservation, respectively. Johnson and Desvousges (1997) estimate WTP for various electricity generation scenarios using a rating scale in which respondents indicate their strength of preference for one of two alternatives within each choice set. Other environmental examples include Rae (1983), Lareau and Rae (1998), Krupnick and Cropper (1992), Gan and Luzar (1993), and Mackenzie (1993). Adamowicz et al. (1998b) provide an overview of choice and ranking experiments applied to environmental valuation, and argue that choice questions better predict actual choices than do rating questions because choice

4. Louviere (1994) provides an overview of choice questions applied in marketing.

questions mimic the real choices individuals are continuously required to make, whereas individuals rank and rate much less often.⁵

Choice and rating questions characterize the alternatives in terms of a small number of characteristics. For example, Opaluch et al. (1993) characterize noxious facilities in terms of seven characteristics; Adamowicz et al. (1998b) use six characteristics to describe recreational hunting sites; Johnson and Desvousges (1997) use nine characteristics to describe electricity generation scenarios; Mathews et al. (1997) use seven characteristics to describe fishing sites; Morey et al. (1999a) use six characteristics to describe mountain bike sites; and Morey et al. (1999b) use two characteristics to characterize monument preservation programs.

Focus groups and cognitive interviews conducted during Phase I of this project showed that a solid foundation exists for the application of stated choice methods to the valuation of Hawaiian coral reef ecosystems. The study subjects demonstrated a rudimentary understanding of coral reefs and ecosystems based on schooling, nature programs, reading, and in some cases personal experience. While many people had not personally visited coral reefs, or planned to ever use them directly, they could understand both how the reefs were useful to others and their ecological functions. We were able to build on this understanding with sufficient specific information about the situation in the Hawaiian Islands to allow most subjects to feel comfortable in expressing their preferences among alternatives. We also found that most subjects had little or no difficulty with choice questions involving three alternatives and could identify their most preferred and least preferred alternatives (the least preferred option was used in the first pretest; the proposed pretest and main study would use four alternatives and would not use the least preferred option). This allowed us to go beyond the conventional approach of asking about two alternatives to gain some of the richness of ranking questions without forcing the subject to come up with potentially artificial ranking for larger numbers of alternatives. In particular, three alternative choice questions allow us to include the no-action alternative in all the choice sets. This avoids the problems associated with forcing respondents to choose between two alternatives, neither of which they find particularly desirable compared to doing and spending nothing more.

Survey mode

Pretest survey

For the pretest survey, we plan to use KN's established Web-enabled panel. See the discussion below in "Main survey" for justification of using a Web-enabled survey instead of a telephone or telephone mail survey.

Main survey

We propose to concurrently use two Web-enabled panels for the main survey. Independent of this data collection effort, KN and Abt SRBI (with support and oversight from Stanford University) are developing both panels. The first is the ANES Panel, built and administered by

5. See, for example, Louviere and Woodward (1983), Louviere (1988), and Elrod et al. (1992).

KN.⁶ Recruitment to this panel will be based on a list-assisted, RDD sample drawn from all 10-digit telephone numbers. The second is Stanford's MRI Panel, built and administered by Abt SRBI. The MRI Panel members will be selected based on a multistage probability sample of residential mailing addresses. Abt SRBI will roster the household and then randomly select one of the eligible members. The sample will be limited to households; group quarters (e.g., college dormitories and nursing homes) will be excluded from the eligible target population.

