NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

Date 04/01/2015

Department of Commerce
National Oceanic and Atmospheric Administration

FOR CERTIFYING OFFICIAL: Jerry Harper
FOR CLEARANCE OFFICER: Jennifer Jessup

In accordance with the Paperwork Reduction Act, OMB has taken action on your request received 12/04/2014

ACTION REQUESTED: New collection (Request for a new OMB Control Number)
TYPE OF REVIEW REQUESTED: Regular
ICR REFERENCE NUMBER: 201412-0648-002
AGENCY ICR TRACKING NUMBER:
TITLE: Economic Value of Puerto Rico's Coral Reef Ecosystems for Recreation/Tourism Uses
LIST OF INFORMATION COLLECTIONS: See next page

OMB ACTION: Approved with change
OMB CONTROL NUMBER: 0648-0713
The agency is required to display the OMB Control Number and inform respondents of its legal significance in accordance with 5 CFR 1320.5(b).

EXPIRATION DATE: 04/30/2018 DISCONTINUE DATE:

BURDEN:	RESPONSES	HOURS	COSTS
Previous	0	0	0
New	802	352	0
Difference			
Change due to New Statute	0	0	0
Change due to Agency Discretion	802	352	0
Change due to Agency Adjustment	0	0	0
Change due to PRA Violation	0	0	0

TERMS OF CLEARANCE: The collection of information for the pilot study is approved. OIRA will consider approving the full study as a change request, provided that the agency (1) demonstrates that the design of the information collection is sufficiently rigorous to produce generalizable results using the pilot study results and (2) provides the level of detailed documentation of the design and procedures that has been requested by OIRA. The metrics of data quality include overall response rates, item-nonresponse rates for key questions including willingness to pay questions and expenditure questions, response protest to willingness to pay questions and plans to evaluate and address potential non-response rate bias (including specific planned models for weighting). NOAA should submit other metrics of data quality, as necessary.

OMB Authorizing Official: Dominic J. Mancini
Acting Deputy Administrator,
Office Of Information And Regulatory Affairs

List of ICs			
IC Title	Form No.	Form Name	CFR Citation
Resident surveys - full survey	NA	Resident survey for full information collection	
Residents - pretest	NA, NA	Resident expenditure mailback survey, On-site resident questionnaire	
Visitors - full survey	NA	Visitor internet panel full survey questionnaire	
Visitors - Pretest	NA, NA, NA, NA	Visitor expenditure surveiy, Airport visitor survey, Visitor internet panel, Visitor satisfaction survey	

PAPERWORK REDUCTION ACT SUBMISSION

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

1. Agency/Subagency originating request
DOC/NOAA/NOS/ONMS

2. OMB control number
a. 0648 -_____ b. [ ] None

3. Type of information collection (*check one*)
a. [✔] New Collection
b. [ ] Revision of a currently approved collection
c. [ ] Extension of a currently approved collection
d. [ ] Reinstatement, without change, of a previously approved collection for which approval has expired
e. [ ] Reinstatement, with change, of a previously approved collection for which approval has expired
f. [ ] Existing collection in use without an OMB control number
For b-f, note Item A2 of Supporting Statement instructions

4. Type of review requested (*check one*)
a. [✔] Regular submission
b. [ ] Emergency - Approval requested by ____/____/____
c. [ ] Delegated

5. Small entities
Will this information collection have a significant economic impact on a substantial number of small entities? [ ] Yes [✔] No

6. Requested expiration date
a. [ ] Three years from approval date b. [ ] Other Specify:____/____

7. Title
Economic Value of Puerto Rico's Coral Reef Ecosystems for Recreation/Tourism Uses - Pilot

8. Agency form number(s) (*if applicable*)
Not Applicable

9. Keywords
coral reefs, Puerto Rico, recreation, tourism, economic value

10. Abstract

This study is about Puerto Rico's coral reef ecosystems and will estimate the use of the reefs by activity and region; spending associated with the reef use and corresponding economic impact on the Puerto Rican economy in terms of sales/output, value-added, income and employment; the non-market economic use value and how that value changes with changes in user and reef characteristics; importance-satisfaction ratings for 25 natural resource attributes, facilities and services; and special local and national issues. Separate surveys of residents and visitors to Puerto Rico who use Puerto Rico's coral reef ecosystems for recreation-tourist activities will be the population sampled. A pre-test is first required to assist with dollar bid amounts for the non-market economic valuation questions and for estimating the percents of the populations that use coral reef ecosystems. Using pre-test results, the final bid amounts and sample sizes will be determined for the full surveys.

11. Affected public (*Mark primary with "P" and all others that apply with "x"*)
a. x Individuals or households d. ___ Farms
b. ___ Business or other for-profit e. ___ Federal Government
c. ___ Not-for-profit institutions f. ___ State, Local or Tribal Government

12. Obligation to respond (*check one*)
a. [✔] Voluntary
b. [ ] Required to obtain or retain benefits
c. [ ] Mandatory

13. Annual recordkeeping and reporting burden
a. Number of respondents 5,700
b. Total annual responses 6,900
1. Percentage of these responses collected electronically 26 %
c. Total annual hours requested 2,550
d. Current OMB inventory 0
e. Difference 2,550
f. Explanation of difference
1. Program change _____
2. Adjustment _____

14. Annual reporting and recordkeeping cost burden (*in thousands of dollars*)
a. Total annualized capital/startup costs 0
b. Total annual costs (O&M) 0
c. Total annualized cost requested 0
d. Current OMB inventory 0
e. Difference 0
f. Explanation of difference
1. Program change _____
2. Adjustment _____

15. Purpose of information collection (*Mark primary with "P" and all others that apply with "X"*)
a. ___ Application for benefits e. ___ Program planning or management
b. ___ Program evaluation f. ___ Research
c. ___ General purpose statistics g. ___ Regulatory or compliance
d. ___ Audit

16. Frequency of recordkeeping or reporting (*check all that apply*)
a. [ ] Recordkeeping b. [ ] Third party disclosure
c. [ ] Reporting
1. [ ] On occasion 2. [ ] Weekly 3. [ ] Monthly
4. [ ] Quarterly 5. [ ] Semi-annually 6. [ ] Annually
7. [ ] Biennially 8. [✔] Other (describe) One time

17. Statistical methods
Does this information collection employ statistical methods
[✔] Yes [ ] No

18. Agency Contact (person who can best answer questions regarding the content of this submission)
Name: Dr. Vernon R. (Bob) Leeworthy
Phone: (301) 713-7261

19. Certification for Paperwork Reduction Act Submissions

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

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

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

(a) It is necessary for the proper performance of agency functions;

(b) It avoids unnecessary duplication;

(c) It reduces burden on small entities;

(d) It used plain, coherent, and unambiguous terminology that is understandable to respondents;

(e) Its implementation will be consistent and compatible with current reporting and recordkeeping practices;

(f) It indicates the retention period for recordkeeping requirements;

(g) It informs respondents of the information called for under 5 CFR 1320.8(b)(3):

- (i) Why the information is being collected;
- (ii) Use of information;
- (iii) Burden estimate;
- (iv) Nature of response (voluntary, required for a benefit, mandatory);
- (v) Nature and extent of confidentiality; and
- (vi) Need to display currently valid OMB control number;

(h) It was developed by an office that has planned and allocated resources for the efficient and effective management and use of the information to be collected (see note in Item 19 of instructions);

(i) It uses effective and efficient statistical survey methodology; and

(j) It makes appropriate use of information technology.

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

Signature of Senior Official or designee	Date

Agency Certification (signature of Assistant Administrator, Deputy Assistant Administrator, Line Office Chief Information Officer, head of MB staff for L.O.s, or of the Director of a Program or StaffOffice)	
Signature signed by Cheryl Marlin for Hugh Johnson	Date 11/25/2014
Signature of NOAA Clearance Officer	
Signature BRABSON.SARAH.1365710488 Digitally signed by BRABSON.SARAH.1365710488 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=BRABSON.SARAH.1365710488 Date: 2015.04.10 14:54:37 -04'00'	Date

SUPPORTING STATEMENT
Economic Value of Puerto Rico's Coral Reef Ecosystems for Recreation/Tourism
OMB CONTROL NO. 0648-xxxx

A. JUSTIFICATION

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

The National Oceanic and Atmospheric Administration (NOAA) is requesting approval for a new information collection in order to conduct pretests to help in designing full surveys of visitors and residents of Puerto Rico, on ecosystem services valuation.

NOAA's National Ocean Service, Office of National Marine Sanctuaries and the United States (U.S). Environmental Protection Agency (EPA) has entered into an Interagency Agreement (IA) to estimate the market and nonmarket economic value of Puerto Rico's coral reef ecosystem for recreation-tourism uses (submitted as a supplementary document). The goal of this collaboration is to complete an economic valuation (market and nonmarket) survey for four ecosystem services (tourism and recreation, fishing, shoreline protection, and natural products) to support development of a decision-support tool for the Guanica Bay Watershed Restoration Management Plan that can provide evaluations of different restoration strategies on the coral reef ecosystem services connected to the Guanica Bay Watershed. This data collection effort is focused on the recreation-tourism ecosystem service of the coral reef ecosystems of all of Puerto Rico with a special attention to the coral reef ecosystems connected to the Guanica Bay Watershed.

NOAA is authorized to undertake this effort under the Coastal Zone Management Act (CZMA), 16 USC 1456c, while EPA is authorized under the Clean Water Act Sec. 104 (b) (2).

NOAA plans to develop and implement surveys of both the resident population of Puerto Rico and the visitor population that use the coral reef ecosystems for recreation-tourism. The surveys will be designed to provide the necessary information to estimate the market and nonmarket economic use values of Puerto Rico's coral reef ecosystems and how those values change with changes in the physical/natural attributes of the coral reef ecosystems.

This application is for a pre-test approval to design the final survey with the final survey approval contingent on presentation of the final design for the non-market economic valuation. The final survey will be submitted as part of a non-substantive change request, as not major changes are expected.

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

How and Purpose

The information collection will include surveys of visitors to, and residents of, Puerto Rico in

separate samples focused on coral reef ecosystem recreation-tourist uses and economic values. The information will be used in a decision-support tool being developed by EPA and NOAA to support the Guanica Bay Watershed Restoration Management Plan; by Puerto Rico Tourism in assessing their visitor populations:, Puerto Rico territorial planning agencies in assessing uses of Puerto Rico's coral reef ecosystems for recreation-tourism uses and impacts on their local economies; and local businesses in assessing the economic impacts of coral reef uses on their local economy and what is important to visitors and residents and how satisfied they are with different facilities and services. The territorial government and NOAA may also use the results in benefit-cost analyses of investments in coral reef ecosystem protection and restoration, and possibly in damage assessments.

This application has two steps: First, a pre-test is required to assist in designing the final full survey and then implementation of the full final survey. So we are submitting both the pre-test version of the survey and the full survey questionnaires and sample designs. We are asking for approval of the pre-test and approval of the full final survey with a change request based primarily on the dollar bid amounts to be applied to the non-market economic value choice questions.

A pre-test will first be conducted to help design the bid amounts in the non-market economic valuation of the coral reef attributes for recreation-tourism uses by residents and visitors to Puerto Rico. After the pre-test, the full surveys will provide information on uses of the coral reef ecosystems for five regions of Puerto Rico; economic spending and the associated impacts on sales/output, value-added, income and employment associated with the spending, including multiplier impacts; non-market economic use values and how those values change with changes in coral reef ecosystem attributes and user attributes; and importance-satisfaction ratings for 25 natural resource attributes, facilities and services.

This information collection was preceded by OMB approval to conduct focus groups (OMB Control No. 0648-0660, expiration: 02/29/2016) as a first step toward design of the full surveys of residents and visitors of Puerto Rico. The focus groups addressed the attributes of coral reef ecosystems that people may consider important, and the levels of the attributes to be valued. Attributes would include natural attributes such as water clarity/visibility, coral cover and diversity, and fish abundance and diversity. In addition, issues such as crowded conditions or number of other users that users (e.g. SCUBA divers, snorkelers, recreational fishers, and wildlife viewers) see while doing their activities on the reefs will be evaluated. Before the focus group application to OMB, NOAA had done a world-wide literature review of coral reef valuation and the attributes of coral reefs that recreational-tourism user's value and how those values change with changes in the levels of attributes. This information served as a starting point in focus groups to identify what attributes and the levels of attributes that would be important for Puerto Rico.

Two focus groups of six persons per group were completed for residents. For visitors, a different approach had to be used. Seven one-on-one interviews were conducted (See Attachment C: Focus Group Report for more detail).The University of Puerto Rico-Mayaguez conducted the focus groups. NOAA contracted with the University to conduct the focus groups, survey pre-test and implementation of the final surveys. The principal investigators from the University of Puerto Rico – Mayaguez are Assistant Professor Miguel del Pozo and Dr. Ruperto Chaparro, currently Director of Puerto Rico Sea Grant. Dr. Vernon R. (Bob) Leeworthy, ONMS Chief

Economist, took part in developing handout materials and attended the first focus group. All materials were provided in English and Spanish. For the focus groups, the group discussion leader, Miguel del Pozo, was conversant in both English and Spanish.

In each of the focus groups or on-on-one interviews, participants provided oral and written feedback based on descriptive materials (e.g. illustrations and written descriptions of coral reef attributes of Puerto Rico's reefs). Open discussions was conducted on what attributes of the coral reef ecosystems of Puerto Rico that people cared about to support their recreation-tourist activities. Then discussions were directed at the levels of each attribute that might change how they value coral reef ecosystems for their recreation-tourism activities. During the focus group process, the study team:

- Assessed what attributes of Puerto Rico's coral reef ecosystems people cared about to support their recreation-tourism activities.

- Assessed the levels of each attribute that might affect people's value of coral reef ecosystems to support their recreation-tourist activities.

- Learned how attributes and levels attributes of coral reef ecosystems are best presented in surveys (illustrations, pictures, videos and bulleted facts).

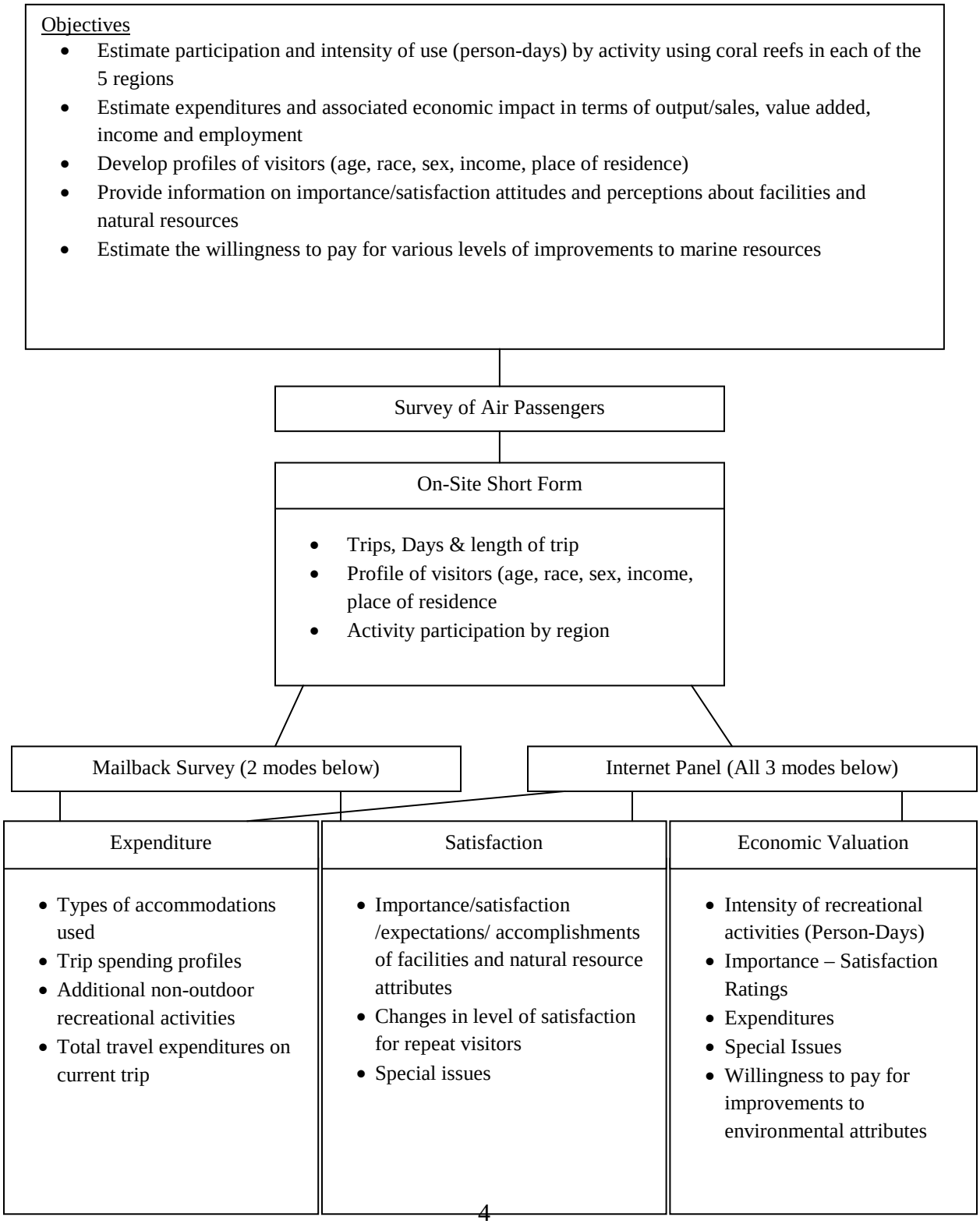
- Assessed Maximum willingness to pay for bundles of attributes moving from low to medium conditions for all attributes and from medium to high conditions for all attributes. The distributions of these values are used as starting points for designing the bids to be used in the pre-tests. Then based on the pre-test final bids will be designed.

It is important to note that focus group members were told we understood that revealing their maximum willingness to pay was not natural as people in real markets don't want to reveal their maximum willingness to pay, but instead are searching to find the minimum they have to pay and still obtain the good or service, while the supplier is trying to find out their maximum willingness to pay. Focus group members were asked to help us design the survey by revealing to us their maximum willingness to pay. All focus group members understood this and agreed to help us with providing their maximum willingness to pay. Appendix C includes a summary report of the focus group materials and findings.

Visitor Survey

Figure 1 shows the sampling frameworks and corresponding questionnaires and issues addressed in each questionnaire or modules of questions in the Internet Panel.

Figure 1. Visitor's Survey



Visitors to Puerto Rico can assess the island by three modes of travel: airports, cruise ships, and some intermittent ferries (i.e. ferries that take people outside Puerto Rico, but historically these ferries don't always operate). The territorial government keeps data on the number of people leaving on flights (enplanements) by month, the number of cruise ship passengers by month, and the number of ferry passengers by month (see Part B for our sampling strategy and how samples are extrapolated to population estimates). Recent findings are that cruise ship passengers don't have time to engage in coral reef using activities while they are briefly in Puerto Rico, so it is most likely the population to survey will be limited to those on air planes leaving Puerto Rico.

Tally Sheet: At each airport that has flights leaving the island, people are first screened to determine if they qualify for the survey. The Tally Sheet contains eight columns: 1= Site of Interview; 2=Date of Interview; 3=Time Period of Interviews; 4=Permanent Resident; 5=Non Exit Visitor; 6=Non Reef Using Recreating Visitor; 7=Reef User Recreating Visitor, but Refusal or Language Barrier; and 8=Reef Using Recreational Visitor and completed Interview.

Process:

At the lounges for gates of flights leaving Puerto Rico, interviewers select a row of seats and for the first row selected they select the first person in the row of seats occupied to interview, then select every third to fourth person depending on how many people are in the lounge area. and one a person has been selected they are asked "Are you a permanent resident of Puerto Rico? If yes, they are thanked and told we are only interviewing nonresidents of Puerto Rico and a tic mark is placed in column 4. If no, then the visitor is asked "Are you ending your trip to Puerto Rico today? If no, visitor is thanked and told we are only interviewing people at the end of their trip to Puerto Rico and a tic mark is placed in column 5. If yes, the interviewer hands the visitor the laminated "Blue Card", which has a list of activities done on coral reefs (i.e., our definition of coral reef use) and asked "Did you do any recreation/tourist activities on the coral reefs on this visit to Puerto Rico?" If no, the visitor is thanked and told we are only interviewing visitors that did recreation/tourist activities on coral reefs and then the interviewer places a tic mark in column 6. If yes, the visitor is asked "Will you participate in a short 5-10 minute interview about your visit to Puerto Rico?" If no, the visitor is thanked and the interviewer places a tic mark in column 7. If yes, the interviewer places a tic mark in column 8 and proceeds with the interview.

On-site Short Form and Supporting Materials: In addition to the short form questionnaire there are three sets of supporting materials to aid the respondent in answering the questions on the short form.

The supporting materials include the "Respondent Card or Green Card", which is a laminated card printed on green paper. It includes some background information on who is conducting the study and who is sponsoring the study. Required information on where to send comments or suggestions for reducing burden is included and the standard required statement about the Paperwork Reduction Act. Section 1: Primary Purpose of Trip to Puerto Rico contains the categorical responses for Question 10 of the short form. Section 2: Race contains the categorical responses to Question 13b of the short form. Section 3 Household Income Categories (Annual Income before taxes) contains the categorical responses to Question 14 of the short form.

The Activities List or "White Card" contains the list of detailed activities visitors can do while in Puerto Rico and coding numbers for Question 7 in the short form. Even though the list has been

modified for Puerto Rico, the coding adheres to the standards that we have been using for many years in working with the U.S. Forest Service in support of their responsibilities under the Resource Planning Act (RPA) to report to Congress on the supply and demand for outdoor recreation. The list of activities has been customized for Puerto Rico in response to local interests, so items such as weddings and Casinos, which are normally not included in outdoor recreation, are included here to meet local needs.