We will use this standing panel, Web-based approach to overcome a set of potential problems inherent in the research. As revealed in the focus groups and cognitive interviews conducted during phase I, most people have some familiarity with coral reefs through nature programs and other sources, but it will be necessary to convey more information to subjects than they could easily comprehend if it were built into a simple telephone survey. Furthermore, while some people are interested in and are concerned about coral reefs, many others are not. Hence, we rejected the option of recruiting by telephone using RDD and following up with a mail survey, since the low salience of the topic to many respondents could lead to a low response rate. There is not any way to separate those nonrespondents who simply lack sufficient interest in coral reefs (and hence have near-zero values) from those who did not respond for other reasons, such as an inability to deal with large amounts of written information. We have concluded that an RDD and in-person Web-enabled survey will be superior to a telephone or telephone mail survey for the following reasons:

- ▶ We can get higher response rates using the ANES and MRI Web-enabled panels that we could with a telephone or telephone mail survey due to the low saliency of the topic to people.
- ▶ We can use pictures, graphical materials, voice-over, and other tools to communicate information more effectively to respondents, ease the respondents' burden, and maintain interest among those for whom coral reef issues are of low salience.
- ▶ We can easily and seamlessly make later questions conditional on responses to earlier ones. Skip patterns are used to address this problem in mail surveys, and they often cause difficulties as subjects get lost and skip questions or try to answer questions that do not apply to them. Web-enabled surveys are programmed so that skip patterns are automatic.
- ▶ The effectiveness of the stated choice questions can be enhanced by making the attributes of the alternatives in later questions conditional on the choices made in earlier ones. This is not possible in mail surveys.
- ▶ We can avoid potential problems that can arise when respondents do not read the material in a mail instrument at all or read it in a different order than the survey designers intended. For example, one danger in this type of survey is that subjects in a mail survey may try to complete stated choice questions before digesting the information needed to answer them.

6. The ANES Web Panel is separate from KNs existing Web-enabled panel.

- ▶ Experimental treatments can be easily and independently randomized among respondents.
- ▶ We can track all stages of the recruitment process to provide a solid basis for evaluating the representativeness of each of the samples in a more detailed way than can be accomplished with most other survey implementation methods.

In addition, sampling is cost-effective for reaching both the main sample and, if desired, a subsample of coral reef users.

Frequency of the information collection

The cognitive one-on-one interviews, the second pretest, and the main survey study are a one-time application.

How collection complies with NOAA information quality guidelines

Utility

The overall study goals were refined in Phase I of the project through interviews with key stakeholder groups, including federal and state resource managers and members of the U.S. CRTF. These initial interviews allowed us to identify key information needs. At critical points throughout the study, we updated the key stakeholders on the status of the study. This ensures that all information developed from this project will be transparent to all members of the public.

The first pretest has allowed NOAA to further refine the survey instrument as to information presentation, reliability, internal consistency, response variability, and other properties of a newly developed survey. It has ensured that the information obtained from the survey is of the highest quality. Due to recent changes in the survey instrument, we are proposing to implement another pretest (following some cognitive one-on-one interviews) to test these changes and to ensure proper programming of the instrument.

Objectivity

In developing the survey instrument, we are following state-of-the-art practices. Focus groups, cognitive interviews, scientific fact peer review, and peer review of survey sample design, question wording, the balance of information provided (acquiesce bias or leading people to adopt a certain position), and nonmarket economic valuation methods have been conducted while designing the current survey instrument. Internal and external peer reviews will be conducted on all project products (e.g., survey instruments, sample designs, analyses, and reports). Peer review will ensure that the information collected is accurate, reliable, and unbiased; and that the information reported to the public is accurate, clear, complete, and unbiased. In our answer to the section on “By Whom,” we detail the internal and external peer reviewers.

Integrity

A separate file will be provided to all panel members in the survey, which will contain the following statement:

Your participation in this survey is voluntary. All responses will be protected and any material identifying you will not be provided to anyone.

KN will provide the ANES Panel members with its Panel Member Bill of Rights, included in this submission (see Attachment 3). For a full discussion of KN and Abt SRBI's procedures for protection of information, see Question 10 of this supporting statement.

It is anticipated that the information collected will be disseminated to the public. As explained in the preceding paragraphs, the information has utility. NOAA's NOS will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards of protection of information. 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 (see Attachment 4 for KN and Abt SRBI's Quality Assurance Procedures) and a predissemination review pursuant to Section 515 of Public Law 106-554.