Maps of the five regions of Coastal Puerto Rico. In consultation with Puerto Rican planning and managing agencies, we determined that use information by five regions would meet their needs. So to aid respondents with answering Questions 8 and 9 on the short form about regional location of activity, we developed an overall map of Puerto Rico showing the five regions and individual maps of each of the five regions. The maps are color coded by region to aid respondents. These maps try to achieve a balance of giving people just enough information to help them determine which regions they did their activities without making the maps too busy to easily read. These maps were tested with the two focus groups of visitors. The maps will be laminated and handed to the respondents while they are being asked Questions 8 and 9.

Short Form

This form is a short version of a questionnaire that has evolved over many applications at thousands of sites since the 1972 and 1977 Federal Estate Surveys, the Public Area Recreation Visitor Surveys (PARVS—1982 to 1991) and the most recent versions of CUSTOMER used by the U.S. Forest Service and NOAA since the early 1990s. This particular short form was used in the Florida Keys in 1995-96 and in 2007-08 and has been adapted to Puerto Rico.

At the top of the form the interviewer assigns a unique interviewer identification number. This number is extremely important because it provides a way of linking information across databases with different information from the same sample of respondents (e.g. on-site form data with Internet Panel data or mailback data).

In the next section, the mode of travel where the interview is taking place is recorded. For air, the airport is recorded. The month, day and time of the interview is also recorded here and the number of people in the traveling party.

Questions 1 (a) asks for the number of people in the party are age 16 or older, while Question 1 (b) asks for the number in the party under 16 years of age. This information is important for planning for facilities and services and for normalizing estimates of expenditures or economic value when put on a per person or per person per day basis.

Question 2 asks about primary place of residence. City or Nearest city, County, State and Zip Code for U.S. residents and City and Country for foreign visitors. This information is critical for assessing the sources of market demand for recreation/tourist activities in Puerto Rico and here, for the first time, coral reef users. The Puerto Rico Tourism Company, in their regular survey, asks this same information of all visitors so we will be able to test for differences between coral reef using visitors and the general visitor population.

Questions 3 thru 6 focuses on the length of stay and the number of times (trips) visited Puerto Rico and number of days visitors spend in Puerto Rico on the current trip and all trips in the last

12 months. This information is extremely important for understanding the total amount of use. Activity person-days of use most often involve double-counting across activities in a given day. Understanding the total amount of days on a given trip in Puerto Rico allows for normalizing person-days across activities to adjust for double-counting and provides critical information to planners in assessing the demand for infrastructure to support coral reef use.

Questions 7 thru 9 focus on group activity participation by region. The interviewer first hands the respondent the "Activities List – White Card" then asks Question 7 , which asks the respondent in which activities did they or someone in their group participated in. The interviewer then records the activity number on each row. Question 8 then goes through each activity and asked if the respondent did the activity in each region. Question 9 then asks how many others in the group did the activity in each region. This way of recording information is designed for ease in administration in the field and has been used at 1,000s of sites around the country by multiple agencies. The burden is placed on the researcher to program the data out into estimates of use by activity.

Question 10 asks about the primary purpose of the trip to Puerto Rico. Respondent is handed the Respondent-Green Card and asked to refer to Section 1 for the categories of response. An "other" category is provided, but past experience suggests few will have another reason.

Questions 11 thru 14 include demographic profile questions; Question 11 ask for year born to derive age of the respondent; Question 12 codes Sex of the respondent (never asked). Question 13 asks if respondent is of Spanish, Hispanic or Latino ethnicity and is in compliance with OMB guidelines as is Question 13b on race. Question 14 asks about respondent's annual household income last year before taxes. The Respondent-Green Card is used where the respondent responds to Questions 13 to 14 with letters corresponding to the category that best describes them.

The last page of the short form is where we recruit respondents into the Internet Panel, or if they don't join the Internet Panel, ask them if they will fill out the mailbacks. The interviewer hands the respondent a brochure describing the sweepstakes/lottery and the gifts they could possibly win if they participate in the follow-up survey. For those who agree to be in the Internet Panel, e-mail address and phone number are obtained. Respondents are told that the University of Puerto Rico and NOAA will not share their information with anyone and once study is completed and prizes in sweepstakes/lottery are awarded any information identifying them will be destroyed.

If the respondent doesn't want to join the Internet Panel, they are asked if they would complete two mailbacks: the expenditure and the satisfaction mailbacks. After two weeks, if mailbacks have not been returned, a post card reminder is sent. If the mailbacks have still not been received after four weeks, then a second set of mailbacks is sent.

Local businesses and/or Puerto Rico Tourism Company or Puerto Rico Sea Grant may be offering gifts to all respondents after completing the short form. Some gifts have been confirmed and the University of Puerto Rico is working to finalize the complete list of gifts. A non-profit organization, Ridge-to-Reefs has agreed to run the sweepstakes/lottery.

Internet Panel: The Internet Panel survey uses four modules of questions: 1) Intensity of use by

activity and region; 2) importance-satisfaction ratings; 3) expenditures; and 4) non-market economic values, and how those values change with changes in natural resource attribute conditions (Choice questions). The activity use, importance-satisfaction, and expenditure questions have been adapted from the former applications in the Florida Keys in 1995-96 and 2007-08 and at many sites done via PARVS and CUSTOMER with the U.S. Forest Service. The non-market economic value questions are all new.

In the "INTRODUCTION", respondents are given information about their participation, who the sponsors are, the estimated time of completion, and where to send any comments regarding the burden estimate or any other aspects of the survey.

Then respondents are given a summary of the types of information they will be asked.

Part A: *General Activities: Intensity of Use by activity and region (Part A).* The short form gathered participation data by activity and region. This data will be programmed into the Internet Panel database so each respondent doesn't have to be asked this again and the respondent is only asked for intensity of use (person-days and number of dives) for those activities they did in what regions they did them in. This lowers the burden hour requirement on the respondent.

We only ask for intensity of use for activities with a suffix of "A" on the activity identification number (See White Card – Activities List for the Short form). Again, this lowers burden on the respondent. Maps showing each region as in the on-site short form surveys are included to aid the respondent on region definition.

Reef Use Activities (Part B). Section B addresses use on the natural/coral reefs. Here there are four questions for each region where someone in the party did the recreation activity on the reefs. If no one in the party did an activity in a region, the computer is programmed to skip to the next region. Again, this lowers burden on the respondent.

Question B1. Which activities did you or someone in your party do on the natural/coral reefs during your recent visit to Puerto Rico where you were interviewed? All activities on the "Blue Card" are listed with radio buttons for selecting each activity.

Questions B2 to B5. For each activity given in Question B1, respondent is asked:

Did you yourself do "*Activity*" in Region ____(1, 2, 3, 4, 5)?
How many others in your party did "*Activity*" in Region __ (1,2, 3, 4, 5)?
How many different days did you do "*Activity*" in Region __ (1, 2, 3, 4, 5) on your most recent visit to Puerto Rico?
NOTE: For Snorkeling and SCUBA diving Activities only.
How many different dives did you do for "*Activity*" in Region __(1,2,3,4,5) on you most recent visit to Puerto Rico?
NOTE: Provide definition of a dive: A dive is defined as an entry and exit from the water to snorkel of SCUBA dive.

Again, days or number of dives are only asked for those activities on the Blue Card that has a suffix of "A" on the activity identification number to reduce burden on the respondent.

Importance-Satisfaction Ratings/Special Issues (Part C). For the Internet Panel Survey, this is Part C of the on-line survey and is a mailback for those who don't join the Internet Panel but agree to fill-out the mailback instead. For the Internet Panel, scores are recorded using radio buttons. Twenty five items (25) are rated on importance and satisfaction using five-point Likert scales. This is followed by a historical rating of how users would have rated these same 25 items in terms of satisfaction levels 5 years ago. Respondents are first asked if they had visited Puerto Rico more than five years ago, if yes they answer the retrospective rating and if no they skip to the next section. The next section again has 25 items that use the expectancy-discrepancy method by first asking about their expectations and then what they accomplished or actually experienced. Both use five-point Likert scale scores as in past research. This method adds more explanation of people's satisfaction scores.

This section concludes with a series of questions addressing special issues of local importance. First, questions are asked about boat ownership and length of boat and second homes with access to coastal waters to assess local infrastructure. The importance of beaches to the decision to visit Puerto Rico is assessed using a five-point Likert scale importance rating. A series of questions are designed to assess return visitation. First, two questions address experience with visiting Puerto Rico and then six questions address return visitation. Three of these questions address how prior cruise ship visitation may have influenced a non-cruise ship visit. The Puerto Rico tourism agency is concerned about conflicts between cruise ship visitation and non-cruise ship visitation and wants more information about the relationship. Two questions assess preferences for level of development. This section concludes with eight statements rated using a five-point Likert scale on level of agreement on issues such as marine protected areas, marine reserves, research only areas, protection of threatened and endangered species, outreach/education versus enforcement of rules and regulations and coral nurseries.

Expenditures (Part D). This section addresses both trip expenditures and annual vacation and equipment expenditures. Information is obtained on the number of people the expenditures cover so we can normalize expenditures to expenditures per person per trip so they can be extrapolated from sample to population estimates. We ask that the person who made the expenditures answer these questions. For trip expenditures, we have two columns with column 1 being tot trip expenditures and column 2 the amount spent in Puerto Rico. This will allow estimation of the economic impact of trip spending on the Puerto Rican economy. For annual vacation and equipment expenditures we have three columns. Total expenditures during the past 12 month, the amount spent in their home county, and the amount spent in Puerto Rico. The third column allows us to estimate the economic impact on the Puerto Rican economy.

This expenditure questionnaire has been used by the U.S. Forest Service, NOAA, the Department of Interior's National Park Service and Bureau of Land Management and the U.S. Army Corps of Engineers on many federal, state and local sites throughout the nation since 1985. The questionnaire has evolved over time based on much learning on how people respond to the various expenditure categories. Sometimes what seems intuitive to reviewers is not true. We have learned that combining some expenditure items with the objective of reducing respondent burden has resulted in the opposite effect. Many times people will breakout their expenditures and write them into the questionnaire as separate items. The respondent is shifting the burden to us to add the items up. Thus, this results in increasing the burden to the respondent in having to write down the separate expenditure and increases the burden to the government of processing

the information. The solution is to in future questionnaires breakout the expenditure items.

An example is the breakout of drinks bought at clubs and bars during non-meal times and food and drink bought at restaurants and bars. Originally these were combined into one spending category but most recent applications were finding that people were writing in these separately. We assume it is because it is easier for the respondent (less burden) to write in these expenditures separately. They were shifting the burden to us to do the adding up, so by learning we added the breakout to reduce burden on the respondent and to reduce processing burden on the researchers.

Economic Valuation of Puerto Rico's Coral Reef Ecosystems (Part E). The introduction to this section provides some definitions and scientific facts about Puerto Rico's coral reef ecosystems. The respondent is then presented with four choice sets. For each choice set, the respondents are asked to choose among three options (alternatives). The Status Quo means no change in management or the coral reef ecosystems and the respondent is told choosing this option will cost their household nothing ($0), but will result in the poorest or lowest conditions of coral reef ecosystems on all Puerto Rico's coral reefs, except a few places that are already specially protected.

Each of the options (alternatives) is a different mix (bundle) of condition levels across all the reef attributes. Each bundle of attribute conditions will be offered at a given price. Prices are varied across respondents for a given bundle (randomly assigned). There are four versions of the survey each containing the same four choice sets. The difference across versions is the prices/bid amounts for each option in each choice set.

The prices or bid amounts are one of the main objects of the pre-test. The pre-test will include four extreme bundles of attributes to help design the range of prices (bid amounts) for the final survey. The four versions of the choices each have four sets of prices or 16 options plus the Status Quo. The final survey bundles will be based on statistical design using a fractional factorial design since the possible combinations of attributes (bundles) is much larger than can be presented in a survey (See Part B for a more detailed discussion).

To communicate the scientific facts and attribute conditions, a professional illustrator was hired to draw what the reefs would look like when all the attributes were in a "low condition", a "medium condition" and a "high condition". These illustrations were tested with the focus groups to check to see if people thought the illustrations were communicating the same thing as the scientific bullets describing reef attribute conditions. The reason illustrations are being used is that videos and pictures cannot capture all coral reef species since they are not all there at a given time. We think the combination of the scientific bullets and the illustrations communicate the goods and service a given bundle of attributes represent and thus provide a good description of what we are asking them to value.

Not all metrics from scientists are directly stated how they are actually measured. We made sure all the metrics we use in the survey could be calibrated back to how non-scientists understand them. For example, water clarity. Scientists measure water clarity via extent of light penetration. We had to have the scientists provide a conversion from ranges of light penetration to feet of visibility. We tested water clarity with focus groups to determine the ranges of water clarity that would change their values as we move from low to medium and medium and high

water clarity conditions. “Viz” or visibility measured in feet is a common metric that SCUBA divers and snorkelers talk about in rating dives.

Depth of reefs was not in our original list of attributes since most reefs in Puerto Rico are in depths of 60 feet or less. However, in our focus groups, many said depth was an important attribute and is different across activities: important for both SCUBA divers and snorkelers because of physical limitations but not for fishermen. Again, as discussed above, it is why in analyses we interact activity participation with reef attributes.

Fish per square meter was tested with the focus groups and all were comfortable with it. In fact, we had a typo in the first resident focus group where we had too many spiny lobsters per square meter. It was quickly caught by the group as an unrealistic number per square meter. They asked if we meant per 10 square meters. Once we corrected the typo, they were satisfied with the number of spiny lobsters per square meter.

In addition, when we tested the use of the illustrations in combination with the scientific bullets for consistency of communicating the same thing, respondents all agreed they were communicating the same thing across different attribute conditions. This is true for all metrics provided, except for the “low condition” and the amount of soft corals and sponges, which we are corrected.

So we are providing metrics that respondents will understand and we don’t think we need to add more questions and more burden to respondents probing them if they understood the metrics.

For crowding, we used photos of the number of people on the beach. Focus group members said they didn’t need to see the number of people in the water or the number of boats on the water where they did their activities. Instead, they thought just a general number of people on the beach would suffice. We used numbers of people based on other research to define low, medium and high conditions for this attribute.

For water/clarity/visibility, focus group members said they didn’t need visuals, the ranges provided in the descriptions of low, medium and high conditions were good enough.

To be incentive compatible (i.e. like what a consumer would face in real markets), the respondent is asked to make a choice of their preferred option for each set of choices.

Respondents are first given some definitions of coral reefs and coral reef ecosystems. They are then provided information on the different reef conditions and definitions of different reef attributes, this is followed by information on the health of the reefs and some relationships between some attributes and some of the factors threatening the helath of coral reefs. They are then presented with problems and management solutions. Here information is provided on the conditions of the reefs in 10 to 20 years under the “Status Quo” (no change in management) and if this is continued it will lead to poor or low conditions. Then respondents are provided information on the cost to their household per trip for improving various conditions and defining the payment method. They are told they always have the option fo choosing the “Status Quo” which will cost their household nothing.

The illustrations of the different reef conditions of low, medium and high are presented and pictures of different levels of crowding on the beach. They are then asked two questions. E1 asks if they believed the information from coral scientists that in 10 to 20 years nearly all coral reefs in Puerto Rico would be in poor or low condition if current management practices continued. E2 then asks if we don't change current management practices how do they think coral reef conditions will be like in 10 to 20 years.

Respondents are then reminded that if they pay for improving conditions they will have less to spend on other things and they have the ability to substitute to three protected reefs In Puerto Rico or reefs outside Puerto Rico.

They are then presented with four different choices. For the pre-test, the four choices all have the "Status Quo" price equal to zero and options B and C, are mixes of low, medium, and high conditions. There are four versions of the survey choices that are randomly assigned with each version having the same four choices, but the prices vary across different versions. This is done to design the final prices in the full survey.

Once the prices are designed the full survey will include nine versions of the survey which will be randomly assigned across panel members. Each respondent still gets four choice questions. However, in the full survey the choices are designed using statistical design with price simply one of the attributes that varies across the choices (See Part B for a full discussion).

Following each choice, the respondent is asked how many days per year they would use Puerto Rico's coral reefs under the conditions for the option they chose. This will allow us to connect expenditures (normalized per person per day) to the use under each choice to estimate the economic impact on the local economy under different scenarios of reef conditions.

After each choice, respondents are also asked to provide a brief comment to help understand why they chose the option as their most preferred. Here we will find out if there are real economic reasons (prices too high, more than they are willing and able to pay) or if they are rejecting the scenario (i.e. don't believe management could achieve what we say they can achieve, just anti-government, not enough information, don't believe the information provided, etc.).

We also ask about the certainty with which they made each choice. This will aid in assessing the quality of the response.

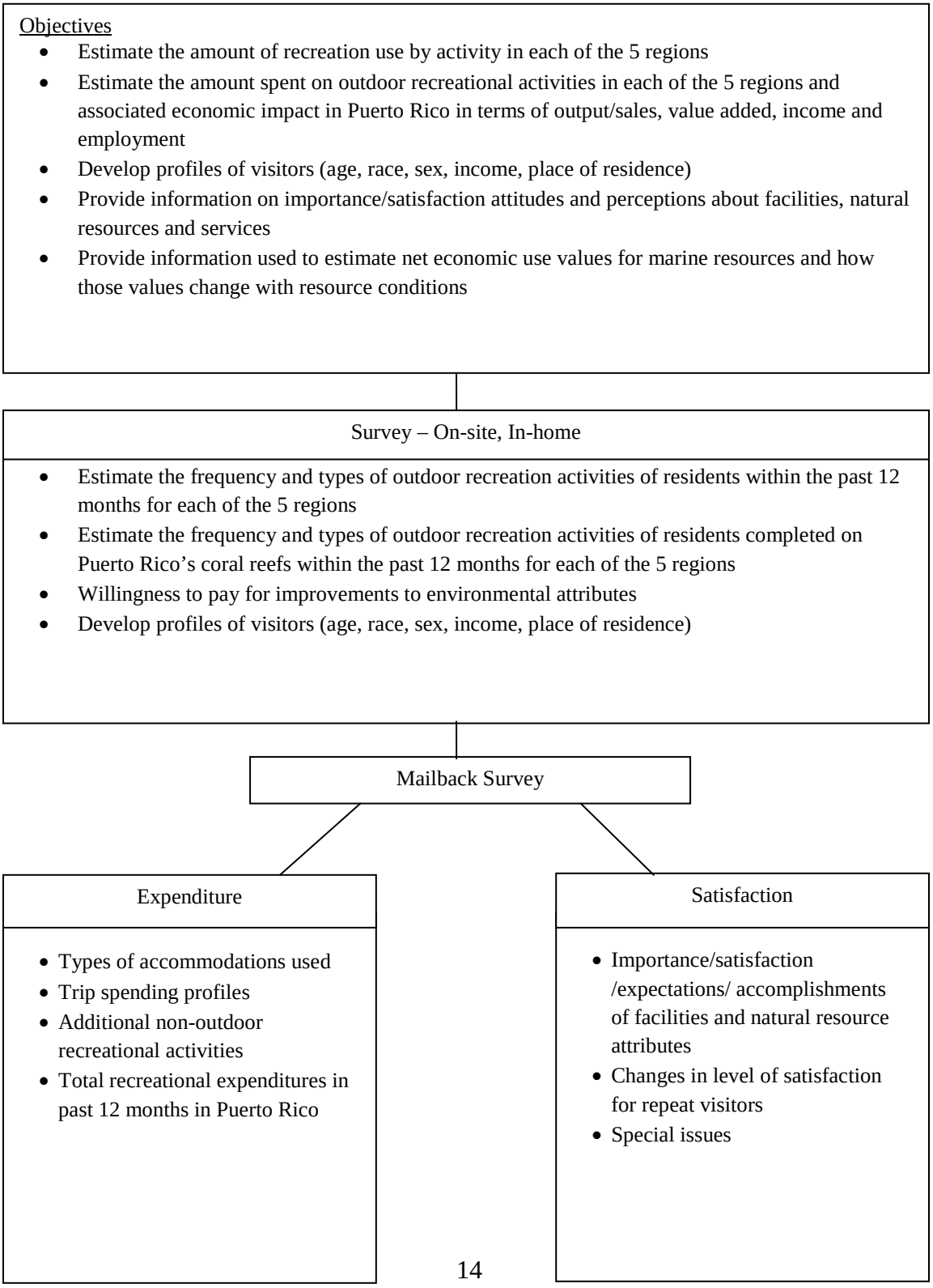
At the end of the choice sets debriefing questions are asked to help us learn more about the choices made. Question E19 asks if the respondent understood that the cost they were asked to pay for each alternative was the per trip cost to their household. E20) focuses on the payment vehicle used to say how the prices (bids) are accepted. Question E21 follows up to ask who they felt was the preferred organization to manage funds to be used to manage the reefs. These questions address possible payment vehicle bias. Question E22 asks for self-evaluation on the environmentalist scale. In question E23, a final set of ten statements are presented and respondents are asked to score these using a five-point Likert scale for agreement with the statements. This adds more information to assess choice responses. Questions E24 and E25 ask for further information to assess quality of responses. E24 asks about the condition of the reefs they personally visit or use and question E25 asks about the respondent's certainty about if the additional funding for improving reef conditions would actually achieve the environmental

protection goals. The survey ends with asking respondents for comments they would like to make to help us understand their views about coral reefs in Puerto Rico and their responses to the survey.

Resident Survey

Figure 2 shows the sampling frameworks and corresponding questionnaires and issues addressed in each questionnaire or modules of questions in the resident of Puerto Rico household surveys.

Figure 2. Resident Survey



Households are randomly selected from U.S. Census Bureau files (see Part B for details of household selection process). A Tally sheet contains the screening criteria for eligibility in the survey. First, households will be sent a pre-notification letter describing the survey and which will provide a number to call for any questions. Dates and times of when the surveys will be conducted in neighborhoods will be provided. People will be given the option of informing the University whether anyone in the household is eligible for the survey. This could save time and money in having to go to households that are not eligible, while still allowing for estimating the proportion of households that contain permanent residents of Puerto Rico that are coral reef users.