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

Automated, electronic data collection

Respondents will participate in the survey using either a home-based personal computer connected to the Internet, a personal laptop computer with Internet service, or a Web-capable appliance such as the MSN TV 2 with Internet service. Because we are one part of a larger scientific study, it will be possible to give a Web-capable appliance and/or Internet access to panelists who do not already have them. Non-Internet households participating in the ANES Panel will receive MSN TV 2 Internet and Media Player and Internet Service at no expense. For the MRI Panel, non-Internet houses will receive laptops with broad band Internet access at no expense.

All Web-enabled panel surveys are self-administered, which allows respondents to complete the surveys at their convenience and own pace, in the comfort and privacy of their homes. The electronic survey system supports the inclusion of video, audio, and 3-D graphics in the questionnaire. Respondents can break off and return to complete an interview during a second or later session. The electronic data collection tracks how long respondents spend on each screen.

The data capture survey system, owned by KN, was designed to meet the specific needs of Web-based surveys. The system supports all types of questions commonly used in complex, computer-based interviewing systems. It uses advanced scripting techniques for customization of individual questions to meet the needs of researchers proposing innovative designs. The data capture platform supports the complexity and type of questions proposed in our study including multimedia graphics, voice-over presentation.

The system also supports the importation of auxiliary data, such as demographic information collected as part of the screening. These data can be used to inform question logic, question wording, etc.

See the section “Survey Mode” in answer to Question 2 for justification of using the KN Internet technology for this application.

4. Describe efforts to identify duplication.

There are no published studies in the survey research literature that compare the results of asking respondents questions about preservation and repair of nonmarket environmental goods, such as coral reef ecosystems and comparing the responses to two, independently-recruited Internet panels (e.g., the ANES and MRI Panels) with widely different response rates.

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

This collection does not include collection of information involving small businesses or other small entities.

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

If this collection is not conducted, NOAA will lack the tools it will need in the future to conduct surveys for determining public preferences for protection and repair of marine environmental resources. This is a one-time collection for the cognitive one-on-one interviews, the second pretest, and the main survey.

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

Data collected from the ANES Panel is expected to achieve net survey response rates of 20%. This is based on an expected 31% panel recruitment response rate [American Association for Public Opinion Research (AAPOR) Rate No. 3], 75% connection rate (agree to join the panel and completed the first online demographic survey), and 85% survey participation rate. The ANES Web Panel is created and the first three waves (i.e., the first three months) of data collection are completed.⁷ The first wave of online data collection experienced a survey participation rate in excess of 90%. The low overall response rate is due to the multistage construction of the KN Panel.

For the recruited MRI Panel, we anticipate an overall response rate of about 63%. This is based on a 90% participation rate for each monthly wave.⁸

7. The panels are being recruited to administer a series of surveys over multiple months (waves).

8. This is based on the participation rate for the ANES Panel, though we expect the participation rate for the MRI Panel to be similar.

These estimates are based on the recruitment rates reported on other KN RDD and Abt SRBI in-person surveys and from participation rates reported in the industry and the effort designed into the ANES/SRBI study to ensure high completion rates.

See the answer to Question 9 of this Supporting Statement on the use of incentives as a way of increasing response rates and Part B, Question 2, which addresses the representativeness of the Internet RDD and in-person panels.

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

A Federal Register Notice, published on September 12, 2006 (71 FR 53667), solicited public comment (see Attachment 7).

One set of comments was received from the Western Pacific Fishery Management Council (WPFMC); however, these comments were based on a version of the survey instrument that is different from the one included in this package; they were included in the original supporting statement, but we prefer not to include them here again to avoid confusion. We also consulted with the State of Hawaii on the policy/management options we evaluated in the survey.

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

Cognitive one-on-one interviews

For the cognitive one-on-one interviews, we plan to give participants \$50 to compensate and thank them for giving up 1 and ½ hours to participate in our interview.

Pretest survey

Pretest respondents will receive a \$5 check for their participation. See the section below called “Main survey” for more specific information on why we typically give incentives to respondents.

Main survey

Two types of respondent incentives are provided: nonsurvey-specific and survey-specific incentives.

Survey-specific incentives

KN and Abt SRBI will provide survey-specific incentives to respondents as a result of one of two conditions: (1) the survey is expected to require more than 20 minutes of time to complete, or (2) there is an unusual request being made of the respondent, such as specimen collection, the viewing of a specific television program, or completion of a daily diary. In these kinds of circumstances, panelists are being asked to participate in ways that are more burdensome than initially described to respondents during the panel recruitment stage.

For the main survey, an incentive will be provided because the survey is expected to require 20 or more minutes to complete. Extra encouragement will be required because the survey will require participants to read and digest more information than is the case in other types of surveys and because the topic of the survey will be of limited salience for significant numbers of people.

Inclusion of an incentive acts as a sign of goodwill on the part of study sponsors and encourages reciprocity by the respondent. Singer (2002) provides a review of the use of incentives in surveys. In summary, her findings show that giving respondents a small monetary incentive increases response rates. KN has analyzed the predictors of survey completion rates of studies conducted using its Web-enabled panel. A multivariate analysis based on approximately 500 KN surveys attempted to predict the effect of respondent incentives on survey completion rates while controlling for length of field period, sample composition, use of video in the instrument, and other factors. The effect of respondents' incentives is significant ($p < 0.01$) for both \$5 and \$10 cash-equivalent incentives. Use of a \$5 incentive increased response by 4 percentage points and a \$10 incentive increased response by 6 percentage points. Internal KN research has demonstrated that incentives increase the survey completion rate by approximately 5 percentage points. The increase is larger for young adults and Hispanics.

ANES panel members who participate in the survey will be sent a check for \$10 by U.S. mail for their participation.

These measures are expected to contribute significantly to a survey completion rate of 90% for both the ANES and MRI Panels.

Nonsurvey-specific incentives

Nonsurvey-specific incentives are used to maintain a high degree of panel loyalty and to prevent attrition from the panel. Both the KN and Abt SRBI will provide panel members with Internet connection and laptops or Web-capable devices if they do not already have them. For the households provided with Internet appliances and an Internet connection, their incentive is the hardware and Internet service. ANES Panel members will receive an MSN TV 2 Internet and Media Player and Internet service. All MRI Panel members will be offered a laptop computer and broadband Internet access.

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

KN will conduct the survey for NOAA under subcontract to Stratus Consulting. They will administer the survey to the ANES and the MRI panels even though they will be recruited

independently. Neither Stratus Consulting nor NOAA or anyone else will receive name, address, telephone number, or email address that can be used to identify a survey participant. Stratus Consulting and NOAA will also not release survey data that might be used to identify an individual who participated in the survey using the “rule of 10”⁹ applied by the U.S. Census Bureau. KN and Abt SRBI procedures to protect information follow.

Survey responses are protected, with identifying information never revealed without respondent approval. When surveys are assigned to panel members, they receive notice in their password-protected email account that the survey is available for completion. Surveys are self-administered and accessible any time of day for a designated period.

KN procedures

All ANES Panelists, when joining the panels, are given a copy of the Privacy and Term of Use Policy. In the privacy terms, a section called the “Panel Member Bill of Rights” summarizes the information protections for panelists and explains that respondents can decide whether to participate in the panel or to answer any survey questions. The Bill of Rights is also available electronically at all times to panelists via the panel member Website.

Below is a summary of the measures that will be taken to meet the needs for privacy and confidentiality from the point of data access and information technology (IT).

First, all employees of KN are required to sign an agreement requiring them to protect all personally identifiable information regarding panel members. KN warrants that all employees are bound to protect all personal information provided by respondents, and very few employees actually have access to any personal data. The only employees who have access to this information are those with a direct need to know. Therefore, the only persons with access are the following:

- ▶ Database and IT administrators with access to computer servers for maintaining the computers systems at KN.
- ▶ Staff members in the Panel Relations department that have direct contact with panel members as part of the inbound and outbound call center operations. These staff members are responsible for troubleshooting any problems panelists might be having with their equipment or software related to survey administration, incentive fulfillment, and panel management.
- ▶ Staff members of the Statistics department have access to personally identifying information to draw samples for the various surveys conducted at KN.