Tally Sheet: This is used to determine the proportion of households that are eligible for the survey. First, respondent is asked if any of the household members are permanent residents of Puerto Rico. Seasonal residents are screened out since they are captured in the visitor survey. Seasonal residents are people who visit Puerto Rico six months or less per year. If no member of the household is a permanent resident, they are thanked and a tic mark is recorded in column 4 of the Tally sheet. The respondent is shown the Blue Card containing the Activities List for coral reef use and asked if anyone in the household did any of these activities on Puerto Rico's coral reefs in the last 12 months. If the answer is no, a tic mark is placed in column 5 and the person is thanked for their time. If yes, the respondent is asked if any of the users over 16 of age is home and could they participate in a survey that could take 30 minutes to one hour. People are given a description of the sweepstakes/lottery and gifts they potentially win if they participate in the survey. If no, a tic mark is placed in column 6 if a refusal. If might participate at a later time a time for scheduling the survey is recorded and place tic mark in column 3. If the person says yes, then a tic mark is placed in column 7 of the Tally sheet and the interview is conducted. The Tally Sheet contains seven columns: 1= Date of Interview; 2=Time Period of Interviews; 3=Not Home ; 4=Not Permanent Resident; 5=Non Reef Using Permanent Resident; 6=Reef User Recreating Permanent Resident, but Refusal or Language Barrier; and 7=Reef Using Recreational Permanent Resident and completed Interview.

On-site Survey Form and Supporting Materials

The on-site survey form is divided into four parts. Part A addresses participation and use for all outdoor recreation activities in the five regions of Puerto Rico. Part B addresses reef use activities on the coral reefs in all five regions of Puerto Rico. Part C addresses the non-market economic values of coral reef use and how those values change with changes in coral reef attributes. Part D addresses user demographics.

Several information cards are produced with information to aid in answering questions. Each is a laminated card on different color paper. The "Green Card" or Respondent Card includes some background information on who is conducting the study and who is sponsoring the study. Required information on where to send comments or suggestions for reducing burden is included and the standard required statement about the Paperwork Reduction Act. For Part A, the "White Card" or full Activities List card and maps of the five regions are used. For Part B, the "Blue Card" or coral reef activities card and the maps for the five regions is used. For Part C, three cards are used: the Coral reef definitions and conditions card, the Management Solutions card, and the Economics Valuation card. For Part D, the Demographics card is used.

On-site Form, Part A: Outdoor Recreation Activities during the past 12 month in Puerto Rico. The respondent is first handed the "White Card" or Activities List Card and the maps of each of the five regions. Question A1 asks "Which of the activities on the enclosed Activities List did you or someone in your household do in the Puerto Rico during the last 12 months?" Interviewer fills in all activity numbers. Interviewer then asks for each activity (Question A2), "Did you, yourself do that *activity* during the past 12 months in the Region 1, Region 2, Region 3, Region 4 and Region 5?" Interviewer fills in circle for each activity respondent did in each region. The interviewer then asks Question A3 "On how many different days did you, yourself participate in each activity in the Region 1, Region 2, Region 3, Region 4 and Region 5?" Interviewer then fills in number of days for each activity for each region. The interviewer only asks the number of days for activities on the Activities List with a suffix of "A" to reduce burden. Then the interviewer asks Question A4, "How many others (excluding yourself) in your household did each activity in the Region 1, Region 2, Region 3, Region 4 and Region 5?" Interviewer then enters the number others in the household that did the activities in each region. Interviewer then asks Question A4 "What would you say is the most important activity you did in the Puerto Rico?" Interviewer writes down activity number or checks box that respondent had no most important activity. Interviewer then asks Question A5 "On how many different days did you participate in outdoor recreation activities outside of Puerto Rico during the past 12 months? Interviewer records number of days.

***On-site Form, Part B: Coral* Reef use in the Puerto Rico during the past 12 months.** Interviewer first hands the "Blue Card" or Activities List for reef activities, then asks Question B1 "Which activities did you or someone in your household do on natural/coral reefs during the past 12 months in northwest Puerto Rico (Region 1), southwest Puerto Rico (Region 2), southeast Puerto Rico (Region 3), northeast Puerto Rico (Region 4) and the islands of Culebra and Vieques (Region 5)? If respondent did not do any activities in a region, the interviewer checks the box for no activities sin the region. This allows for more efficient coding and time burden. Interviewer puts an "x" in the circle for each activity the respondent did in each region. Interviewer then asks for each activity in each region Question B2 "How many others in your household did each activity in each region?" Interviewer fills in the number of others that did each activity in each region. The interviewer then asks Question B4 "How many different days did you yourself do each activity in each region. Interviewer explains that a day is a whole day or any part of a day. Interviewer records the number of days for each activity in each region. For all snorkeling and SCUBA diving activities, the interviewer then asks Question B5 "How many dives did you do for each snorkeling and SCUBA diving activity in each region. Interviewer gives the respondent the definition of a dive where a dive is an entrance and an exit of the water. Interviewer then fills in number of dives.

On-site Form, Part C: Economic Value of Puerto Rico's Coral Reef Ecosystem. Interviewer first reads an introduction to the section.

"In this section of the survey, I will first present to you some definitions and scientific facts about Puerto Rico's coral reef ecosystems. I will then present you with different reef conditions

and the cost to your household to achieve those conditions. I will then ask you to choose among a set of different conditions and the cost to your household."

"First, here are some definitions of what we mean by coral reefs and coral reef ecosystems." Interviewer hands respondent the "Coral Reef Definitions and Conditions Card" and the illustrations showing low, medium and high conditions for the reefs and asks them to take a few minutes to read the card. Then the interviewer asks Question C1 "if the respondent has any questions". If respondent has questions, interviewer answers questions before proceeding.

Interviewer then hands the respondent a card with pictures of some of the stony corals, soft corals, sponges, fish and macroinvertebrates that have been observed on Puerto Rico's coral reef ecosystems.

The interviewer then hands the respondent the Management Solutions card and asks the respondent to read the card. When the respondent is done reading the card, the respondent is asked Question C2 'if they have any questions about the information on the card. If so, the interviewer answers questions before proceeding.

The respondent is then asked two questions about the information presented. C3 asks if the respondent believed the information from coral scientists that in 10 to 20 years if current management practices continued that nearly all coral reefs in Puerto Rico would be in a poor or low condition. If the answer is "No", then they are asked if they thought if current management practices did not change, the "Status Quo" whether they thought coral reef condtions in 10 to 20 years would stay the same, improve or worsen.

Interviewer then reads the following:

"I now will present to you a set of reef conditions at different prices and will ask you for your most preferred option. The Status Quo means no change in the management of the coral reef ecosystems and choosing this option will cost your household nothing ($0), but will result in the poorest or lowest conditions of coral reef ecosystems on all Puerto Rico's coral reefs, except a few places that are already specially protected. In each set of options, you will always have the option of choosing the Status Quo as your most preferred option."

The respondent is then provided the following reminder dealing with substitution possibilities.

"Remember when making your choices on how much you are willing to pay that you only have so much income and if you pay to improve reef conditions you will have less to spend on other goods, services, and social issues that are important to you.
Also, even under the low conditions there are three coral reefs within Puerto Rico that have strong protections that you could use, in addition to coral reefs outside Puerto Rico."

The interviewer then hands the respondent the card with Choice 1 and reads the following:
Pre-test Version:
"Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Option B, all the reef conditions are at a medium level of condition and will cost your household $__ per year. For Option C, all reef conditions are improved to the highest condition and will cost your household $__ per year."

NOTE: The dollar amounts are randomly assigned.

Full Survey Version:

"Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Options B and C, reef conditions are a mix of low, medium and high levels of condition. Option B will cost you're your household $__ per year and Option C will cost your household $__ per year.

Interviewer then asks Question C5 "Which option do you prefer? Interviewer then records response.

Interviewer then asks Question C6 "How many days would you use Puerto Rico's Coral Reefs under the reef conditions for the option you prefer?" Interviewer then records the number of days.

Interviewer then asks Question C7 "Please provide a brief comment that helps us understand why you chose the option as your most preferred option? Interviewer then records response.

Interviewer then hands the respondent the "Economics Valuation Card". Then asks respondent Question C8 "How sure are you that the option you chose as your most preferred among the three options is your most preferred, not sure at all, slightly sure, moderately sure, very sure, or extremely sure? Please refer to Section 1 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select one answer only." Interviewer records letter corresponding to the respondents answer.

Interviewer then hands the respondent the card with Choice 2 and reads the following:

Pre-test Version:
"Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Option B, some reef conditions are at a low level and some at the medium level of condition and will cost your household $___ per year. For Option C, some reef conditions are at the medium level and some are improved to the highest condition and this will cost your household $__ per year."

NOTE: Dollars are randomly assigned.

Full Survey Version:

"Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Options B and C, reef conditions are a mix of low, medium and high levels of condition. Option B will cost you're your household $__ per year and Option C will cost your household $__ per year.

Interviewer then asks Questions C9 "Which option do you prefer? Then interviewer records response.

Interviewer then asks Question C10 "How many days would you use Puerto Rico's Coral Reefs under the reef conditions for the option you prefer? Interviewer then records number of days.

Interviewer then asks Question C11 "Please provide a brief comment that helps us understand

why you chose the option as your most preferred option? Interviewer records response.

Interviewer then hands respondent the "Economic Valuation Card" and asks Question C12 "How sure are you that the option you chose as your most preferred among the three options is your most preferred, not sure at all, slightly sure, moderately sure, very sure, or extremely sure? Please refer to Section 1 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select one answer only. Interviewer records the response.

These same procedures and questions are asked for choices 3 and 4.

The choice questions are limited to four choices per respondent to reduce overall burden even though the literature suggests that survey fatigue has not been experienced with more choices. However, our survey includes two other sections on use that will take some time and must be considered in evaluating overall burden. The pre-test will tell us more about whether our estimates of burden hours are correct and survey fatigue is not an issue.

Questions C21 through C27 provide us information to further evaluate the quality of responses and to assess additional factors that might explain people's responses to our choice questions.

Question C21 ask whether the respondent understood that the dollar amount for each alternative was the annual (yearly) cost to their household. C22 asks about how people would prefer to pay for environmental goods and services, while C23 asks what organization they prefer to manage the funds. These questions will help us address whether we might have payment vehicle bias. C24 asks respondents to self-evaluate how they would classify themselves on the environmentalist scale. Interviewer first hands respondent the Economics Valuation card and asks "Would you say you think of yourself as not an environmentalist at all, slightly an environmentalist, a moderate environmentalist, a strong environmentalist or a very strong environmentalist? Please refer to Section 2 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select on answer only." Interviewer then records letter corresponding to the response.

Question C25 is designed to help us evaluate the quality of responses to the choice questions to check to see if responses might be based on scenario rejection or other reason for why they may have preferred the "Status Quo" not related to their real willingness and ability to pay. In addition respondents are asked about how the illustrations of reef conditions and the pictures on crowding helped them in making their choices. uses a five point Likert scale on agreement with the five statements.

Question C26 asks about the reef conditions the respondent actually experiences during their visits or use. Question C27 asks how certain respondents were that additional funding would actually lead to achieving the goals of protecting the environment.

Part C (C28) is concluded by allowing the respondent to provide comments on the survey, again to aid us in interpreting the quality of the response.

On-site Form, Part D: Demographics and Participation in Mailback Survey. This is the final section of the on-site survey and gathers information for a demographic profile of the respondent and the household, and also asks if the respondent will participate in filling out the self-

addressed, postage paid mailbacks.

Respondents are first told that the information is important for us so we can determine if we have a representative sample of Puerto Ricans and are also informed that we will protect the privacy of their information.

Interviewer asks Question D1 "How many people in your household are permanent residents of Puerto Rico?" Interviewer then records response. Interviewer then asks Question D2 "How many of these household members are age 16 or older?" Interviewer then records response. Interviewer then asks Question D3 "Do you own a boat? Interviewer records response. This question may provide important information in predicting activity participation and possibly economic valuation.

Interviewer then asks Question D4 "How many years have you lived in Puerto Rico? Interviewer then records response. Interviewer then asks Question D5 "In what year were you born?" Interviewer records response. This way of asking for age reduces the amount of non-response to age and allows for creating age as a continuous variable in place of a categorical variable. Interviewer then asks Question D6 "Are you Hispanic, Latino, or of Spanish origin?" Respondent records response. This question addresses ethnicity and adheres to OMB guidance.

Interviewer then hands respondent the Demographics Card and asks Question D7 "What race do you consider yourself? Please refer to Section 1 of the Demographics Card and tell me the letter or letters that best describes you." Interviewer records responses. This question on race is in compliance with OMB guidelines. However, in focus groups with residents, there was some reluctance to answer this question even when they could give multiple responses. Some did not like answering this question. We don't know how general this might be so the pre-test will tell us more about expected non-response to this question.

Interviewer then asks Question D8 **"**What is the highest level of education that you have completed? Please refer to Section 2 of the Demographics Card and tell me the letter corresponding to the category that best describes you." Interviewer then records response.

Interviewer then asks Question D9 "What is your employment status? Please refer to Section 3 of the Demographics Card and tell me the letter corresponding to the category that best describes you." Interviewer then records response.

Interviewer then asks Question D10 "What is your household income before taxes? Please refer to Section 4 of the Demographics Card and tell me the letter corresponding to the category that best describes you." Interviewer records response.

Interviewer then informs respondent that this concludes the survey but there are some additional mailback surveys about their expenditures and their importance-satisfaction ratings. Question D11 asks if they will take the mailbacks. The respondent is told if they complete the mailbacks it will double or triple their chance of winning the prizes in the sweeps stakes/lottery since they will be entered once for the on-site survey and once for each mailback survey they complete and return.

If the respondent accepts the mailbacks, the respondent record the Survey Identification number

on each mailback and explains how to turn the survey so the green pages are on the outside with University of Puerto Rico address and how to seal it before mailing. They are reminded that postage is pre-paid by the University.

Interviewer thanks the respondent.

How Frequently

This is a one-time information collection. For visitors, seasonal samples (winter and summer) are required because of significant differences in visitors by season. For residents of Puerto Rico, a one-time survey of annual activity will be obtained.

How information disseminated to the public complies with NOAA Information Quality Guidelines

Utility
This information collection will results in a series of reports that will be posted on the ONMS Socioeconomics Web site in portable document format (pdf). Technical appendices will be published detailing all the estimation methods. CD-ROMs will be made available to the public with all data and documentation so others could replicate study estimates (subject to non-disclosure when in conflict with the Privacy Act). The full surveys will be designed to estimate the market and nonmarket economic use values for Puerto Rico's coral reef ecosystems for recreation-tourism uses and how those values change with changes in the attributes of the coral reef ecosystems (e.g. water clarity/visibility, coral cover and diversity, and fish abundance and diversity). For examples of reports on profiles of visitors, see Leeworthy and Wiley (1996a) and Leeworthy, Loomis and Paterson (2010). For examples of reports on economic contribution to local economies, see English, Kriesel, Leeworthy and Wiley (1996) and Leeworthy and Ehler (2010a). For examples of importance-satisfaction ratings, see Leeworthy and Wiley (1996b) and Leeworthy and Ehler (2010b). For Technical appendices on how estimates were made, see Leeworthy (1996) and Leeworthy (2010).

The information will be used in a decision-support tool being developed by EPA and NOAA to support the Guanica Bay Watershed Restoration Management Plan; by Puerto Rico Tourism Company in assessing their visitor populations:, Puerto Rico territorial planning agencies in assessing uses of Puerto Rico's coral reef ecosystems for recreation-tourism uses and impacts on their local economies; and local businesses in assessing the economic impacts of coral reef uses on their local economy and what is important to visitors and residents and how satisfied they are with different facilities and services. The territorial government and NOAA may also use the results in benefit-cost analyses of investments in coral reef ecosystem protection and restoration, and possibly in damage assessments.

We plan to use the IMPLAN input-output model for Puerto Rico for estimating the total output/sales, value-added, income and employment impacts associated with visitor and resident expenditures. For visitor impacts we include the direct, indirect and induced impacts. The indirect and induced impacts are the "multiplier effects'. Visitors inject new dollars into the economy. For residents, it would be double-counting to include the full multiplier impacts. Many economists include only the "Direct effect" of resident spending, while others include all the impacts and use the "import substitution" argument to justify the double-counting. Import

substitution maintains that if things deteriorated such that Puerto Ricans traveled to other nearby islands for coral reef recreation, then Puerto Rico would lose the expenditures and associated output/sale, value-added, income and employment associated with the spending

We (NOAA) also use the importance-satisfaction ratings to guide our education/outreach efforts. When we combine ratings on satisfaction of natural resource attributes with ecological monitoring of those same attributes we can determine if people's ratings are consistent with what people perceive. Satisfaction ratings are people's perceptions and perceptions drive their behavior. So if people are perceiving that hard coral abundance (coral cover) is declining and the ecological monitoring indicates it is not, this is and education/outreach problem. If we can correct their perceptions by effectively communicating the ecological monitoring results, we can avoid losses of people substituting to alternative locations for their activities. If instead, both people's satisfaction ratings are low or declining and ecological monitoring is also low and declining, then there is a chance in some cases to invest in restoration before the negative change in behavior (the substitution) occurs, i.e. usually there is a lag in time between when perceptions are formed and people change their behavior, so this represents and investment opportunity.

For the non-market economic valuation, we are valuing the coral reefs and their ecosystems. We are valuing the final ecosystem service of Puerto Rico's coral reef ecosystems of recreation-tourist uses. Final ecosystem services are based on attributes of the natural system, in this case the coral reef ecosystem that people care about while doing recreation-tourist activities on the reefs. Intermediate ecosystem services are included in these final ecosystem service values.

Objectivity

The full surveys will use a stated choice conjoint method incorporating different combinations of coral reef attributes and levels of the attributes where people will make choices on their preferred bundle of reef attributes for a certain specified cost (a simulated market). This method is now considered state-of-the-art in the science of natural resource economic valuation. The goal will be to provide specific description of the goods or services provided by coral reefs that people are being asked to value or the changes in the goods or services via changes in the attributes of the coral reef ecosystems. 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.

Integrity

During the focus group sessions, pre-tests and in the final surveys, participants will be reminded that their participation is voluntary, that their responses will be protected, and that any material identifying them will not be provided to anyone.

NOAA will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. See response to Question 10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

3. <u>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</u>.

For the survey of visitors, Internet Panels will be used. The Internet Panels will be recruited via a stratified sample of visitors as they leave Puerto Rico at all airports with fights leaving the island. Illustrations are used to give survey respondents visuals of different reef attribute conditions to supplement scientific bullets of reef attribute conditions. The illustrations were tested with the focus groups to ensure they were communicating the same information as presented in the scientific bullets. Maps are used to assist survey respondents with the regions where they did their recreation-tourist activities. Photos are used for crowding conditions.

4. Describe efforts to identify duplication.

We have conducted a world-wide review of the literature (submitted as a supplementary document in our application to do the focus groups (OMB Control Number 0648-0660, expiration 02-29-2016) on coral reef valuation for recreation-tourist uses. One study was found for Puerto Rico that was limited to the coral reefs off the Northeast coast of Puerto Rico. The study was focused on total economic value but did not address how values might change with changes in coral reef attributes, which is critical to the current effort. See Attachment E for the review of literature.

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

The surveys will target individuals rather than small businesses or small entities.

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

Without this collection, NOAA will not be able to meet its obligation under the Interagency Agreement with EPA.

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

This collection is consistent with OMB guidelines.

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 January 9, 2014 (1630 FR Vo. 79, No. 6) solicited public comments. No comments were received.

Efforts to consult with persons outside the agency

For the focus group, work was targeted at determining the attributes of coral reef ecosystems those recreation-tourist users of Puerto Rico care about and the levels of those attributes that might change their economic use values for Puerto Rico's coral reefs. NOAA has a multiple-organization partnership called the Marine Ecosystem Service Partnership (MESP). MESP is an on-line annotated bibliography of all studies done world-wide on natural resource valuation in marine (coastal and ocean) resources http://www.marineecosystemservices.org. In addition, MESP has joined The Ecosystem Commons http://ecosystemcommons.org to engage in a "community of practice". A "community of practice" is a group of technical experts that will provide free consultation on how to do economic valuation of ecosystem services.

We also conducted a review of the literature using the MESP site to see what other economic valuation experts world-wide had done with respect to coral reef attribute valuation for recreation-tourism uses. Only four studies world-wide were uncovered that addressed the value of attributes of coral reef ecosystems for recreation-tourism and how economic value changes with changes in the levels of those attributes. None of the studies addressed the coral reef ecosystems of Puerto Rico.

A query to Ecosystem Commons was made along with the World Resources Institute (WRI), which is a key partner in MESP on relevant work on attributes and their levels for coral reef ecosystems. No additional experts were discovered.

We will construct a peer review panel consisting of authors of past work on the economic value for recreation-tourism of coral reef attributes. Jeffrey Wielgus, author of work in the Red Sea which was published in Marine Resource Economics Journal (Wielgus et al, 2003) and now with WRI will be a key peer reviewer. We will also seek peer review by George Parsons at the University of Delaware who is co-author on an economic valuation in Bonaire (Parsons and Thur, 2008).

Matt Weber of EPA has been conducting similar work on ecosystem service valuation using stated preference conjoint methods and is on our working team as a reviewer.

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

For the final surveys, community members of Puerto Rico are organizing a sweepstakes/lottery for both residents and visitors that complete the surveys. Businesses are offering free hotels, rental cars, restaurant meals, snorkeling, SCUBA diving, sea kayak or fishing trips. A non-profit organization, Reef-to-Ridges, Inc. will run the sweepstakes/lottery and award the gifts. Puerto Rico Sea Grant is offering a free book on Puerto Rico's coral reef ecosystem organisms and coloring books to children. The University of Puerto Rico – Mayaguez will provide a list of database identification numbers to Ridge-to-Reefs, Inc. for those who completed the surveys. Ridge-to-Reefs, Inc. will select the winners and send the winning numbers to the University. The University will then send the names and addresses of the winners to Ridge-to-Reefs and destroy identifying information of survey respondents from the databases before sending data to NOAA. The brochure of gifts for residents and visitors are provided for the pre-test of the visitor and resident surveys in Attachment D. Gifts are still coming in from the community and the brochure will be revised for the full survey.

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

No assurance of confidentiality based on statute or regulation will be provided to the respondents. Respondents will be told that their identity will be protected. The anonymity of the survey members will be protected by using an independent contractor to collect the information (the University of Puerto Rico – Mayaguez, whose contract requires enactment of procedures to prevent unauthorized access to respondent data, and to prevent the public disclosure of the responses of individual participants. This will also be true for the Internet Panels to be

conducted by Gfk Custom Research, LLC (formerly Knowledge Networks, Inc.) under contract to the University of Puerto Rico – Mayaguez.

11. <u>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</u>.

We will not ask questions of a sensitive nature.

12. <u>Provide an estimate in hours of the burden of the collection of information</u>.

Calculation of Buden Hours- Pre-test

Visitor Survey	
1. Airport Surveys	
a. Estimated Number of Participants	400
b. Estimated time per response	5 minutes
c. Estimated total burden hours	33.33 (33)
2. Internet Panel	
a. Estimated Number of Participants	200
b. Estimated time per response	35 minutes
c. Estimated total burden Hours	116.67 (117)
Total Visitor Survey Burden Hours	**150.00**
Resident Survey	
1. In-house (face-to-face)	
a. Estimated Number of Participants	200
b. Estimated time per response	1 hour
c. Estimated total burden hours	200
Total Resident Survey Burden Hours	**200**
Total Burden Hours Visitor & Resident Surveys	**350.00**

Calculation of Burden Hours – Full survey

Visitor Surveys	
1. Airport Surveys	
a. Estimated Number of Participants	3,000
b. Estimated time per response	5 minutes
c. Estimated total burden hours	250
2. Internet Panel	
a. Estimated Number of Participants	1,000
b. Estimated time per response	35 minutes
c. Estimated total burden Hours	583
3. Mailbacks	
a. Estimated Number of Participants	200
b. Estimates time per response	20 minutes
c. Estimated total burden hours	66.67 (67)
Total Visitor Surveys burden hours	**900**
Resident Surveys	
1. In-house (face-to-face)	
a. Estimated Number of Participants	1,000
b. Estimated time per response	1 hour
c. Estimated total burden hours	1,000
2. Mailbacks	
a. Estimated Number of Participants	900
b. Estimated time per response	20 minutes
c. Estimated total burden hours	300
Total Resident Surveys	**1,300**
Total burden hours Visitor & Resident Surveys	**2,200**

Total participants equals 4,600 (600 pre-test and 4,000 full survey) for an estimated total burden hours of 2,550 (350 pre-test and 2,200 full survey).

13. <u>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 Question 12 above)</u>.

There will be no record keeping/reporting costs to the respondents.

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

Total Funding for EPA-NOAA Puerto Rico Study on Recreation-tourism Use of Coral Reef Ecosystem

Budget Categories	EPA Funds[1]	EPA In-kind[2]	NOAA In-kind[3]	Total Project[4]
(a.) Personnel	$0	$94,690	$48,125	$142,815
(b.) Fringe Benefits	$0	$23,673	$3,640	$27,313
(c.) Travel	$5,000	$3,000	$0	$8,000
(d.) Equipment	$0		$0	$0
(e.) Supplies	$0		$0	$0
(f.) Procurement/Assistance[5]	$190,000		$1,950	$191,950
(g.) Construction	$0		$0	$0
(h.) Other	$0		$0	$0
(i.) Total Direct Charges	**$195,000**	**$129,363**	**$53,715**	**$378,078**
(j.) Indirect Costs	$0		$0	$0
(k.) Total	**$195,000**	**$129,363**	**$53,715**	**$378,078**
Percentage of Total	51.58	34.22	14.21	100.00

1. EPA funds must all be obligated or spent in FY 2013.
2. EPA in-kind spread over FY 2012 ($12,936.30), FY 2013 ($38,808.90), FY 2014 ($38,808.90)
   FY 2015 ($38,808.90).
3. NOAA in-kind spread over FY 2012 ($5,371.50), FY 2013 ($16,114.50), FY 2014 ($16,114.50)
   FY 2015 ($16,114.50).
4. Total Project Costs spread over FY 2012 ($18,307.80), FY 2013 ($249,923.40), FY 2014 ($54,923.40)
   FY 2015 ($54,923.40).
5. Contract with University of Puerto Rico - Mayaguez for focus groups, pre-test and final surveys is $190,000. Contract is between NOAA-ONMS and University of Puerto Rico - Mayaguez.

15. Explain the reasons for any program changes or adjustments.

This is a new information collection request.

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

ONMS will work with the University of Puerto Rico – Mayaguez to estimate the number of participants and person-days of use by region for five regions of Puerto Rico for coral reef ecosystem use by activity. Total spending associated with the coral reef use will be estimated by expenditure type and the associated impacts of the spending on the Puerto Rican economy in terms of sales/output, value-added, income, and employment using the IMPLAN input-output model. Non-market economic use value will also be estimated and how that value changes with changes in natural resource attributes (i.e. marginal values of the attributes) and user characteristics. The importance-performance framework will be used for the importance-satisfaction ratings for 25 natural resource attributes, facilities and services and expectancy-

discrepancy analysis will be applied to the satisfaction ratings to add additional explanation of the satisfaction scores. Importance ratings for natural resource attributes will provide human dimensions non-dollar preference rankings as alternative measures of human well-being to the non-market economic estimates of natural resource attributes.

ONMS and the University of Puerto Rico – Mayaguez will publish a series of reports, technical appendices, executive summaries and fact sheets and posts all the products in pdf on the ONMS Socioeconomic Web site. A page for the Puerto Rico project will be developed on the ONMS Socioeconomic Web site (http://sanctuaries.noaa.gov/science/socioeconomic/welcome.html).

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.

NA.

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.

There are two populations that will be surveyed; permanent residents of Puerto Rico that used the coral reefs of Puerto Rico for recreation over the past 12 months and visitors to Puerto Rico that used the coral reefs on their current (most recent trip) trip. No one currently knows the populations for either residents or visitors that use the coral reefs for recreation. We describe below how we estimate those populations. For visitors, we start out with the number of enplanements, which are the number of people leaving Puerto Rico and is also referr3ed to as a person-trip i.e. one person making one trip to Puerto Rico. In 2013, there were more than 4.6 million enplanements (Table B.5). It is estimated that about 80 to 85 percent of these enplanements are made by visitors who participate in at least one recreation activity on their visit to Puerto Rico (Puerto Rico Tourism Company). For residents, we start with the number of households in coastal municipalities which was estimated to be more than 858,000 in 2013 (Table B.6). We then estimate what percent of those households have a household member who has used Puerto Rico's coral reefs for recreation.

The unit of analysis for visitors is a person-trip. So we estimate numbers of days and expenditures of coral reef activity per person-trip and can then extrapolate from sample to population based on estimates of total person-trips for coral reef use. For non-market economic value, the unit of analysis is visitor household annual willingness to pay. For residents, the unit of analysis is households. Annual activity, spending and non-market economic value are obtained and extrapolated from sample to population based on number of households estimated to use the coral reefs. Estimates of annual activity pending will be obtained: annual activity using the in-home survey form and expenditures using the expenditure mailback questionnaire. For visitors, all information is obtained about the interview trip. See Part A for the details of what information is obtained from each component of the survey for both residents and visitors.

Visitor Survey

Full Survey

Survey Forms. The visitor survey has four basic components; the Airport survey, the Internet Panel, Expenditure Mailback, and the Satisfaction Mailback. The Expenditure and Satisfaction mailbacks are given to those visitors that don't want to join the Internet Panel, but accept the mailbacks. As in past work in the Florida Keys, visitors are given both mailback forms and are told that if they fill-out and return both they will increase their chance of winning the sweepstakes/lottery gifts.

Table B1 summarizes each survey form component number of participants (completes) and the net expected response rates for each component. We expect a 90 percent net response rate of those eligible visitors (coral reef users) for the Airport Survey. Because the Airport Survey is limited to 5 minutes on average, a follow-up Internet Panel is recruited to answer more detailed data needs. We require 500 Internet Panel completed for each season (winter and summer) for a total of 1,000 completes. The Internet Panel survey firm (GfK, Inc.) has advised us that we should recruit 1,500 visitors per season from the Airport Survey to get 500 completes of the Internet Survey for a total of 3,000 participants to complete the Airport Survey short-form and 1,000 completes of the Internet Panel survey. We think GfK, Inc. is being very conservative in their planning assumption, but this is the first time anyone has done this so we must plan conservatively to get the number of necessary responses to ensure statistically reliable estimates.

There are three steps in calculating the expected net response rate in our survey of visitors using the Internet Panel. We will calculate the expected response rate at each step and the cumulative response rate across all three steps using AAPOR Response Rate 1, which is the minimal expected net response rate. We do two scenarios below given different ranges of assumptions. The pre-test will help us refine these assumptions.

Scenario 1. AAPOR Response Rate 1 – Summer Season Visitor Internet Panel Survey

Response Rate 1 = I/(I +P) + (R + NC + O) + (UH + UO)

Where
I = Interview
P = Partial Interview
NC = No contact
O = Other
UH = Unknown household
UO = unknown other

Step 1: On-site Interview at the airports using the Tally Sheet to obtain some of the parameters of the AAPOR response rates.

1,500/(1,500 + 10) + (75 + 0 + 0) = **94.64%**

We assume 10 partial interviews (P) to get 1,500 completes based on past experience at airports where people get nervous and we have to cut-off the interview because they are focused on boarding announcements and can't complete the survey. Protocol is to end surveys once boarding announcements are started.

We assume 75 refusals (R) per 1,500 completed interviews based on past experience at airports.

NC, O, UH and UO are either irrelevant or assumed zero in our application.

Step 2: On-site (airport) Recruitment into Internet Panel.

We assume 85.0% will choose to join the Internet Panel and will provide their e-mail and telephone number that will be given to GfK to complete the recruitment into the Internet Panel.

Recruitment stage 1 = 1,275/1,500 = **85.0%**

Step 3: Internet Panel Completes.

GfK advised us that we needed almost three recruits to get one complete through steps 2 and 3. GfK says they get between 85 to 90% response rates once panel recruitment is completed. We use the 85% divided between Partial Interviews (P) and Refusals (R) did not complete any of the Internet Survey.

Internet Panel completes = 500/(500 + 29) (59 + 0 + 687) + (0 + 0) = **39.21%**

I = 500 completes
P = 5% of eligible (those who completed recruitment into panel) = 29
R = 10% of eligible (those who completed recruitment into panel) = 59
O = 687 (those who did not complete recruitment into Internet Panel)

Net Response Rate = 94.64% * 85.0% * 39.21% **= 31.5%**

Scenario 2. AAPOR Response Rate 1 – Summer Season Visitor Internet Panel Survey

Step1: On-site Interview at the airports using the Tally Sheet to obtain some of the parameters of the AAPOR response rates.

In this scenario, we assume that GfK was too conservative and we only need to recruit 1,000 to get 500 completes, a two to one ratio instead of three to one.

1,000/ (1,000 + 10) + (50 + 0 + 0) + (0 + 0) = **94.34%**

We assume 10 partial interviews (P) to get 1,000 completes based on past experience at airports where people get nervous and we have to cut-off the interview because they are focused on boarding announcements and can't complete the survey. Protocol is to end surveys once boarding announcements are started.

We assume 50 refusals (R) per 1,000 completed interviews based on past experience at airports.

NC, O, UH and UO are either irrelevant or assumed zero in our application.

Step 2: On-site (airport) Recruitment into Internet Panel.

We assume 85.0% will choose to join the Internet Panel and will provide their e-mail and telephone number that will be given to GfK to complete the recruitment into the Internet Panel.

Recruitment stage 1 = 850/1,000 = **85.0%**

Step 3: Internet Panel Completes.

GfK advised us that we needed almost three recruits to get one complete through steps 2 and 3. In this scenario we assume it only takes two recruits to get one complete through steps 2 and 3. GfK says they get between 85 to 90% response rates once panel recruitment is completed. We use the 85% divided between Partial Interviews (P) and Refusals (R) did not complete any of the Internet Survey.

Internet Panel completes = 500/(500 + 29) (59 + 0 + 262) + (0 + 0) = **58.82%**

I = 500 completes
P = 5% of eligible (those who completed recruitment into panel) = 29
R = 10% of eligible (those who completed recruitment into panel) = 59
O = 262 (those who did not complete recruitment into Internet Panel)

Net Response Rate = 94.34% * 85.0% * 58.82% = **47.2%**

For the mailbacks, past experience has achieved 40 to 45% response rates for the Expenditure Mailback and 50 to 60% for the Satisfaction mailbacks when visitors are given both. We are using the lower estimates to be conservative. To calculate expected net response rates, we multiply the estimates by .9 to account for the 10% expected refusal rates from the Airport Survey.

Data Elements: Since different data elements are obtained from different forms, number of participants (completes) and net expected response rates are also calculated and summarized in Table B1. Activity Participation and Demographics are obtained in the Airport Survey short form and 3,000 completes are expected with a expected net response rate of 90%. Number of Days and Dives by activity and region (Intensity of use) is only done via the Internet Panel.

Since the mailbacks are from the 3,000 who completed the on-site short form (Airport Survey), and the information from these mailbacks is also obtained in the Internet Panel, we add the expected number of participants complete for the two sub-samples (Internet Panel + mailbacks) to calculate total number of participants (completes) and the expected net response rates.

Table B2. Number of Expected Completes and Net Expected Response Rates: Resident Full Survey

Resident Full Survey	
a. In-house, On-site Survey	
(1) Number of participants (completes)	1,000
(2) Expected Net Response Rate (%)[1]	90.00
b. Mailbacks - Number of Participants	1,000
Expenditure	
(1) Number of participants (completes)	400
(2) Expected Net Response Rate (%)[2]	36.00
Satisfaction	
(1) Number of participants (completes)	500
(2) Expected Net Response Rate (%)[2]	45.00
Data elements	
a. Activity Participation and Intensity of Use (Days and Dives)	
(1) Number of Participants (completes)	1,000
(2) Expected Net Response Rate (%)	90
b. Non-market Economic Value	
(1) Number of Participants (completes)	1,000
(2) Expected Net Response Rate (%)	90
c. Demographics	
(1) Number of Participants (completes)	1,000
(2) Expected Net Response Rate (%)	90
d. Expenditures	
(1) Number of Participants (completes)	400
(2) Expected Net Response Rates (%)	36
e. Satisfaction and Special Issues	
(1) Number of Participants (completes)	500
(2) Expected Net Response Rate (%)	45

1. Assumes a 10% rate of refusal by eligible households.
2. Assumes 1,000 people will accept mailbacks in the home. 400 or 40% are expected to complete the mailback based on past experiences in the Florida Keys. The 10% refusal rate of the survey in the home is also included in calculating net expected response rate. 550 or 50% is used for the Satisfaction mailback based on past experience.

Resident Survey

Full Survey

Survey Forms. The resident survey has two components; the in-house on-site survey and the mailbacks. Each household that completes the in-house, on-site survey form is asked to complete both the expenditure and satisfaction mailback forms. Residents are told that for each survey component they complete will increase their chance of winning a free vacation to the Island of Culebra (i.e. if they complete the in-house on-site form and the two mailbacks, they will be entered three times into the sweepstakes/lottery for the free vacation).

Table B2 summarizes the number of participants (completes) and expected net response rates for each survey component. We are targeting 1,000 completes of resident households for the in-house, on-site form. We expect a 10% refusal rate for eligible households (those in which someone did recreational activities on the coral reefs in Puerto Rico), so the net expected response rate is 90%. For the mailbacks, we expect that 40% will fill-out and return the expenditure mailback for a total of 400 participants (completes) or an expected net response rate of 36% (40%*.9), and 50% will fill-out and return the satisfaction mailback for a total of 500 participants (completes) and a expected net response rate of 45% (50%*.9).

Data Elements. With only two survey components, the resident survey is less complicated and follows the results of the survey forms. The in-house, on-site survey includes Activity Participation and Intensity of use (Days and Dives by activity and region); Non-market economic valuation; and Demographics. For each of these data elements, we have targeted 1,000 participants (completes) with an expected net response rate of 90%. Expenditures, Importance-satisfaction ratings and Special issues come from the mailbacks and follow the number of participants (completes) and expected net response rates for those mailbacks. Table B2 summarizes the results.

Table B2. Number of Expected Completes and Net Expected Response Rates: Resident Full Survey

Resident Full Survey	
a. In-house, On-site Survey	
(1) Number of participants (completes)	1,000
(2) Expected Net Response Rate (%)[1]	90.00
b. Mailbacks - Number of Participants	1,000
Expenditure	
(1) Number of participants (completes)	400
(2) Expected Net Response Rate (%)[2]	36.00
Satisfaction	
(1) Number of participants (completes)	500
(2) Expected Net Response Rate (%)[2]	45.00
Data elements	
a. Activity Participation and Intensity of Use (Days and Dives)	
(1) Number of Participants (completes)	1,000
(2) Expected Net Response Rate (%)	90
b. Non-market Economic Value	
(1) Number of Participants (completes)	1,000
(2) Expected Net Response Rate (%)	90
c. Demographics	
(1) Number of Participants (completes)	1,000
(2) Expected Net Response Rate (%)	90
d. Expenditures	
(1) Number of Participants (completes)	400
(2) Expected Net Response Rates (%)	36
e. Satisfaction and Special Issues	
(1) Number of Participants (completes)	500
(2) Expected Net Response Rate (%)	45

1. Assumes a 10% rate of refusal by eligible households.
2. Assumes 1,000 people will accept mailbacks in the home. 400 or 40% are expected to complete the mailback based on past experiences in the Florida Keys. The 10% refusal rate of the survey in the home is also included in calculating net expected response rate. 550 or 50% is used for the Satisfaction

Visitor Survey Pre-test

The purpose of the pre-test is primarily to assist in the design of the dollar bid amounts for the non-market economic valuation choice questions in the Internet Panel. Also, net response rates for the Visitor surveys are only guesses since no one has ever recruited an Internet Panel as we are doing for visitors. The GfK conservative assumptions on how many on-site recruits it requires to get 500 completed Internet interviews will be tested (we will recruit 600 to get 200 completes). We will also test the times it takes to complete the Resident in-home survey.

Our greatest uncertainty in this study, which affects our sampling plan is how many visitors and residents use the coral reefs in Puerto Rico. No one has ever done such a study before. The only other studies done did not do probability-based sampling and were not able to extrapolate results from sample to population. We have a probability-based sample design for both residents and visitors and we will be able to extrapolate from sample to population for both populations of coral reef users. No one knows right now what percent of either of those populations uses Puerto Rico's coral reefs for recreation-tourism. We will determine this for the first time. This will allow other researchers to design follow-up studies to get more depth of information about these uses/users by providing a basis of weighting their samples. All of this could change our expected burden estimates. If we get high proportions of visitors and residents that do coral reef recreation-tourist activities using the coral reefs, we can lower the amount of surveys we have to complete. In addition, if the assumption that GfK is using to ensure delivery of 500 completes to the Visitor Internet Panel survey turn out to be too conservative, we can reduce the number of airport surveys we need to do. This could save costs as well as increase our net response rates. All other elements of the survey have been tested many times over many years and don't require pre-testing (e.g. satisfaction and expenditure mail back questionnaires).

A sample size of 200 is thought to be adequate for this purpose. All the same forms as the full survey, will be used in the pre-test, except the mailbacks and the Non-market economic use value-Choice -Questions. This will also allow us to test some of our assumptions in calculating our expected net response rates, while the choice questions are designed to simply help with design of the dollar bid amounts for the non-market economic valuation. Table B3 summarizes the number of participants (completes) and expected net response rates. Data elements listed here is restricted to the non-market economic value questions for the dollars bid amounts.

Table B3. Number of Expected Completes and Net Expected Response Rates: Visitor Survey Pre-test

Visitor Survey Pre-test	
a. Airport Survey Short Form	
(1) Number of participants (completes)	600
(2) Expected Net Response Rate (%)[1]	90.00
b. Internet Panel	
(1) Number of participants (completes)	200
(2) Expected Net Response Rate (%)[2]	30.00
Data elements	
a. Non-market Economic Value - Internet Panel	
(1) Number of Participants (completes)	200
(2) Expected Net Response Rate (%)	30

1. Assumes a 10% rate of refusal at the airport.
2. Assumes a 33.33% completion rate for Internet Panel recruits and 10% refusal rate at airport surveys. The Internet Panel survey firm (GfK, Inc.) for planning purposes asked for 600 recruits to get 200 completes. We think this is an overestimate of the need, so net expected response rates are most likely under estimates.

Resident Survey Pre-test

As with the visitor survey pre-test, the primary purpose is to assist in the design of the dollar bid amounts for the non-market economic valuation choice questions in the in-house, on-site survey. Again, a sample size of 200 is thought to be adequate for this purpose. Most of the same forms used in the full survey will be used in the pre-test, except the "Satisfaction Mailback" and the "Expenditure Mailback". Instead of the Satisfaction mailback, we will use a one-page form in-house to rate the importance of reef attributes used in the non-market economic valuation. The design of the full survey requires that we collapse the number of attributes for efficient design, so we need to determine relative importance.

We don't need to test the "Expenditure Mailback". This expenditure questionnaire has been used by the U.S. Forest Service, NOAA, the Department of Interior's National Park Service and Bureau of Land Management and the U.S. Army Corps of Engineers on many federal, state and local sites throughout the nation since 1985. The questionnaire has evolved overtime based on much learning on how people respond to the various expenditure categories.

The pre-test will also allow us to test some of our assumptions in calculating our expected net response rates. Table B4 summarizes the number of participants (completes) and expected net response rates. Data elements listed here is restricted to the non-market economic value questions for the dollar bid amounts.

Table B4. Number of Expected Completes and Net Expected Response Rates: Resident Survey Pre-test

Resident Survey Pre-test	
a. In-house, On-site Survey	
(1) Number of participants (completes)	200
(2) Expected Net Response Rate (%)[1]	90.00
Data elements	
a. Non-market Economic Value	
(1) Number of Participants (completes)	200
(2) Expected Net Response Rate (%)	90

1. Assumes a 10% rate of refusal by eligible households.

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.