All personally identifying records are kept secured in a separate office in the IT section of the main offices in Menlo Park, California, and all data transfers from MSN TV 2 and WebTV units

9. As developed by the United States Census Disclosure Review Board, in some circumstances, presentation of tabulation data on some population households must be rounded to 10s. The exact rounding scheme for rounding to 10s is: 0 remains 0; 1-4 rounds to 0; 5-14 rounds to 10; 15-24 rounds to 20, and so on.

and personal computers (both used for survey administration) to the main servers pass through a firewall. KN never provides any respondent personal identifiers to any client or agency without the explicit and informed consent provided by the sampled panel members. Unless explicitly permitted as documented in a consent form, no personally identifying information will be provided to any parties outside KN in combination with the survey response data.

All electronic survey data records are stored in a secured database that does not contain personally identifying information. The staff members in the Panel Relations and Statistics departments, who have access to the personally identifying information, do not have access to the survey response data. Meanwhile, the staff members with access to the survey response data, with the exception of the aforementioned database and IT administrators who must have access to maintain the computer systems, do not have access to the personally identifying information. The secured database contains field-specific permissions that restrict access to the data by type of user, as described above, preventing unauthorized access.

Only an incremented ID number identifies the survey response data. The personally identifying information is stored in a separate database that is accessible only to persons with a need to know, as described above.

The survey data extraction system exports survey data identified only by the panel member ID number. This ensures individual panel member anonymity. The data analysts with access to the survey data extraction system, as they do not have access to personally identifying information, cannot join survey data to personally identifying data. Panel Relations and Statistics staff do not have access to the survey data extraction system, and therefore cannot join survey data to personally identifying data.

As part of its work with Research Triangle Institute International on a survey conducted in support of Food and Drug Administration (FDA) applications, KN implemented Good Clinical Practice guidelines to ensure compliance with FDA requirements for systems documentation and privacy of stored survey data. Consequently, a system of standard operating procedures is in place for documenting all processes relating to maintaining confidentiality and privacy of the identities of panel members.

KN retains the survey response data in its secure database after the completion of a project. These data are retained for purposes of operational research, such as studies of response rates and for the security of customers who might request at a later time additional analyses, statistical adjustments, or statistical surveys that would require re-surveying research subjects as part of validation or longitudinal surveys. The survey data for all the projects conducted on the ANES Web Panel are also stored in a data vault maintained by Stanford University. The only person with access to these data at Stanford University is the Director of Operations of the ANES.

A file will be provided to all panel members in the survey, which will contain the following statement:

Your participation in this survey is voluntary. All responses are protected and any material identifying you will not be provided to anyone outside of Knowledge Networks. Also see the Knowledge Networks Bill of Rights.

Abt SRBI procedures

For this study, Abt SRBI will recruit the MRI panel and KN will administer the survey. As a member of CASRO (Council of American Survey Research Organization), Abt SRBI fully abides by CASRO's regulations in preserving respondent information, and will have the following measures in place to do so.

Abt SRBI follows these routine practices:

- ▶ Educating the research staff to the importance of confidentiality
- ▶ Substituting codes for personal identifiers
- ▶ Removing personal identifiers from data files
- ▶ Limiting access to identifiable data
- ▶ Storing identifiable data under security conditions
- ▶ Maintaining personal identifying information only as long as required and only under conditions specified in the study protocol
- ▶ Properly disposing of records with identifying information as specified in the study protocol.

Below is a summary of the measures that will be taken to meet the needs for information protection from the point of data access and IT.

The AT&T NOC in which Abt SRBI co-locates their servers is a hardened facility with many levels of security for protection of hardware and data. The facility is monitored 24 hours, 7 days a week, by on-site professional security guards and monitored over continuous closed circuit video surveillance from a command center via both stationary and 360° cameras located both outside and inside the facility.