Visitor Survey

Airport Survey

The visitor surveys will be conducted at the airports in Puerto Rico that have flights leaving the island. The Puerto Rico airports keep data on the number of passengers on flights leaving the island (enplanements) and they are summarized by the Puerto Rico Tourism Company. Data is summarized by airport and month. Since past surveys have found that visitors are different by season, surveys will be stratified by season with separate samples by season. There are two seasons; winter (November through April) and summer (May through October). Previous year enplanement data at each of the airports that have flights leaving the island are used to stratify sampling effort across the airports within each season. For each season, 42 days of sampling are planned. Sampling days will be stratified by type of day (weekday and weekend/holiday). Table B5. shows sample stratification of sampling days by season. The overwhelming majority of flights and passengers leaving the island are through the San Juan airport (SJU) with 91% of enplanements each season. The distribution across airports is not significantly different by season.

The sample is a stratified random sample of all people getting on planes leaving the island of Puerto Rico. Stratification is by airport (five airports) and season (two seasons: summer and winter). The Puerto Rico Airport Authority maintains monthly counts of air enplanements (number of people getting on planes leaving the island of Puerto Rico).

We obtained the enplanement data for all airports in Puerto Rico that have flights that leave the island. We don't include inter-island flights. We pre-stratify our samples across airports and seasons by the number of enplanements the year prior to our survey. See Table B5 in Part B (page 11) of the supporting statement.

We deploy interviewers in teams of two with potentially two teams per session at the San Juan Airport and one team at smaller airports. Each day we receive a list of flights leaving each airport by the Puerto Rico Airport Authority. We make sure we choose flights that properly represent the relative number of passengers by destinations across flights. Our interviewers receive security clearances and are issued security badges. They interview at the gates lounge areas for flights leaving Puerto Rico.

Respondents are randomly selected from people in the lounge/waiting area for the selected flight. Interviewers arrive at the gate/lounge area one hour before each flight. Depending on the layout of the gate/lunge area, each interviewer randomly selects a starting row of seats and for the first row of seats selected the first person in that row of seats is selected then every third or fourth person in the row depending on the size of the lounge and the number of people in the lounge. For the second reow of seats, interviewers slect the second person sitting in the row of seats and then every third or fourth person after that. At each additional row trhe starting point increase by one seat. Each interviewer conducts screening and conducts the complete interview. The Tally Sheet is used for screening passengers for meeting our criteria of being a visitor to Puerto Rico (we screen our permanent residents of Puerto Rico) and that they did at least one coral reef activity while on their visit to Puerto Rico. We are therefore able to use the Tally Sheet to estimate the proportion of all air enplanements that are visitors and coral reef users. We can then tie these proportions back to the population via the air enplanement data from the Airport Authority. Thus, all air enplanements on flights leaving Puerto Rico have an equal non-zero probability of being selected. Those who are eligible and agree to the survey are then interviewed using the Airport Short Form. See Attachment D for the Tally Sheet and the Airport On-site Short form.

We don't know the probability that a visitor to Puerto Rico is a coral reef user since this is the first study to address the issue. Therefore, we have no idea how many contacts at the airport will be required to identify a coral reef user. So sample size for the Tally sheet is not possible to determine to achieve a sample size of 1,500 per season completing the on-site airport survey to ensure we get 500 completes of the Internet Survey. So we cannot calculate standard errors of the percent of visitors that are coral reef users at this time.

There is no design effect in the visitor survey. It is a simple stratified random sample and doesn't use cluster sampling. There may be an effect from pre-stratification.For initial sample weighting (the stage where we adjust pre-stratification using prior year distributions in Table B5 to post sample stratification using the actual enplanement data for the months in each season and at each airport) our weights will equilibrate the sample distributions with the actual distributions of enplanements by airport and season. That is all we need for weighting the data at this stage of estimation of total person-trips for those who are coral reef using visitors each season.

Sample weights for each case are individual weights for each case being an observation in a stratum. In the short form we obtain the party size and their reef use activity and demographics to establish second state weights that would adjust for any non-response bias (see answer to question about non-response bias and weighting). We will also be able to develop household weights using the number of household members in the traveling party for application to activity participation & use and non-market valuation. Since expenditures will be estimated on a per person-trip basis they will be estimated using the individual weights. These weighted per person-trip expenditures are then multiplied by the aggregate number of person-trips estimated for those visitors that did coral reef activities to get total expenditures.

Additional weights may have to be established if there is non-response bias. Different weights may have to be developed by type of information (e.g. activity participation, expenditures, importance-satisfaction ratings, non-market economic values). See answer to non-response bias analysis for models to be estimated. If non-response bias is detected, then a combination of multivariate and multiplicative weights will be used. This usually requires some iteration since full multiplicative weights are generally not possible with sample sizes we will be obtaining.

Internet Panel

The airport survey is limited to an average time of 5 minutes based on past experience of conducting surveys at airports in Florida. So for more detailed information, visitors are recruited into an Internet Panel. Unlike many past studies using Internet Panels, we are recruiting our panel members via a stratified random sample of visitors to Puerto Rico that are coral reef users.

The University of Puerto Rico (UPR) recruits visitors into the Internet Panel when doing the Airport Survey. If a respondent agrees to join, the interviewers obtain their telephone number and e-mail address. UPR forwards this information to GfK to follow-up with information about the Internet Panel. UPR also sends GfK respondent's activity participation information. GfK programs that information in so the follow-up effort to obtain intensity of use information (person-days of use and number of dives for SCUBA and snorkeling) more efficiently (only ask for those activities in regions where they did the activity). GfK will do three follow-ups by e-mail and phone to get people who agreed to join the panel to complete the survey. GfK is responsible for implementing the survey not the recruitment. The panel is implemented by GFK and the panel is used only for the UPR-NOAA study, it will not be used by GfK for any other surveys.

The firm (GfK) that will conduct the survey is highly experienced with implementing Internet Panels. Internet Panel members will be asked information on intensity of use (Days and Dives) for general recreation-tourist activities, since they are already asked participation by activity and region in the airport survey. Panel members will also be asked participation and number of days and dives by reef activities and region of activity. Importance-satisfaction rating and expenditures will also be asked of Panel members. The most important information for this survey is the non-market economic value and how that value changes with changes in conditions of reef attributes.

Mailbacks

For those that complete the airport survey and do not wish to join the Internet Panel, we provide them an option to fill out two mailback questionnaires. One addresses their expenditures and the other their importance-satisfaction ratings and special issues.

Table B5. Air Enplanements for Stratifying Samples

Month/Season	SJU	Rafael Hernandez Aguadillo BQN	Antonio Rivera Rodriguez Vieques	Mercedita (Ponce)	Ribas Dominici Isla Grande	Total
May	344,391	18,036	6,827	7,159	2,120	378,533
June	396,044	24,138	5,684	8,532	1,800	436,198
July	440,043	27,655	6,130	11,896	2,431	488,155
August	381,732	17,445	4,979	7,363	1,910	413,429
September	268,898	13,241	4,535	5,748	1,553	293,975
October	276,141	10,901	4,731	6,096	1,665	299,534
Summer	**2,107,249**	**111,416**	**32,886**	**46,794**	**11,479**	2,309,824
	91.23	**4.82**	**1.42**	**2.03**	**0.50**	100.00
Novenber	318,870	16,642	5,482	7,218	1,969	350,181
December	366,346	17,777	6,845	8,999	2,397	402,364
January	362,411	18,612	7,080	9,238	2,092	399,433
February	309,909	14,480	7,047	5,718	2,443	339,597
March	382,769	18,262	7,028	7,985	2,757	418,801
April	358,315	15,299	7,002	7,342	2,174	390,132
Winter	**2,098,620**	**101,072**	**40,484**	**46,500**	**13,832**	2,300,508
	91.22	**4.39**	**1.76**	**2.02**	**0.60**	100.00
Annual	**4,205,869**	**212,488**	**73,370**	**93,294**	**25,311**	**4,610,332**
Percent	**91.23**	**4.61**	**1.59**	**2.02**	**0.55**	100.00
Days						
Summer (42)	38.31653754	2.025899809	0.59797283	0.850864828	0.208724994	
Winter (42)	38.31416365	1.845255048	0.7391098	0.848942929	0.252528572	
Total (84)	76.63070119	3.871154857	1.33708263	1.699807757	0.461253566	
Days (rounded)						
Summer	38	2	0.5	1	0.5	42
Winter	38	2	0.5	1	0.5	42
Total	76	4	1	2	1	84

Source: Puerto Rico Tourism Company

Nonresponse Bias Analyses.

Visitor Survey. As in Leeworthy (1996), we will use multiple regressions for the satisfaction and expenditure mail backs and the Internet Panel. We only have one mode of travel (air), so we won't being modeling mode of access.

Step 1: First we will run Kolmogorov – Smirnov Two-sample tests for differences in factors for respondents versus non-respondents. Second, we will run probit and logit equations on respondents versus non-respondents (1= respondent and 0=non-respondent). Explanatory variables: Place of Residence, length of stay, age, gender, ethnicity, race, income, household size, second home ownership, and activity participation. This will determine what factors might be related to non-response.

Step 2: Check to see if any of the variables related to non-response are related to various variables for estimation.

For the satisfaction mail back, we will run regressions on each importance and satisfaction rating as the dependent variable. Explanatory variables come from the Airport On-site form including: Place of Residence, length of stay, age, gender, ethnicity, race, income, household size, second home ownership, and activity participation.

For the expenditure mail back, we will run regressions on selected expenditure aggregate expenditure categories (e.g. Lodging, food, transportation, boating, fishing, diving, sightseeing, service and total). Explanatory variables come from the Airport On-site form including: Place of Residence, length of stay, age, gender, ethnicity, race, income, household size, second home ownership, and activity participation.

For the Internet Panel, we would have to do the importance and satisfaction ratings; expenditure categories; and intensity of reef use (person-days of use). Explanatory variables come from the Airport On-site form including: Place of Residence, length of stay, age, gender, ethnicity, race, income, household size, second home ownership, and activity participation.

Step 1 only reveals if there is potential for non-response bias; it is a necessary <u>not</u> a sufficient condition for establishing the existence of non-response bias. Step 2 determines if any of the factors that are related to non-response are significant factors in explaining measurements obtained in the survey. If so, then sample weighting will be required. It is possible, but not certain, that multivariate weighting may be required. We won't know that until after we complete the survey and do the analyses.

I believe we have more than adequate information in the Airport on-site survey to test for non-response bias. I don't think we need to add questions. The Airport Survey is time sensitive and we need to keep it to an average time of 4 to 5 minutes and it has been used many times so we are very certain of our estimate of time to do the survey as it currently exists. Adding questions would add burden a possibly lead to greater non-response on-site via incompletes.

Resident Survey

The survey of residents will be a household survey. The sampling frame will be limited to coastal municipalities. This is based on past research which found that Puerto Ricans living in

interior island municipalities have very little connection with coastal areas. Therefore the probability of contacting a household where at least one of the household members age 16 or older is a coral reef user for recreation is extremely small and cost prohibitive.

The sample will be stratified by the number of households in each coastal municipality (see Table B6). For within municipality, the methodology to be used for selecting households will use a two-stage stratified random sample.

Because no one has ever done a study of reef use in all of Puerto Rico, we have no idea what percent of households contain a reef user age 16 or older. We will therefore have to make an initial guess (assumption) as to the percent of households in coastal municipalities that contain a reef user age 16 or older to determine the sample size to draw from the Census data.

We have determined for the various estimates we will be trying to make in the study that a sample size of completed surveys for the in-home portion of the survey requires at least 1,000 households that contain at least one reef user. We use a stratified random sample with two stages.

Stage 1: Stratify 1,000 completed in-home surveys across coastal municipalities according the proportion of occupied housing units in each coastal municipality (Table B6). Using a guesstimate that 10 percent of coastal households will contain a reef user age 16 or older, and that 80% of these households complete the survey, we calculate the number of occupied households that need to be randomly selected from each coastal municipality using the following formula:

$$N = [n + (n * (1-b))] * (1/a)$$

Where,

N = Required number of occupied households to select in each coastal municipality

n = Required number of households that complete the in-home survey in each coastal community (Table B6).

a = Estimated percent of coastal community households that contain a reef user age 16 or older (10% or 0.1)

b = Percent of coral reef using households that complete the in-home survey (80% or 0.8)

Results of the above calculations are summarized in Table B7.

Stage 2: Randomly select housing units (addresses) within each coastal municipality according to the distribution of occupied housing units across Census Blocks. This takes the sample sizes from Table B7 for each coastal municipality and distributes across Census Blocks within each coastal municipality. The Census Bureau 2010 Blocks Tiger Line Shape Files will be downloaded from the Census Bureau FTP Site (www2.census.gov) and converted to Google Earth .kml files utilizing shp2kml version 2 free software.

The Census 2010 Data will be downloaded and imported into MYSQL (Open Source Relational Data Base Manager System). This data in combination with the Blocks Tiger Line Files will be utilized to estimate the number of occupied household units for every Census Block inside each of the communities in each geographical area.

Addresses of units within Census blocks will be selected randomly. First a list of streets in each Census block will be developed. Streets will be sorted by the number of housing units . The proportional number of housing units to select on each street will then be developed and then addresses will be selected from the range of addresses on the street. The list of addresses in each municipality will then be sent to the U.S. Post Office to verify that they are deliverable addresses.

The result of the above two-stage sampling is a simple stratified random sample that is a probability-based sample with each household having equal probability of selection. There is no design effect since cluster sampling is not used. Variances and standard errors are calculated using standard formulas for simple stratified random samples (Kish 1995). There will be design effects from stratification and post-sample weighting may have to be conducted to adjust for differences between pre-sample stratifications and post sample rsults. Weights may have to be developed for different demographic factors available in the Census data (e.g. age, race, ethnicity).

Implementation

Households selected will be sent a pre-notification letter stating the purpose of the survey and providing the date(s) the survey team from the University of Puerto Rico – Mayaguez will be in their community. Contact information will be provided for the University of Puerto Rico-Mayaguez with the opportunity to respond if they qualify for the survey and whether they would like to participate. They will be told about the sweepstakes/lottery and the chance to win a free vacation to the Island of Culebra and other gifts. Households will also be provided a self-addresses, postage paid post-card on which they can indicate that no one in their household uses Puerto Rico's coral reefs for recreation or someone in their household does but they do not want to participate in the survey.

In the field, interviewers will use the Tally sheet to identify if there is anyone in the household age 16 or older that uses Puerto Rico's coral reefs for recreation activities. This Tally sheet and supporting materials are described in Part A of the supporting statement. The Tally sheet will provide the basis of estimating the percent of households in the coastal municipalities that contain a coral reef user age 16 or older.

Survey Follow-ups, Refusals and Re-interviews: For those who are not at home when the interviewers arrive, two follow-up efforts will be done to convert to a complete. For those who refuse, no follow-up efforts will be conducted. There will also be no re-interviews for quality controls. All of these efforts are beyond our budget.

Pre-test. The pre-test can be used to test the assumptions for the percent of households that contain a reef user age 16 or older and the assumption that 80 percent of these households will complete the survey.

If the assumptions do not hold, additional samples than specified in Table B7 will have to be drawn with the objective of achieving the samples sizes specified in Table B6 by coastal municipality.

Sample Weighting. The above sample design is self-weighting since it is a straight forward stratified random sample. However, if there are different response rates by municipality, it may require post-stratification weighting, including post-stratification by key demographic characteristics in the Census data. Sample weighting may also be required to adjust for non-response if analysis determines there is non-response bias (see section on analysis of non-response bias).

Households selected will be sent a pre-notification letter stating the purpose of the survey and providing the date(s) the survey team from the University of Puerto Rico – Mayaguez will be in their community. Contact information will be provided for the University of Puerto Rico-Mayaguez with the opportunity to respond if they qualify for the survey and whether they would like to participate. They will be told about the sweepstakes/lottery and the chance to win a free vacation to the Island of Culebra and other gifts.

Table B6. Resident Sample Stratification for the Coastal Population in Households

Municipality	Population 2010 [1]	% of Coastal Population	Households 2013	% of Coastal Households	Sample
Aguadilla	60,949	2.63%	23,552	2.75%	27
Aguada	41,959	1.81%	15,156	1.77%	18
Rincón	15,200	0.66%	6,028	0.70%	7
Añasco	29,261	1.26%	10,942	1.28%	13
Mayagüez	89,080	3.84%	32,521	3.80%	38
Cabo Rojo	50,917	2.20%	15,997	1.87%	19
Lajas	25,753	1.11%	8,520	0.99%	10
Guánica	19,427	0.84%	7,223	0.84%	8
Yauco	42,043	1.81%	6,378	0.74%	7
Guayanilla	21,581	0.93%	7,503	0.88%	9
Peñuelas	24,282	1.05%	7,863	0.92%	9
Ponce	166,327	7.18%	60,049	7.01%	70
Juana Díaz	50,747	2.19%	17,252	2.01%	20
Santa Isabel	23,274	1.00%	8,225	0.96%	10
Salinas	31,078	1.34%	11,400	1.33%	13
Guayama	45,362	1.96%	16,244	1.90%	19
Arroyo	19,575	0.84%	7,191	0.84%	8
Patillas	19,277	0.83%	7,271	0.85%	8
Maunabo	12,225	0.53%	4,446	0.52%	5
Yabucoa	37,941	1.64%	13,507	1.58%	16
Humacao	58,466	2.52%	21,780	2.54%	25
Nagûabo	26,720	1.15%	9,755	1.14%	11
Ceiba	13,631	0.59%	5,213	0.61%	6
Fajardo	36,993	1.60%	13,922	1.63%	16
Luquillo	20,068	0.87%	7,302	0.85%	9
Río Grande	54,304	2.34%	18,869	2.20%	22
Loizá	30,060	1.30%	10,130	1.18%	12
Carolina	176,762	7.63%	67,192	7.84%	78
San Juan	395,326	17.06%	165,316	19.30%	193
Guaynabo	97,924	4.23%	37,402	4.37%	44
Cataño	28,140	1.21%	10,108	1.18%	12
Toa Baja	89,609	3.87%	32,617	3.81%	38
Dorado	38,165	1.65%	13,342	1.56%	16
Vega Alta	39,951	1.72%	13,925	1.63%	16
Vega Baja	59,662	2.57%	21,335	2.49%	25
Manatí	44,113	1.90%	16,309	1.90%	19
Barceloneta	24,816	1.07%	9,165	1.07%	11

1. U.S. Department of Commerce, Bureau of the Census, 2010 Census of Population and. Households 2013.

Table B6. (continued)

Municipality	Population 2010 [1]	% of Coastal Population	Households 2013	% of Coastal Households	Sample
Arecibo	96,440	4.16%	36,579	4.27%	43
Hatillo	41,953	1.81%	15,386	1.80%	18
Camuy	35,159	1.52%	12,752	1.49%	15
Quebradillas	25,919	1.12%	9,442	1.10%	11
Isabella	45,631	1.97%	17,072	1.99%	20
Culebra	1,818	0.08%	749	0.09%	1
Vieques	9,301	0.40%	3,666	0.43%	4
Total Coastal	**2,317,189**	**100.00%**	**858,609**	**100.23%**	**1,002**

1. U.S. Department of Commerce, Bureau of the Census, 2010 Census of Population and. Households 2013.

Table B7. Resident Survey: Number of Occupied Households Selected for Sampling in each Coastal Community

Coastal Municiplaity	Number of Households to complete in -home (Full Survey)	Number of Occupied Households to be Sampled (Full Survey)	Number of Occupied Households to be Sampled (Pre-test)	Number of Households to complete in -home Survey (Pre-test)
Aguadilla	27	324	65	5
Aguada	18	216	43	4
Rincón	7	84	17	1
Añasco	13	156	31	3
Mayagüez	38	456	91	8
Cabo Rojo	19	228	46	4
Lajas	10	120	24	2
Guánica	8	96	19	2
Yauco	7	84	17	1
Guayanilla	9	108	22	2
Peñuelas	9	108	22	2
Ponce	70	840	168	14
Juana Díaz	20	240	48	4
Santa Isabel	10	120	24	2
Salinas	13	156	31	3
Guayama	19	228	46	4
Arroyo	8	96	19	2
Patillas	8	96	19	2
Maunabo	5	60	12	1
Yabucoa	16	192	38	3
Humacao	25	300	60	5
Nagûabo	11	132	26	2
Ceiba	6	72	14	1
Fajardo	16	192	38	3
Luquillo	9	108	22	2
Río Grande	22	264	53	4
Loizá	12	144	29	2
Carolina	78	936	187	16
San Juan	193	2,316	463	39
Guaynabo	44	528	106	9
Cataño	12	144	29	2
Toa Baja	38	456	91	8
Dorado	16	192	38	3
Vega Alta	16	192	38	3
Vega Baja	25	300	60	5
Manatí	19	228	46	4
Barceloneta	11	132	26	2

Table B7 (Continued)

Coastal Municiplaity	Number of Households to complete in - home (Full Survey)	Number of Occupied Households to be Sampled (Full Survey)	Number of Occupied Households to be Sampled (Pre-test)	Number of Households to complete in - home Survey (Pre-test)
Arecibo	43	516	103	9
Hatillo	18	216	43	4
Camuy	15	180	36	3
Quebradillas	11	132	26	2
Isabella	20	240	48	4
Culebra	1	12	2	0
Vieques	4	48	10	1
Total Coastal	1,002	12,024	2,405	200

Degree of Accuracy

Estimation of Sample means and Standard errors

Sample weights will be used in estimating sample means and standard errors of the means using the Statistical Software SAS with formulas adjusted for sample design issues of stratification and weighting following guidelines in (Kish 1995). To extrapolate from sample to population, for visitor samples we would extrapolate to population estimates using our estimates of total person-trips (Visits) of coral reef use and the weighted sample means. For residents the weighted sample means would be extrapolated to population estimates using the number of households that used Puerto Rico's coral reefs.
The general sampling methodology and estimation of the airport survey and follow-up mailback surveys has been tested several times in the Florida Keys (1995-96 and 2007-08). Sample sizes were selected for application in Puerto Rico to ensure statistical accuracy at the 95% confidence level or plus or minus 5 percent at a minimum with many data elements expected to be estimated with less potential error since sample sizes exceed those necessary to achieve 95% confidence. The same is true for the survey of residents.

For both visitors and residents, a new element not included in previous surveys is the non-market economic value of coral reef use and how that use value changes with changes in conditions of coral reef attributes. The goal is to be able to estimate the marginal value of changes in reef attributes, which will be used in a decision-support tool for assessing restoration management strategies for the Guanica Bay Watershed Restoration Management Plan being led by the U.S. Environmental Protection Agency. These values could also be used in other reef restoration or damage assessments for all of Puerto Rico.

The method chosen is commonly referred to as a stated-preference conjoint analysis (Louviere,

Hensher and Swait, 2009). For economic valuation of attributes, the method is also referred to as multi-attribute utility theory (Adamowicz, Louviere, and Swait, 1998). The method that will be used for the full survey is called a fractional factorial design. The reason for the need of using this approach is due to the number of attributes for which marginal values will be estimated. With 12 coral reef attributes with three levels (low, medium and high condition) for 10 of the attributes and two levels for two of the attributes, the possible combination of attributes to form options (bundles of attributes) is equal to 10 to the third power + 2 to the second power or 236,196. In most of the literature, price or the dollar bid amounts for each bundle of attributes is also treated as another attribute when selecting a random sample of all possible combinations. We have chosen to use six levels to the dollar bid amounts resulting in 1,417,176 possible combinations of all attributes. Since this is impossible to implement, we use a fractional factorial design (Louviere, Hensher, and Swait, 2009).

We will first use the procedures found in Johnson et al (2007). Their SAS program code is found to generate an optimal design and test the efficiency of the design. The researcher must choose the number of bundles of attributes (options) that the survey will accommodate. This involves issues of survey fatigue and how many choices you can ask people to make. The literature doesn't provide any guidance here, but given our survey's number of questions, we have decided to limit the number of choices any one respondent has to make to four choices with each choice including the Status Quo option (A) plus two other options (B and C). In each choice set, the Status Quo (A) is always included and cost the household $0, but results in all attributes in their low condition. Other options are mixes of low, medium and high conditions. The Status Quo option is often referred to in the literature as the "opt-out option" and provides the basis on which other options are evaluated.

The other choice the researcher has to make is the number of different versions of the survey with versions including different bundles of choices (options or alternatives). The number of versions would be limited by sample sizes.

Initial runs of the programs indicated that we could achieve optimal designs that would be orthogonal (attributes un-correlated) and balanced (equal number of levels of each attribute across all choices) would require at least 36 choices. An orthogonal and balanced design ensures we can estimate the marginal effects or marginal values of each reef attribute for the main effects. We decided our design would use four (4) choice questions per respondent blocked into 9 versions. Each choice contains the Status Quo option plus a B and C option with different bundles of attributes at different levels. We ran the SAS program several times with different numbers of attributes and found that we could not get an efficient design that met the criteria of orthogonal and balanced design with more than 10 reef attributes 8 with 3 levels and 2 with 2 levels) plus price with six (6) levels. Our design with 10 reef attributes (8 with 3 levels and 2 with 2 levels, and price with 6 levels) resulted in 157,464 possible combinations.

Optimization results indicated we could get an efficient design with these choices. However, our focus groups indicated that 12 reef attributes were important to their reef use activities and would influence their values, so we still include all 12 reef attributes in the design, but in the statistical models we will form a composite variable containing two of the attributes (Depth of the reefs and Crowding Conditions). This will avoid omitted variable bias, but will not allow us to estimate the marginal values of each of these two attributes.

Another concern of the randomization in fractional factorial design is the match-ups in the choices (B and C options). One has to review the match-ups of B and C options to ensure they make sense i.e. that an option with higher levels of attributes has a higher price than an option with lower levels of attributes. All of the choices in our design meet this criterion.

And finally, the choice sets have to be checked for dominant options/alternatives. These are options for which all respondents would choose them or not choose them. Such options provide no information in comparative choices (Louviere, 2000). Our design does not include any dominant options.

We checked the 36 choices randomly selected in the fractional factorial statistical design that achieved an orthogonal (uncorrelated attributes) and balanced design. We found no dominated or infeasible choices. We also checked for price (cost) match-ups within choice sets for choices where B and C alternatives might have prices (costs) that were not consistent with what one would expect i.e. that an alternative with generally higher conditions across more attributes would cost less than an alternative with relatively lower conditions across most attributes. We suspect that the result is because we have many attributes leading to a large number of possible combinations and a relatively low probability that a dominated or infeasible combination would be selected. Most of the literature uses a relatively low number of attributes and levels of attributes. All the literature we have reviewed that used four or less attributes with few levels for each attribute usually do have dominated or infeasible combinations and had to arbitrarily delete those combinations. We had no such problem in our application.

The choice questions for the full survey are included in Appendix D. They are the same for residents and visitors. Prices are assigned based on the optimal design and currently include the level of the price (1 to 6). The pre-test will help design the dollar amounts corresponding to the six levels or price (dollar bid amounts).

Determination of the Minimum Sample Size. In Orme (1998), the following formula is found for determining the minimum sample size for a given design:

N = 500 * NLEV/(NALT*NREP)

where,

N = minimum sample size required
NLEV = the largest number of levels in any attribute (here 6 for number of prices)
NALT = number of alternatives (options) per choice set (not including the Status Quo), here 2.
NREP = number of choice sets per respondent (here 4).

So in our design, the minimum sample size required for statistical efficiency is equal to 375. Our planned sample sizes for both the resident and visitor surveys is 1,000 each, so our sample sizes are sufficient to not only meet minimum requirements, but provide added safety for margin of error.

In addition to the above, as a general rule, six observations are needed for each attribute in a bundle of attributes to identify statistically significant effects (Bunch and Batsell, 1989 and

Louviere et al, 2000). Since we have 10 reef attributes plus price, we have 11 attributes so we need 66 observations per version. Our design includes 9 versions and for the visitor and resident surveys we plan for 1,000 completes in each sample, so we will have 111 observations per version in each sample, which again is above the requirements to achieve statistical efficiency.

Analysis of Choice Questions. Analysis of the choice questions for estimating the non-market economic use values and how those values change with changes in reef attribute conditions and socioeconomic factors will start out using a standard multinomial model based in random utility theory, as described by Ben-Akiva and Lerman (1985). To summarize their exposition, let U = utility of household (well-being). Consider U to be a function of a vector z_{in} of attributes for alternative i, as perceived by household respondent n. The variation of preferences between individuals is partially explained by a vector S_n of socio-demographic characteristics for person n.

$$U_{in} = V(z_{in}, S_n) + \varepsilon(z_{in}, S_n) = V_{in} + \varepsilon_{in}$$

The "V" term is known as indirect utility and "ε" is an error term treated as a random variable (McFadden 1974), making utility itself a random variable. An individual is assumed to choose the option that maximizes their utility. The choice probability of any particular option (Status Quo Option A, Option B, or Option C) is the probability that the utility of that option is greatest across the choice set C_n:

$$P\,(i \mid C_n) = \Pr[V_{in} + \varepsilon_{in} \geq V_{jn} + \varepsilon_{jn}\text{, for all } j \in C_n, j \text{ not equal to } i]$$

If error terms are assumed to be independently and identically distributed, and if this distribution can be assumed to be Gumbel, the above can be expressed in terms of the logistic distribution:

$$P_n(i) = e^{\mu Vin} / \sum e^{\mu Vjn}$$

The summation occurs over all options J_n in a choice set. The assumption of independent and identically distributed error terms implies independence of irrelevant attributes, meaning the ratio of choice probabilities for any two alternatives is unchanged by addition or removal of other unchosen alternatives (Blamey et al., 2000). The "μ" term is a scale parameter, a convenient value for which may be chosen without affecting valuation results if the marginal utility of income is assumed to be linear. The analyst must specify the deterministic portion of the utility equation ''V,'' with sub-vectors z and S. The vector z comes from choice experiment attributes, and the vector S comes from attitudinal, recreational, and socio-demographic questions in the survey. Econometrics software will be used to estimate the regression coefficients for z and S, with a linear-in-parameters model specification. These coefficients are used in estimating average household value for a change in one level to another level of a particular attribute for welfare estimation. Welfare of a change is given by (Holmes & Adamowicz, 2003):

$$\$\ \text{Welfare} = (1/\beta_c)[V^0 - V^1]$$

where β_c is the coefficient on cost, V^0 is an initial scenario, and V^1 is a change scenario.

The standard multinomial logit model treats the multiple observations (choice experiment replications) from each household as independent. An alternative is to model these as correlated

with a random parameters (mixed) logit model. Thus a random parameters logit model will also be tested using techniques described by Greene (2007).

Econometric Specification

A main effects utility function is hypothesized, and following common practice a linear-in-parameters model will be sought. A generic format of the indirect utility function to be modeled is:

$V = \beta_o + \beta_1$(Stony Corals change) + β_2(Soft Corals and Sponges change) + β_3(Consumptive fish change) + β_4(tropical fish change) + β_5(macroinvertebrates change) + β_6(Opportunity to see large wildlife change) + β_7(Opportunity to see or catch trophy fish change) + β_8(Water Clarity/Visibility change) + β_9(Water Cleanliness change) + β_{10}(Composite variable of Depth of Reefs and Crowdedness change) + β_{11}(Cost)

The composite variable of Depth of Reefs and Crowdedness is because the optimal design that meets the criteria of orthogonality and balance for statistical efficiency, which allows us to estimate the marginal values of attributes cannot accommodate more than 10 reef attributes plus price. So we form a composite variable for which we cannot identify the separate effects, but control for omitted variable bias.

NOAA doesn't maintain that low water quality does not affect fish and wildlife. It depends on the type of water quality and the uses of the coral reefs. If one is talking about SCUBA divers, snorkelers, glass-bottom boat riders, paddle boarders viewing things on the reefs then water clarity is important to see fish and wildlife. If the water quality is low due to high nutrient concentrations, the water may not affect the health of the fish and wildlife but it will lower water clarity, and thus the value to those who want to see fish and wildlife. Fishermen, who are not sight-fishing, won't care about water clarity and if low water quality is based on high nutrients, their uses will be unaffected. So in our modeling we plan to interact activity participation with reef attributes.

Our focus group work convinced us that users do understand the relationships between water quality in its different dimensions and fish and wildlife as it relates to their reef activities. In the focus groups they were asked to say which attributes were important for which activities. Follow-up discussions then focused on the attributes and levels as to whether and to what extent different attributes at different levels of condition were important to them. The findings were consistent with what is described above—it is activity dependent.

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.

Ridge to Reefs a non-profit organization has agreed to run a sweepstakes/lottery with chances to win a free vacation or other prizes for participating in the survey. Gifts are offered by local businesses as their contribution to the study.

For both the visitor and resident surveys, no one has ever estimated the number or proportion of these populations that use Puerto Rico's coral reefs for recreation-tourist activities, so we don't know the population of coral reef users. This study will be the first to estimate the number of users in the visitor and resident populations.

For the visitor survey, we first screen visitors to determine visitors who have used Puerto Rico's coral reefs. This will allow us to determine the proportion of all visitors to Puerto Rico that are coral reef users. The airport survey (short form) obtains information on activity participation by region, party size and composition, number of visits to Puerto Rico per year, length of visits, and demographic information. We expect net expected response rates from this portion of the survey of 90%, thus minimizing the probability of non-response bias.

The follow-up surveys for more detailed information involve lower expected net response rates and thus the potential for non-response bias. The main follow-up is the Internet Panel. We will be able to test for differences between those who joined the Internet Panel and completed it and those who completed the airport survey. To further minimize non-response bias, we provide visitors who choose not to join the Internet Panel, the option of filling out mailback surveys. Again, we will be able to test for differences between the mailback survey respondents and respondents to the airport survey. Further, for expenditures and importance-satisfaction ratings we will be able to test for differences between the combined sub-samples of the Internet Panel and the mailbacks and the airport survey for potential non-response bias.

If significant differences exist and therefore the existence of potential non-response bias, then sample-weighting will be conducted to correct for the potential biases.

For the resident survey, we expect net response rates of the in-house on-site survey to be 90% and thus minimal potential for non-response bias. For the mailback components for expenditures and importance-satisfaction ratings and special issue questions, we expect response rates of 40% for expenditures and 50% for the satisfaction questionnaires yielding net expected response rates of 36% and 45%, respectively. For these questions, there is potential for non-response bias. The in-house, on-site survey will contain extensive information on activity participation and use (number of days and number of dives) by activity; place of residence; and demographics to test for differences between those who completed the in-house on-site survey and those who completed the mailback questionnaires.

If significant differences exist and therefore the existence of potential non-response bias, then sample-weighting will be conducted to correct for the potential biases.

NOAA will also report item non-response for the household income variable in both the resident and visitor surveys and expenditure item non-response in the visitor Internet panel for the pre-test and final surveys.

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.

We first conducted focus groups with both residents and visitors with the objectives of determining the coral reef attributes people thought were important to support their coral reef recreational uses, the levels of attribute conditions that would change their non-market economic values (willingness to pay); and their maximum willingness to pay moving from all attributes in the low condition to the medium condition and from the medium condition to the high condition. In addition, we used illustrations in addition to scientific facts about the reef conditions and tested whether focus group members thought the scientific bullets used in describing the different conditions of the attributes communicated the same information. This was done under OMB 0648-0660.

The next step is a pre-test (this application). We need a pre-test to help design the final dollar bid amounts for each bundle of attributes. The focus groups gave us a starting point in designing the bids that we can now test with larger sample sizes to design the bids. We need to make sure that we don't have the statistical problem of "fat tails" or everyone choosing the highest price for a given option (bundle of attributes) or everyone choosing the lowest price for a given option. We also want to ensure our bids are designed such that a higher price for a given option is not preferred over a lower price for a given option (i.e. it doesn't make economic sense to pay a higher price if you can get the good or service at a lower price). The range of bids used is critical for estimating the non-market economic use value and how that value changes with changes in reef attribute conditions (marginal value of attributes).

The pre-test will also give us the opportunity to test some of our assumptions used in calculating expected net response rates since this is the first time anyone has done a study of coral reef use for all of Puerto Rico by residents or visitors.

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.

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Interview Number:

OMB Approval #: 0648-0000
Expiration Date:
Version 1 – Pre-test

Puerto Rico Resident Survey

Your answers are voluntary.
Your name will never be released to anyone unless otherwise required by law. After the completion of the project all materials identifying you as an individual will be destroyed.

Part A: Outdoor recreation activities during the past 12 months in the Puerto Rico

Hand Respondent the White Card Activities List and maps of the Puerto Rico Regions.

A1. Which of the activities on the enclosed Activities List did you or someone in your household do in the Puerto Rico during the last 12 months?

A2. Which activities did you, yourself do during the past 12 months in Region 1, Region 2, Region 3, Region 4 and Region 5?

A3. On how many different days did you, yourself participate in each activity in the Region 1, Region 2, Region 3, Region 4 and Region 5?

Only ask for those activities listed with an A on the end of the activity number

A4. How many others (excluding yourself) in your household did each activity in the Region 1, Region 2, Region 3, Region 4 and Region 5?

A1	Region 1			Region 2			Region 3			Region 4			Region 5		
Activity	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others

A5. What would you say is the most important recreational activity you did in Puerto Rico? Most Important Activity _____(Activity List Number)

No Activity Most Important (check box) ☐

A6. On how many different days did you participate in outdoor recreation activities outside of Puerto Rico during the past 12 months? _____ (# of days)

Part B: Coral reef use in the Puerto Rico during the past 12 months.

Hand respondent Blue Card with Activities List for reef use and maps of the Puerto Rico Regions

B1. Which activities did you or someone in your household do on natural/coral reefs during the past 12 months in northwest Puerto Rico (Region 1), southwest Puerto Rico (Region 2), southeast Puerto Rico (Region 3), northeast Puerto Rico (Region 4) and the islands of Culebra and Vieques (Region 5)?

If respondent did not do anything in a region, check the box indicating no reef use in the region

B2. Did you, yourself, do (*read activity)* during the past 12 months in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your household did each activity on the reefs in Region 1, Region 2, Region 3, Region 4, Region 5 during the past 12 months?

B4. On how many different days did you, yourself, participate in each activity on the reefs in Region 1, Region 2, Region 3, Region 4, Region 5 during the past 12 months?

B5. How many different dives did you, yourself, make for each type of diving activity you did on the reefs in Region 1, Region 2, Region 3, Region 4, Region 5 during the past 12 months?

Diving activities include all snorkeling and scuba diving activities on the Blue Card-Activities List (Reef)

A dive is defined as an entry and exit from the water to snorkel or scuba dive

Please refer to Questions B1 – B5 when filling in the tables on the following two pages

Interview Number:

☐ **No Reef Use**

Region 1

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** Respondent # dives
	○			
	○			
	○			
	○			
	○			
	○			
	○			
	○			
	○			

☐ **No Reef Use**

Region 2

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** Respondent # of dives
	○			
	○			
	○			
	○			
	○			
	○			
	○			
	○			
	○			

☐ **No Reef Use**

Region 3

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** Respondent # of dives
	○			
	○			
	○			
	○			
	○			
	○			
	○			
	○			
	○			

Interview Number:

☐ **No Reef Use** **Region 4**

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # days	**B5** Respondent # of dives
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____

☐ **No Reef Use** **Region 5**

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** Respondent # of dives
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____
_____	○	_____	_____	_____

Part C. Economic Valuation of Puerto Rico's Coral Reef Ecosystems

In this section of the survey, I will first present to you some definitions and scientific facts about Puerto Rico's coral reef ecosystems. I will then present you with different reef conditions and the cost to your household to achieve those conditions. I will then ask you to choose among a set of different conditions and the cost to your household.

First, here are some definitions of what we mean by coral reefs and coral reef ecosystems.

Hand respondent the Reef Definitions and Conditions Information Card.

Please read the Reef Definitions and Conditions Card.

C1. Do you have any questions about these definitions or reef conditions?

After answering questions, show respondent cards with examples of the kinds of stony corals, soft corals, sponges, fish and macroinvertebrates that have been observed on Puerto Rico's coral reef ecosystems.

After respondent finishes viewing the cards, present the Management Solutions card.

Please read the information on the card and tell me when you are done.

C2. Do you have any questions before we proceed?

After answering respondents questions, proceed.

C3. Did you believe the information by coral scientists that in 10 to 20 years if current management practices continue that nearly all the coral reefs in Puerto Rico would be in a poor or low condition?

a. Yes
b. No (Go to C4)

C4. If we don't change current management practices (Status Quo), do you think that the coral reefs conditions in 10 to 20 years in Puerto Rico will

a. Stay the same
b. Improve
c. Worsen

I now will present to you a set of reef conditions at different prices and will ask you for your most preferred option. The Status Quo means no change in the management of the coral reef ecosystems and choosing this option will cost your household nothing ($0), but will result in the poorest or lowest conditions of coral reef ecosystems on all Puerto Rico's coral reefs, except a few places that are already specially protected.
In each set of options, you will always have the option of choosing the Status Quo as your most preferred

option.

Remember when making your choices on how much you are willing to pay that you only have so much income and if you pay to improve reef conditions you will have less to spend on other goods, services, and social issues that are important to you.
Also, even under the low conditions there are three coral reefs within Puerto Rico that have strong protections that you could use, in addition to coral reefs outside Puerto Rico.

Hand the respondent the card with Choice Set Number 1.

Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Option B, all the reef conditions are at a medium level of condition and will cost your household $__ per year. For Option C, all reef conditions are improved to the highest condition and will cost your household $__ per year.

C5. Which option do you prefer? _____

C6. How many days would you use Puerto Rico's Coral Reefs under the reef conditions for the option you prefer? _____ (number of days per year)

C7. Please provide a brief comment that helps us understand why you chose the option as your most preferred option? _____
_____

Hand respondent the Economic Valuations Card

C8. How sure are you that the option you chose as your most preferred among the three options is your most preferred, not sure at all, slightly sure, moderately sure, very sure, or extremely sure? Please refer to Section 1 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select one answer only.
_____ (letter)

Hand respondent the card with Choice Set Number 2.

Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Option B, some reef conditions are at a medium level and some at the high level of condition and will cost your household $__ per year. For Option C, some reef conditions are at the medium level and some are improved to the highest condition and this will cost your household $__ per year.

C9. Which option do you prefer? _____

C10. How many days would you use Puerto Rico's Coral Reefs under the reef conditions for the option you prefer? _____ (number of days per year)

C11. Please provide a brief comment that helps us understand why you chose the option as your most preferred option?
_____
_____

C12. How sure are you that the option you chose as your most preferred among the three options is your most preferred, not sure at all, slightly sure, moderately sure, very sure, or extremely sure? Please refer to Section 1 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select one answer only.
_____(letter)

Hand respondent the card with Choice Set Number 3.

Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Option B, some reef conditions are at a low level and some at the high level of condition and will cost your household $__ per year. For Option C, some reef conditions are at the low level and some are improved to the highest condition and this will cost your household $__ per year.

C13. Which option do you prefer? _____

C14. How many days would you use Puerto Rico's Coral Reefs under the reef conditions for the option you prefer? _____ (number of days per year)

C15. Please provide a brief comment that helps us understand why you chose the option as your most preferred option?
_____
_____

C16. How sure are you that the option you chose as your most preferred among the three options is your most preferred, not sure at all, slightly sure, moderately sure, very sure, or extremely sure? Please refer to Section 1 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select one answer only.
_____(letter)

Hand respondent the card with Choice Set Number 4.

Please review the three options. Option A is the Status Quo and costs you Nothing, but all reef conditions are in a low condition. For Option B, some reef conditions are at a low level and some at the medium level of condition and will cost your household $__ per year. For Option C, some reef conditions are at the medium level and some are the low condition and this will cost your household $__ per year.