Access is controlled by electronic key cards and "Man Trap" with biometric palm scanners with Individual PIN numbers. The cages of server racks and cabinets are also locked to prohibit unauthorized access. Security breach alarms exist at each security point to prohibit bypassing the access controls. Visitors must be pre-authorized individually before they are allowed to enter the building.

Abt SRBI further controls access to their equipment through strong password requirements and locking the desktop of each server automatically when idle or when a system administrator logs in remotely. Their servers are protected on the network by Sonic Wall Pro 3060 firewalls, which block access from the Internet except to pre-authorized Internet Protocol addresses and log all access and intrusion attempts. The site is also secured from disaster by redundant bandwidth, power, fire and heat detection, fire suppression, and ventilation systems.

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

No questions of a sensitive nature are asked in this survey.

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

Estimated number of respondents:

- A. Number of respondents for the cognitive one-on-one interviews: 32
- B. Number of respondents for the pretest: 250
- C. Number of respondents for the main study: 2,691
- D. Total number of respondents: 2,973

Estimated time per response:

- A. Cognitive one-on-one interviews: 90 minutes
- B. Pretest survey: 30 minutes
- C. Main survey: 30 minutes

Estimated total annual burden hours:

- A. Cognitive one-on-one interview burden hours: 48
- B. Pretest burden hours: 125
- C. Main survey burden hours: 1,345.5
- D. Total burden hours: 1,518.5

Estimated total annual cost to the public for the pretest and main survey: 1,518.5 hours (only one-time application, no additional costs expected per respondent for this particular study).

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

No additional cost burden will be imposed on respondents aside from the burden hours indicated above.

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

Table A.3 shows the annualized cost to the federal government during each phase of the project.

Table A.3. Annualized cost to the federal government

Project phase	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	Total
1. Questionnaire and sample design								
a. Stratus Consulting contract	\$80k	\$80k	\$30k	\$20k	\$20k			\$230k
b. Steve Thur contract	\$5k	\$5k	\$5					\$15k
c. NOAA personnel travel	\$5k	\$5k	\$5k	\$5k				\$20k
d. Peer review	\$5k	\$5k	\$5k	\$5k				\$20k
2. Main survey implementation								
a. Stratus Consulting contract						\$270k		\$270k
b. Peer review						\$5k		\$5k
3. Analysis and reporting								
a. Stratus Consulting contract							\$250k	\$250k
b. Peer review							\$5k	\$5k
Total project	\$95k	\$95k	\$45k	\$30k	\$20k	\$275k	\$255k	\$815k

The entire project is spread over seven fiscal years. The contract with Stratus Consulting Inc. includes all subcontracts to support questionnaire and sample design, main survey implementation, analysis and reporting, and some peer review. NOAA is independently paying for other peer review. Steven Thur was a contract employee until June 2005, when he became a full-time NOAA employee. As a contract employee, a portion of his time was allocated to the project. Dollars are reported in thousands of dollars (\$80k means \$80,000). Dollars are recorded for the Stratus Consulting contract in the year of paid invoices not the date and amount of signed contract.

The \$530k cost of the final survey implementation and analysis and reporting will be incurred in FY2008 and FY2009.

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

This is a new survey.

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

The results of the main survey will be tabulated using simple summary statistical analyses of the data (means, medians, standard deviations, maximums, and minimums). The main survey report will include details on the methods of analysis, plans for tabulation, and publication of project results. All project reports (pretest and main survey) will be posted online on the NOAA Website (<http://sanctuaries.noaa.gov/Socioeconomics>) in PDF. All data files will be documented and distributed via CD-ROM and/or online on the NOAA Website.

The results of the pretest have not yet been made public, except for inclusion in the supplemental statement for this OMB approval of the main survey implementation. Pre-test results

documenting how estimates of the total economic value were derived are included in this submission.

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

NA.

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

NA.