C17. Which option do you prefer? _____

C18. How many days would you use Puerto Rico's Coral Reefs under the reef conditions for the option you prefer? _____ (number of days per year)

C19. Please provide a brief comment that helps us understand why you chose the option as your most preferred option?
_____
_____

C20. How sure are you that the option you chose as your most preferred among the three options is your most preferred, not sure at all, slightly sure, moderately sure, very sure, or extremely sure? Please refer to Section 1 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select one answer only.
_____(letter)

C21. Did you understand that the dollar amount for each alternative was the annual (yearly) cost to your household?

a. Yes
b. No

C22. There are different ways for people to pay for new programs to protect the environment. One way is for the government to pay the cost. This will raise everyone's taxes. The other way is for businesses to pay the cost. This will make prices go up for everyone. Another way is for the government to create incentives for

investment in environmental protection. Still another way is for businesses to pay the cost. This will make prices go up for everyone.

If you had to choose, would you prefer to pay for new environmental programs through higher taxes, the cost of incentives to businesses and households, or through higher prices? Please refer to Section 2 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select one answer only.
___ (letter)

C23. Who do you think should manage the additional funding obtained for reef management?

___ The Federal government ___ the Territorial government ____ Non Government Organization like The Nature Conservancy or Protectores de Cuencas, a local organization ___ Other (Specify _____

C24. Would you say you think of yourself as not an environmentalist at all, slightly an environmentalist, a moderate environmentalist, a strong environmentalist or a very strong environmentalist? Please refer to Section 2 of the Economics Valuation Card and tell me the letter corresponding to your answer. Select on answer only. ___ (letter)

C25. We would like to learn more about how you reacted to the questions that asked you to choose between various options of reef conditions. Please refer to Section 4 of the Economics Valuation Card. As I read each statement tell me the letter corresponding to your answer.

Check the box corresponding to the respondent's answer for each statement.

Statement	**Strongly Disagree (a)**	**Somewhat Disagree (b)**	**Neither agree nor disagree (c)**	**Somewhat Agree (d)**	**Strongly Agree (e)**
Costs should not be a factor when protecting the environment.	☐	☐	☐	☐	☐
I found it difficult to select an option of reef conditions I preferred.	☐	☐	☐	☐	☐
I was concerned that the Puerto Rico government cannot effectively Manage coral reefs.	☐	☐	☐	☐	☐
I should not have to pay more to protect or restore coral reefs in Puerto Rico.	☐	☐	☐	☐	☐
The public's views as expressed in this survey should be important to the Puerto Rico government when it chooses how to manage coral reefs.	☐	☐	☐	☐	☐
I understood the different alternatives presented in each choice question.	☐	☐	☐	☐	☐
The different reef attribute levels in each alternative were clear and I was able to distinguish the difference across the "Status Quo" and alternatives B and C in making my choice.	☐	☐	☐	☐	☐
The illustrations of coral reef conditions helped me distinguish the low, medium and high conditions for all reef attributes.	☐	☐	☐	☐	☐
The pictures of different levels of crowding helped me distinguish low, medium and high crowding conditions.	☐	☐	☐	☐	☐
The government should use incentives to businesses and households to pay for environmental protections instead of regulations that result in higher prices or taxes to buisnesses and households.	☐	☐	☐	☐	☐

C26. What condition are the reefs in that you personally visit or use?

a. **Low**
b. **Medium**
c. **High**

C27. How certain are you that additional funding would achieve the goals of protecting the environment? Please refer to Section 5 of the Economic Valuation Card and tell me the letter corresponding to your answer. Select one amswer only. ___ (letter)

C28. Please provide us any other comments you would like to make to help us understand your views about coral reefs in Puerto Rico and your responses to this survey.

_____
_____
_____

Go to Part D: Demographics

Part D: Demographic Profile

In this final section, we need to know information about you and your household to make sure we have a representative sample of Puerto Rico residents.

Again, your privacy will be protected and any information identifying you or your household will not be revealed to anyone.

D1. How many people in your household are permanent residents of Puerto Rico?

____number of people

D2. How many of these household members are age 16 or older? _____ number of people

D3. Do you own a boat? ___Yes ___ No

D4. How many years have you lived in Puerto Rico? _____ number of years

D5. In what year were you born? _____ year

D6. Are you Hispanic, Latino, or of Spanish origin? ___ Yes ____ No

Hand Respondent Demographics Card.

D7. What race do you consider yourself? Please refer to Section 1 of the Demographics Card and tell me the letter or letters that best describes you. ___ ___ ___ (letters)

D8. What is the highest level of education that you have completed? Please refer to Section 2 of the Demographics Card and tell me the letter corresponding to the category that best describes you. ___ (letter)

D9. What is your employment status? Please refer to Section 3 of the Demographics Card and tell me the letter corresponding to the category that best describes you. ___ (letter)

D10. What is your household income before taxes? Please refer to Section 4 of the Demographics Card and tell me the letter corresponding to the category that best describes you. ___ (letter)

That concludes the survey today. We would like to know if you would fill out two mail back questionnaires. They ask about your expenditures while doing reef activities on your last trip and what things are important to you and how satisfied you are with them. These mail back questions are self-addressed to the University of Puerto Rico – Mayaguez and postage is paid.

D11. Will you take these questionnaires, fill them out and mail them to us? __ Yes __ No.

THANK YOU that concludes our interview.

Your participation in this
recreation expenditure survey is

GREATLY APPRECIATED

Dear Resident,

Recently you indicated that you would be willing to complete this questionnaire. It is self-explanatory and should take about 20 minutes to complete. Please record your answers accurately and legibly. Your answers represent many other people not included in this survey effort so it is very important that you return your questionnaire.

Your answers are voluntary. Your name will never be released to anyone unless otherwise required by law. After the completion of the project all materials identifying you as an individual will be destroyed.

Before you mail back the questionnaire, please reverse-fold it so that our return address is on the outside. Please staple or tape to seal the questionnaire and mail it back to us. No postage is needed. Your cooperation in this effort is greatly appreciated.

Sincerely,

Dr. Miguel del Pozo (Project Lead)
University of Puerto Rico - Mayaguez Campus
Telephone: (787) 941-3559
Miguel.delpozo@gmail.com

Dr. Ruperto Chaparro (Project Co-lead)
Puerto Rico Sea Grant Program
Extension Leader
University of Puerto Rico
P.O. Box 5000
Mayaguez, PR 00681
Telephone: (787) 832-8045
Ruperto.chaparro@upr.edu

Please note: It is very important that the same person who participated in the on-site interview also complete this questionnaire.

PART A: YOUR EXPENDITURES FOR CORAL REEF RECREATION

We would like to ask you about the expenses related to your coral reef recreation in Puerto Rico during the last 12 months. Please complete one of the questions below, indicating for how many people you paid expenses.

1) If you paid your own expenses or if you shared expenses with someone else, please check this box ☐
On the following pages, report only those expenses you personally paid for.

2) If you were paying all the expenses for yourself and for one or more others, please check this box ☐
and record in the box below the number of persons you paid expenses for, including yourself.
Report the total amount of expenses you paid for on the following pages.

Number of people you were paying expenses for, including yourself ☐

Please report your expenditures for each of the items listed to the nearest whole dollar. In Column A, put the total amount of money you spent on that item, regardless of where you were when you spent it.

EXAMPLE: Joe and Jane Smith purchased round-trip tickets to Vieques online at $150 each, or a total of $300. Their total amount spent for the trip was $300 (Column A).

Item	Column A: Total amount spent for your coral reef recreation in Puerto Rico?
TRANSPORTATION Airline Fare a) Package tour b) Any other airline fare	 _____ 300

Item During the past 12 months	Column A: Total amount spent for your coral reef recreation in Puerto Rico?
LODINGING, PRIVATELY OWNED (non-government)	
Hotel/motel/bed & breakfast, etc.	_____
Rental home, cottage, cabin, condo	_____
Camping site (RV/tent/camper)	
LODINGING, PUBLICLY OWNED (government)	
Hotel/motel/bed & breakfast/cabin, etc.	_____
Camping site (RV/tent/camper)	_____
FOOD & BEVERAGES during the past 12 months	
Food and drinks consumed at restaurants and bars	_____
Drinks consumed at bars and clubs during non-meal times (nighttime recreation)	_____
Food & Beverages purchased at a store for	_____
carry-out	_____
TRANSPORTATION during the past 12 months	
Rental automobile, motor home, trailer, motorcycle or other recreation vehicle	_____
Gas & oil - auto/RV	_____
Repair & service - auto/RV	_____
Parking fees & tolls	_____
Taxi fare	_____
Ferry	_____
Train	_____
Bus fare	
a) Package tour	_____
b) Any other bus fare	_____
Airline fare	
a) Package tour	_____
b) Any other airline fare	_____

Item	Column A: Total amount spent for your coral reef recreation i n Puerto Rico?
BOATING during the past 12 months	
Boat, jet ski, and wave runner rental	_____
Boat fuel and oil	_____
Boat repairs	_____
Boat launch fees	_____
Boat slip fees or marina fees (this trip only)	_____
Sailing charters or sunset cruises	_____
FISHING during the past 12 months	
Cut bait	_____
Live bait	_____
Daily or special fishing permits	_____
Fishing lines, fly lines, fishnets, and minnow traps	_____
Charter/party boat, guide service	
SCUBA DIVING/SNORKELING during the past 12 months	
Rental fee for equipment	_____
Charter/party boat, guide service	_____
SIGHTSEEING during the past 12 months	
Sightseeing tours	_____
Glass bottom boat rides	_____
Excursions, kayak tours	_____
Park entrance fees	_____
Admission to tourist, amusement, festivals and other commercial attractions	_____
Food and drinks on sightseeing tours	_____

Item	Column A: Total amount spent for your coral reef recreation in Puerto Rico?
OTHER ACTIVITY EXPENDITURES during the past 12 months	
Rental fee for recreation equipment (surfboards, paddle boards, golf carts or others not listed above)	_____
Guide service, tour, or outfitters (not listed above, like parasailing)	_____
Admission to motion pictures, theaters, museums, etc.	_____
Admission to musical performances, concerts	_____
Spa treatments	_____
Fitness activities (gym fees, fitness classes/ instruction)	
MISCELLANEOUS EXPENDITURES during the past 12 months	
Film Purchases	_____
Film Developing	_____
Footwear	_____
Clothing	_____
Souvenirs and gifts (not clothing)	_____
Barber, laundry and other personal services	_____
Telephone, copying, fax and other business services	_____
	_____
	_____

PART B: ANNUAL VACATION EXPENDITURES AND EQUIPMENT PURCHASES

This section asks about money people spent on recreational equipment, boat storage, time-share and condo fees and related purchases for items you own over the past 12 months. Do not include expenditures for rentals here they were included in Part A. For each of the items listed, indicate in Column A the total amount of money you spent on that equipment in the past 12 months. In Column B, report the total amount of purchases you made in Puerto Rico.

First, please answer these questions regarding your boating recreation.

→ During the past 12 months, how many times did you take a trip away from home for a boating-related activity (sailing, waterskiing, canoeing, fishing from a boat, motor boating, SCUBA diving, jet skiing, etc.)? _____

→ Of these trips, how many were to some place outside Puerto Rico? _____

Example: Joe and Jane Smith purchased a boat for $17,000 from a dealer at their second home in New York last summer. They also purchased a jet ski for $12,000 from a dealer in Puerto Rico. Here is how they would report these expenditures.

Item	Column A: Total Purchases in Past 12 Months	Column B: Purchases in Puerto Rico
BOATING EQUIPMENT		
New motorized boats or jet skis	29,000	12,000

Item	Column A: Total Purchases in Past 12 Months	Column B: Purchases in Puerto Rico
MAJOR RECREATIONAL EQUIPMENT (not rentals)		
Diving or snorkeling equipment	_____	_____
Fishing rods and reels	_____	_____
Cameras and other photo gear	_____	_____
Binoculars and other viewing equipment	_____	_____
Miscellaneous (boats, guns, surfboard, vehicles, any other major equipment), specify _____	_____	_____
BOATING EQUIPMENT AND FEES (not rentals)		
New motorized boats or jet skis	_____	_____
New nonmotorized boats (sailboats, row boats, canoes, kayaks, etc.)	_____	_____
New boat engines	_____	_____
New boat accessories	_____	_____
New sails or rigging	_____	_____
New boat trailer	_____	_____
Boat storage and marina fees	_____	_____
Other boating expenses Describe: _____		
ANNUAL LODGING-RELATED FEES		
Condo and time-share fees	_____	_____
RV or trailer park fees		

number: _____

That's All!! If you would like to be entered into a sweepstakes to win a free Vacation to Culebra Puerto Rico, fill out your name, address and phone number below. All prizes will be awarded in TBD.

Name: _____

Address: _____

City: _____

State:_____Zip:_____Phone: _____

Prizes to be awarded by Ridge to Reefs, Inc. are:

GRAND PRIZE – in Culebra

* Lodging (a room for two for 3 nights) – provided by Club Seabourne
* Restaurant gift certificates ($50) – provided by Zaco's Tacos and El Eden restaurants
* Kayak and snorkeling trip – provided by Kayaking Puerto Rico
* Coffee table book (*Beneath the Waves)* – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon

Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve

FIRST PRIZE

* Free passes to sites – provided by Puerto Rico Conservation Trust (PRCT)
* Coffee table book (*Beneath the Waves)* – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
* Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve
* T-shirt and hat – provided by National Geographic Society
* Book (*National Geographic Atlas)* – provided by National Geographic Society
*

SECOND PRIZE

* Coffee table book (*Beneath the Waves)* – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon

Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve* Puerto Rico T-shirt – provided by Puerto Rico Tourism Company

* National Geographic Logo water bottle – provided by National Geographic Society

Consolation Prizes

Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
Puerto Rico T-shirt – provided by Puerto Rico Tourism Company
National Geographic Society logo shopping bag – provided by National Geographic Society
Book (On Assignment) – offered by National Geographic Society

-

Sea Grant, the U.S. Environmental Protection Agency and the National Oceanic and Atmospheric Administration. Public reporting burden for this collection of information is estimated to average 10 minutes including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230.

Resident Survey Pre-notification Letter

To be placed on University of Puerto Rico – Mayaguez Letter-head

Address of household
Xxxxxxxxxxxxxxxxx
Xxxxxxxxxxxxxxxxx

Dear Household Member:

The University of Puerto Rico – Mayaguez is undertaking a study on the importance of Puerto Rico's coral reefs to both residents and visitors to Puerto Rico.

The study is sponsored by Puerto Rico Sea Grant, the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Environmental Protection Agency. Your household has been selected to be part of the study. If you or anyone in your household has used Puerto Rico's coral reefs for recreation during the past 12 months, you qualify for the survey. The survey will take place in your home and will take about one hour. In addition, there are two self-addressed, postage paid mailback surveys that will handed out for you to fill out and mail to the University. These should take about 20 minutes each to complete.

If you complete the survey, for each survey component you complete you will be entered into a sweepstakes/lottery that will be run by Ridge-to-Reefs, Inc. a non-profit organization with a chance to win a free vacation to the Island of Culebra as well as other gifts. If you complete all three components of the survey, you will have three chances to win one of the prizes listed in the enclosed brochure.

We will be in your community *<dates and times>* to conduct the interviews. If you won't be home during those dates and times and want to participate in the survey please call me at 787-941-3559 or Mrs. Migdalia Figueroa at 787-832-8045 to arrange for an interview time.

If no one in your household has done any recreational activities on Puerto Rico's coral reefs during the past 12 months, could you please simply mark the box that says "Did not use Puerto Rico's coral reefs" on the enclosed self-addressed, postage paid postcard and return it to the University.

If someone in your household did do some recreational activities on Puerto Rico's coral reefs during the past 12 months but you do not want to participate in the survey, could you please simply mark the box that says "Did use Puerto Rico's coral reefs, but do not want to participate" on the enclosed self-addressed, postage paid card and return it to the University.

Thank You,

Miguel del Pozo, Project Leader

Green Card

RESIDENT'S RESPONDENT CARD

ABOUT THE INFORMATION YOU PROVIDE STATEMENT

Your participation in this interview is voluntary. There are no penalties for not answering some or all of the questions, but since each interviewed person will represent many others not interviewed, your cooperation is extremely important. This study is being conducted by the University of Puerto Rico - Mayaguez, the National Oceanic and Atmospheric Administration and the U.S. Environmental Protection Agency. Uses of the information include the evaluation of present recreation uses and planning for future visitation. At the end of the study any materials identifying you as an individual will be destroyed.

This is a cooperative research project of the Puerto Rico Sea Grant, the National Oceanic and Atmospheric Administration, and the U.S. Environmental Protection Agency. Public reporting burden for this collection of information is estimated to average one hour for the in-home survey and 20 minutes each for two mail back survey you will be provided after the in-home interview is completed including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

RESIDENT'S - MANAGEMENT SOLUTIONS CARD

- **If current management practices continue in the future (Status Quo), in 10 to 20 years scientists expect that all but the few areas that are receiving special protection will be in a poor or low condition with respect to the corals, sponges, fish, and water clarity/visibility. If rules and regulations are not enforced even the specially protected areas will be in poor or low condition.**

- **If management is changed to improve reef conditions, it will require both public and private investments to protect and restore the coral reef ecosystems, which would include enforcement of rules and regulations.**

- **In the next section of the survey, you will be presented with several sets of coral reef ecosystem conditions. There is an estimated cost to your household per year that would be required to achieve each condition.**

- **The cost per year is based on the costs that will be paid by businesses and households to pay for investments that protect and restore the coral reef ecosystems like improved sewage treatment, filtering and cleaning urban run-off, erosion control from agricultural areas and development projects, installation of mooring buoys to protect reefs from anchor damage, restoration of reefs, and enforcement of rules and regulations.**

- **The costs per year would be paid by all residents and visitors to Puerto Rico through increased prices of goods and services. This might also include increases in local sales taxes to cover government costs to pay for protection and restoration.**

- **The Option A: Status Quo (No change in management), will cost your household nothing ($0 per year), but will result in low reef condition on all of Puerto Rico's coral reef ecosystems, except for the few specially protected areas if rules and regulations are enforced.**

- **You will always have the option of choosing the Status Quo (Option A).**

- **Remember when making your choices on how much you are willing to pay that you only have so much income and if you pay to improve reef conditions you will have less to spend on other goods, services, and social issues that are important to you.**

- **Also, even under the low conditions there are three coral reefs within Puerto Rico that have strong protections that you could use, in addition to coral reefs outside Puerto Rico.**

RESIDENT"S - ECONOMIC VALUATION CARD

SECTION 1. How sure are you that the option you chose as your most preferred among the three options is your most preferred?

Select one answer only

a. Not sure at all
b. Slightly sure
c. Moderately sure
d. Very sure
e. Extremely sure

SECTION 2. Would you prefer to pay for new environmental programs through higher taxes, the cost of incentives to businesses and households, or through higher prices?

Select one answer only

a. Through higher taxes
b. Through the cost of incentives to businesses and households
c. Though higher prices
d. No preference

SECTION 3. Would you say you think of yourself as not an environmentalist at all, slightly an environmentalist, a moderate environmentalist, a strong environmentalist or a very strong environmentalist?

Select one answer only

a. Not an environmentalist at all
b. Slightly an environmentalist
c. A moderate environmentalist
d. A strong environmentalist
e. A very strong environmentalist

-------flip over to the other side-----

SECTION 4. Agreement with Statements

Statement	**Strongly Disagree (a)**	**Somewhat Disagree (b)**	**Neither agree nor disagree (c)**	**Somewhat Agree (d)**	**Strongly Agree (e)**
Costs should not be a factor when protecting the environment.	☐	☐	☐	☐	☐
I found it difficult to select an option of reef conditions I preferred.	☐	☐	☐	☐	☐
I was concerned that the Puerto Rico government cannot effectively manage coral reefs.	☐	☐	☐	☐	☐
I should not have to pay more to protect or restore coral reefs in Puerto Rico.	☐	☐	☐	☐	☐
The public's views as expressed in this survey should be important to the Puerto Rico government when it chooses how to manage coral reefs.	☐	☐	☐	☐	☐
I understood the different alternatives presented in each choice question.	☐	☐	☐	☐	☐
The different reef attribute levels in each alternative were clear and I was able to distinguish the difference across the "Status Quo" and alternatives B and C in making my choice.	☐	☐	☐	☐	☐
The illustrations of coral reef conditions helped me distinguish the low, medium and high conditions for all reef attributes.	☐	☐	☐	☐	☐
The pictures of different levels of crowding helped me distinguish low, medium and high crowding conditions.	☐	☐	☐	☐	☐
The government should use incentives to businesses and households to pay for environmental protections instead of regulations that result in higher prices or taxes to buisnesses and households.	☐	☐	☐	☐	☐

SECTION 5. How certain are you that additional funding would achieve the goals of protecting the einvironment?

Select one answer only.

a. Very certain
b. Certain
c. Somewhat certain
d. Uncertain
e. Very uncertain

Economic Valuation of Puerto Rico's Coral Reef-Associated Tourism and Recreation

Sweepstakes Lottery Gifts for Residents

Grand Prize—In Culebra

- Lodging (a room for two for 3 nights) - provided by Club Seabourne
- Restaurant gift certificates ($50) - provided by Zaco's Tacos and El Eden restaurants
- Kayak and snorkeling trip - provided by Kayaking Puerto Rico
- Coffee table book (*Beneath the Waves*) - provided by PR Sea Grant
- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Children's Book *(Adventures of Pelican)* - provided by Jobos Bay National Estuarine Reserve

First Prize

- Free passes to sites - provided by Puerto Rico Conservation Trust (PRCT)
- Coffee table book (*Beneath the Waves*) - provided by PR Sea Grant
- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Children's Book *(Adventures of Pelican)* - provided by Jobos Bay National Estuarine Reserve
- T-shirt and hat - provided by National Geographic Society
- Book *(National Geographic Atlas)* - provided by National Geographic Society

Second Prize

- Coffee table book (*Beneath the Waves*) - provided by PR Sea Grant
- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Children's Book *(Adventures of Pelican)* - provided by Jobos Bay National Estuarine Reserve
- Puerto Rico T-shirt - provided by Puerto Rico Tourism Company
- National Geographic Logo water bottle - provided by National Geographic Society

Consolation Prizes

- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Puerto Rico T-shirt - provided by Puerto Rico Tourism Company
- National Geographic Society logo shopping bag - provided by National Geographic Society
- Book (*On Assignment*) - offered by National Geographic Society

Sweepstakes Lottery is being conducted by Ridge to Reefs, Inc.

For Further information, contact:

Dr. Miguel del Pozo (Project Lead)
University of Puerto Rico – Mayagüez Campus
Telephone: (787) 941-3559
Miguel.delpozo@gmail.com

OMB Approval #: 0648-0000
Expiration Date:

Airport Survey

On-site Survey Number: _____

Screening Criteria: (See Tally Sheet)
1) NOT a resident of Puerto Rico
2) Visiting PR and did reef recreation/tourist activity

Airport: _____ _____ _____ _____
Month Day Time

Number of People in Party: _____ (# of people)

1. (a) How many people in your party are ages 16 or older? _____ (# of People)

   (b) How many people in your party are under 16?) _____ (# of People)

2. Where is your primary residence?

   _____ _____ _____ _____
   City or Nearest City County State Zip Code

   Country: _____

   - ○ U.S.A
   - ○ Canada
   - ○ Mexico
   - ○ Central Am./South Am.
   - ○ Australia/Oceania
   - ○ Japan
   - ○ Other Far East
   - ○ United Kingdom
   - ○ Other Europe
   - ○ Middle East
   - ○ Africa
   - ○ Other

3. On this trip to the Puerto Rico, when did you first arrive? _____ _____ _____
   Month Day Time

4. Including this trip, how many times have you visited Puerto Rico for all recreation/tourist reef activities in the last 12 months, that is since (date last year)?

   _____
   Times

5. Including this trip, how many days have you spent in Puerto Rico where you did some recreation/ tourist reef activities in the last 12 months?

   _____
   Days

6. Looking at the map, could you tell me how many nights you spent **on this trip** to Puerto Rico in

   Region 1_____ Region 2_____ Region 3_____ Region 4_____ Region 5 _____
   # nights # nights # nights # nights # nights

Airport Survey

I would now like to ask you about some of the recreation/tourist activities in which you, or someone in your group, participated in during this trip to Puerto Rico. **(Hand respondent White Card)** Please refer to the white card.

7. In which of these activities did you or someone in your group participate?

8. As I read you each activity in which you said you or someone in your group participated, could you tell me in which areas of Puerto Rico you participated in the activity?
For <activity> Region 1, Region 2, Region 3, Region 4, Region 5 (specify Vieques or Culebra)?

9. Now as I read each activity, could you tell me how many others in your group participated in the activity in each area of Puerto Rico?
For <activity>, how many others participated in Region 1, Region 2, Region 3, Region 4, Region 5 (specify Vieques or Culebra)?

	Region 1		Region 2		Region 3		Region 4		Region 5	
Activity	Resp.	# Others	Resp.	# Others	Resp.	# Others	Resp.	# Others	Resp.	# Others

Airport Survey

Hand respondent Green Card

10. Please refer to Section 2 on your green card and tell me which reason best describes the primary purpose of your trip to the Puerto Rico.

A Recreation or vacation
B Visit family or friends
C Business trip
D Business/pleasure
E Other (specify)

Finally, for statistical purposes, we need to know a few things about yourself.

11. In what year were you born? (Code last two digits) ___ ___

12. Sex male ☐ female ☐

13. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

13b. Please refer to Section 3 on your green card and tell me the letters corresponding to all the descriptors that describe your race.

A White
B Black or African American
C American Indian or Alaska Native
D Asian
E Native Hawaiian or Pacific Islander

14. Please refer to Section 4 on your green card and tell me which of the income categories best describes your annual household income last year before taxes. Please give the letter on the card that is the closest.

ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ

○ refused
○ don't know

15. Do you own a second home or time share in the Puerto Rico?

☐ Yes ☐ No

16. On this trip, are you paying your own expenses, sharing expenses, or is someone else paying your expenses?

○ own expenses → Beside your own expenses, how many other people are you paying for on this trip? _____
○ shared expenses → With how many people are you sharing expenses? _____
○ someone else paying expenses

Airport Survey

We would like to collect some additional information on your visit to Puerto Rico during your trip. Would you join an Internet Panel to answer some more questions about your trip ? The information gained from these questionnaires is very important to both managers of the coral reefs and business and governments providing services on your trip enjoyment. As an incentive for completing panel questions, a sweepstakes has been organized by the local business community. Hand brochure describing sweepstakes By completing the Internet Panel, we enter you in the sweepstakes each time you complete a module. No __ Yes __ Please provide your e-mail address and telephone number so the company doing the Internet Panel (Gfk Custom Research, LLC.) can contact you.

E-mail: _____ Phone: _____

Reminder: After the survey is completed and the sweepstakes prizes awarded, all name and address information will be destroyed. No one will be allowed to use this information for contacting you about any promotions. This concludes our interview. Thank you for your time. In Appreciation for your participation, we would like to offer you this gift.

If no to the Internet Panel, Would you complete some mailback questionnaires on your trip expenditures and your satisfaction ratings about your trip? If you return the completed questionnaires, you will be entered into the sweepstakes each time your complete a module.

19. Will you complete these questionnaires?

- ○ Yes (Go to Satisfaction and Expenditure suggestions and questions 20 and 21)
- ○ No ——→ This concludes our interview. Thank you for your time. In appreciation for your participation we would like to offer you this gift.

Satisfaction

We suggest completing the satisfaction questionnaire on your way home while your thoughts about your trip to the Puerto Rico are fresh.

Expenditure

The expenditure survey should be completed after your trip is over and you have returned home.

20. Please give us your name and address. In the event that we do not receive the take home questionnaire we will send you another.

Satisfaction name and address

Name: _____

Address: _____

City:_____State:_____ Zip: _____

21. If someone other than yourself paid for all your expenses on this trip to Puerto Rico, we would like

Airport Survey

that person to answer the questionnaire. Will you please give us the name and address of that person?

Expenditure name and address

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

This concludes our interview. Thank you for your time. In appreciation for your participation, we would like to offer you this gift.

Visitor Internet Panel Questionnaire

Note: This is a paper version of the survey intended to show the type of questions in the survey. The actual content of the Internet Panel on-line survey will take advantage of computer programming so that information not relevant need not appear. In addition, information obtained in the on-site short form for general activity participation and demographics is not repeated here. For general activities, the contractor will program the information from the on-site survey so only those activities done in each region will come up when asking number of days of use and number of dives.

INTRODUCTION

ABOUT THE INFORMATION YOU PROVIDE STATEMENT

Your participation in this interview is voluntary. There are no penalties for not answering some or all of the questions, but since each interviewed person will represent many others not interviewed, your cooperation is extremely important. This study is being conducted by the University of Puerto Rico - Mayaguez, the National Oceanic and Atmospheric Administration and the U.S. Environmental Protection Agency. Uses of the information include the evaluation of present recreation uses and planning for future visitation. At the end of the study any materials identifying you as an individual will be destroyed.

This is a cooperative research project of the Puerto Rico Sea Grant, the National Oceanic and Atmospheric Administration, and the U.S. Environmental Protection Agency. Public reporting burden for this collection of information is estimated to average 35 minutes including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

This survey is a follow-up to the survey you took part in while in Puerto Rico. You will be asked:

- For more details on the activities you did on that rip.
- To rate various items as to how important and satisfied you were and you expectations about these items and what you actually experienced.
- Special issues of importance to local agencies and businesses related to your recreation experience.
- About your expenditures for that trip. We ask that the person who made the expenditures answer this part of the survey.
- Your value for the coral reef ecosystems in Puerto Rico under different conditions of the reefs.

PART A: GENERAL ACTIVITIES

Here you will be asked for the number of different days and number of dives (snorkeling and SCUBA diving activities) you did for each activity in each region. You will only be asked for activities you said you did while on that trip.

Need to put maps of regions in questionnaire.

Definitions: Day: A day is equal to any part of a day or a whole day
Dive: A dive is equal to an entrance and exit from the water.

A1. For activities with an activity number with an "A" suffix and the respondent did the activity ask, "how many different days did you do the activity on that trip to Puerto Rico in each region you did the activity?"

A2. For snorkeling and SCUBA diving activities with an activity number with an "A" suffix and the respondent did the activity ask, "how many different dives did you do on that trip to Puerto Rico in each region you did the activity?"

PART B: REEF ACTIVITIES

Here you will be asked for the activities you or anyone in your recreation party did on the natural coral reefs while on your trip to Puerto Rico where you were interviewed. You will be asked if you participated in each activity in each region, how many others in your party did the activity in each region, how many different days you did each activity in each region, and how many dives you did for snorkeling and SCUBA diving activities in each region.

Remind respondents they can go back to maps if needed.
B1. Which activities did you or anyone in your party do on the reefs in Puerto Rico on that visit? **(Radio buttons)**

Snorkeling
100A Snorkeling from charter/party boat (pay operation and includes snorkeling tours)
101A Snorkeling from a rental boat
102A Snorkeling from private boat (your boat or friend or relatives boat)
10A Snorkeling from shore

Scuba Diving
200A Scuba diving from charter/party boat (pay operation)
201A Scuba diving from a rental boat
202A Scuba diving from a private boat (your boat or friend or relatives boat)
11A Scuba diving from shore

Special Activities while Snorkeling or Scuba Diving
300 Diving for lobsters
301 Underwater photography
303 Spear fishing

Fishing – Inshore or Light Tackle Fishing
404A Fishing from charter/party boat or guide (pay operation) – inshore or light tackle
405A Fishing from rental boat – inshore or light tackle
406A Fishing from a private boat (your boat or friend or relatives boat) – inshore or light tackle

Other Fishing
407A Other fishing from charter boat (pay operation, usually six persons or less)
408A Other fishing from party or head boat (pay operation, charge per person)

409A Other fishing from a rental boat
410A Other fishing from a private boat (your boat or friends or relatives boat)
14A Fishing from shore (beach, bank, pier, bridge, jetty, dock)

Viewing Nature and Wildlife

500A Glass bottom boat rides (pay operation)
501A Inshore boating excursions (pay operation/guided service/NOT FISHING, including kayaking)
502A Viewing nature and wildlife from private or rental boat
503 Bioluminescent Bays
504 Ocean kayaking
505 Whale Watching

Other Activities on the Reefs

13A Surfing
15A Swimming
18A Paddle boarding, wind surfing or kite boarding

B2. For each activity respondent did, which regions did they do the activity? **(Radio buttons for regions)**

Activity	*Region 1*	*Region 2*	*Region 3*	*Region 4*	*Region 5*
_____					
_____					
_____					
_____					
_____					
_____					
_____					

B3. For each activity done by the respondent or member of party, how many others in the party did activity in each region?

Activity	*Region 1*	*Region 2*	*Region 3*	*Region 4*	*Region 5*
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

B4. For each activity the respondent only did (from B2), how many different days did you do each activity in each region? **(Only activities they did in each region with an "A" suffix)**

Activity	*Region 1*	*Region 2*	*Region 3*	*Region 4*	*Region 5*
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

B5. For each snorkeling or SCUBA diving activity respondent did (From B2), how many different dives did you do in each region? **(Only activities they did in each region with an "A" suffix)**

Activity	*Region 1*	*Region 2*	*Region 3*	*Region 4*	*Region 5*
_____	_____	_____	_____	_____	_____

B5 (continued)

Activity	*Region 1*	*Region 2*	*Region 3*	*Region 4*	*Region 5*
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

PART C: IMPORTANCE & SATISFACTION RATINGS AND SPECIAL ISSUES

In this section, we will ask you to rate various items as to how important and satisfied you were, your expectations about these items, and what you actually experienced. We will also ask you some questions on special issues of importance to local agencies and businesses related to your recreation experience.

Here we are interested in identifying the recreation site information that is important to you, the visitor.

IMPORTANCE
C1.
Please rate each item as it contributes to an ideal setting for the recreation activities you did while in Puerto Rico. **(Use radio buttons for responses dk=don't know, n/a=not applicable, 1=Not important, 2=Somewhat Important, 3=Important, 4=Very Important and 5=Extremely Important)**

1) Clear water (high visibility) . . . . . .
2) Clean water healthy for swimming and other water-based activities. . . . . .
3) Amount of living corals on the reefs. . . . . .
4) Many different kinds of fishes and sea life to view . . . . . .
5) Many different kinds of fishes and sea life to catch . . . . . .
6) Control of invasive species (lionfish) . . . . . .
7) Enforcement of environmental laws and regulations. . . . . .
8) Artificial reefs (sunken ships, reef balls, piers) . . . . . .
9) Easy, abundant and quality beach and shoreline access. . . . . .
10) Marina facilities, boat ramps/launching facilities . . . . . .
11) Mooring buoys and navigational markers . . . . . .
12) Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers)
13) Resorts with focus on Ecotourism/green initiatives: low energy use, recycling
14) Availability of public restrooms . . . . . .
15) Cleanliness of streets and sidewalks . . . . . .
16) Well-maintained roads and bridges . . . . . .
17) Public transportation . . . . . .
18) Parking . . . . . .
19) Historic preservation (historic landmarks, houses, etc.) . . . . . .
20) Educational posters, signs, brochures . . . . . .
21) Availability of tour guides . . . . . .
22) Availability of lifeguards for beach safety . . . . . .
23) Customer service and friendliness of people . . . . . .
24) Public safety (areas with low crime rates) . . . . . .
25) Good maps and signage for road navigation . . . . . .

Here we are interested in how satisfied you were with each item.

SATISFACTION
C2.
Please rate each item as to how satisfied you were with each item at the places you recreated. **(Use radio buttons for responses dk=don't know, n/a=Not applicable, 1=Terrible, 2=Unhappy/dissatisfied, 3=Mixed, 4=Happy/Satisfied and 5=Delighted)**

1) Clear water (high visibility) . . . . . .
2) Clean water Healthy for swimming and other water-based activities. . . . . .
3) Amount of living corals on the reefs. . . . . .
4) Many different kinds of fishes and sea life to view . . . . . .
5) Many different kinds of fishes and sea life to catch . . . . . .
6) Control of invasive species (lionfish) . . . . . .
7) Enforcement of environmental laws and regulations. . . . . .
8) Artificial reefs (sunken ships, reef balls, piers) . . . . . .
9) Easy, abundant and quality beach and shoreline access. . . . . .
10) Marina facilities, boat ramps/launching facilities . . . . . .
11) Mooring buoys and navigational markers . . . . . .
12) Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers)
13) Resorts with focus on Ecotourism/green initiatives: low energy use, recycling
14) Availability of public restrooms . . . . . .
15) Cleanliness of streets and sidewalks . . . . . .
16) Well-maintained roads and bridges . . . . . .
17) Public transportation . . . . . .
18) Parking . . . . . .
19) Historic preservation (historic landmarks, houses, etc.) . . . . . .
20) Educational posters, signs, brochures . . . . . .
21) Availability of tour guides . . . . . .
22) Availability of lifeguards for beach safety . . . . . .
23) Customer service and friendliness of people . . . . . .
24) Public safety (areas with low crime rates) . . . . . .
25) Good maps and signage for road navigation . . . . . .

C3. Had you visited Puerto Rico more than five years ago?

- ☐ If "yes" answer question next set of questions
- ☐ If "no" skip to questions on expectancy and accomplishments .

Please rate how satisfied you were with each item five years ago. **(Use radio buttons for responses dk=don't know, n/a=not applicable, 1=Not important, 2=Somewhat Important, 3=Important, 4=Very Important and 5=Extremely Important)**

C4.

1) Clear water (high visibility) . . . . . .
2) Clean water healthy for swimming and other water-based activities. . . . . .
3) Amount of living corals on the reefs. . . . . .
4) Many different kinds of fishes and sea life to view . . . . . .
5) Many different kinds of fishes and sea life to catch . . . . . .
6) Control of invasive species (lionfish) . . . . . .
7) Enforcement of environmental laws and regulations. . . . . .
8) Artificial reefs (sunken ships, reef balls, piers) . . . . . .
9) Easy, abundant and quality beach and shoreline access. . . . . .
10) Marina facilities, boat ramps/launching facilities . . . . . .
11) Mooring buoys and navigational markers . . . . . .
12) Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot shower)
13) Resorts with focus on Ecotourism/green initiatives: low energy use, recycling
14) Availability of public restrooms . . . . . .
15) Cleanliness of streets and sidewalks . . . . . .
16) Well-maintained roads and bridges . . . . . .
17) Public transportation . . . . . .
18) Parking . . . . . .
19) Historic preservation (historic landmarks, houses, etc.) . . . . . .
20) Educational posters, signs, brochures . . . . . .
21) Availability of tour guides . . . . . .
22) Availability of lifeguards for beach safety . . . . . .
23) Customer service and friendliness of people . . . . . .
24) Public safety (areas with low crime rates) . . . . . .
25) Good maps and signage for road navigation . . . . . .

Here we want to know what your expectations were for the quality of the item below when you were planning your trip to Puerto Rico.

Please rate each item as it relates to the activities you did while in Puerto Rico. **(Use radio buttons n/a=Not applicable, dk=don't know, 1=Did not expect, 2=Small expectation, 3=Moderate expectation, 4=Large Expectation, 5=Very large expectation).**

C5.

EXPECTATIONS

1) Marina facilities . . . . . .
2) Availability of public restrooms. . . . . .
3) Public transportation. . . . . .
4) Parking . . . . . .
5) Cleanliness of streets and sidewalks . . . . . .
6) Boat ramps/launching facilities. . . . . .
7) Well-maintained roads and bridges. . . . . .
8) Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers) showers) . . . . . .
9) Mooring buoys and navigational aids. . . . . .
10) Good maps and signage for road navigation . . . . . .
11) Resorts with focus on Ecotourism/green initiatives: low energy use, recycling . . . . . .
12) Educational posters, signs, brochures. . . . . .
13) Availability of lifeguards for beach safety . . . . . .
14) Easy, abundant, and quality beach & shoreline access . . . . . .
15) Enforcement of environmental laws & regulations . . . . . .
16) Public safety (area has low crime rates) . . . . . .
17) Customer service and friendliness of people . . . . . .
18) Availability of tour guides . . . . . .
19) Historic preservation (historic landmarks, houses, etc.) . . . . . .
20) Artificial reefs (sunken ships, reef balls, piers) . . . . . .
21) Quality restaurants . . . . . .
22) Clear water (high visibility). . . . . .
23) Clean water healthy for swimming and other water-based activities. . . . . .
24) Amount of living coral on the reefs. . . . . .
25) Many kinds of fish and sealife to view. . . . . .

ACCOMPLISHMENTS (WHAT YOU ACTUALLY EXPERIENCED)

Please rate each item for what you accomplished or actually experienced. **(Use radio buttons n/a=Not applicable, dk=don't know, 1=Completely did not meet expectations, 2=Slightly met expectations, 3=met expectations, 4=Slightly exceeded expectations, 5=Completely exceeded expectations)**

C6.

1) Marina facilities . . . . . .
2) Availability of public restrooms. . . . . .
3) Public transportation. . . . . .
4) Parking . . . . . .
5) Cleanliness of streets and sidewalks . . . . . .
6) Boat ramps/launching facilities. . . . . .
7) Well-maintained roads and bridges. . . . . .
8) Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers) showers) . . . . . .
9) Mooring buoys and navigational aids. . . . . .
10) Good maps and signage for road navigation . . . . . .
11) Resorts with focus on Ecotourism/green initiatives: low energy use, recycling . . . . . .
12) Educational posters, signs, brochures. . . . . .
13) Availability of lifeguards for beach safety . . . . . .
14) Easy, abundant, and quality beach & shoreline access . . . . . .
15) Enforcement of environmental laws & regulations . . . . . .
16) Public safety (area has low crime rates) . . . . . .
17) Customer service and friendliness of people . . . . . .
18) Availability of tour guides . . . . . .
19) Historic preservation (historic landmarks, houses, etc.) . . . . . .
20) Artificial reefs (sunken ships, reef balls, piers) . . . . . .
21) Quality restaurants . . . . . .
22) Clear water (high visibility). . . . . .
23) Clean water healthy for swimming and other water-based activities. . . . . .
24) Amount of living corals on the reefs. . . . . .
25) Many kinds of fish and sealife to view. . . . . .

SPECIAL ISSUES

Here we have some questions addressing special local issues in Puerto Rico.

C7.

a. Do you own a boat in Puerto Rico?

☐ Yes (Continue) ☐ No (Go to Question d)

b. What is the length of your boat?

_____ (Feet)

c. Do you trailer your boat or do you store it at a dock or marina?

☐ Trailer
☐ Store at a dock or marina

d. Do you own or rent a vacation home on the coast with access to the water?

☐ Yes ☐ No

e. How important were Puerto Rico's beaches to your decision to visit Puerto Rico?

Not Important	Somewhat Important	Important	Veryt Important	Extremely Important
1	2	3	4	5

f. Was this trip your first visit to Puerto Rico for recreation activities?

☐ Yes (Go to Question IVa) ☐ No (Continue)

g. How many years have you been coming to Puerto Rico for recreation activities?

h. How likely is it that you will recommend Puerto Rico to a friend or family member for their next vacation? **(Use radio buttons dk=Don't know, 1=Will not recommend, 2=Somewhat Likely, 3=Likely, 4=Very Likely, 5=Will Recommend)**

i. How likely is it that you will return to Puerto Rico for a visit? **(Use radio buttons dk=Don't know, 1=Will not Return, 2=Somewhat Likely, 3=Likely, 4=Very Likely, 5=Will return)**

j. How soon will you return?

Don't Know ☐
In less than 3 months ☐
3 to 6 months ☐
6 to 12 months ☐
Greater than one year ☐

k. On your first visit ever to Puerto Rico, was your visit on a cruise ship stopover?

☐ Yes ☐ No (Skip to Section VI)

L. Did your stopover experience in Puerto Rico result in you choosing Puerto Rico as a destination for a non cruise ship visit?

☐ Yes ☐ No

m. If this cruise ship visit was your first visit, did your experience lead you to think about planning a future non cruise ship visit to Puerto Rico?

☐ Yes ☐ No

n. Islands like Puerto Rico face competing demands for development. When choosing a destination for your vacation and/or recreation activities what is your preference? (Check one answer only)

☐ Low development, small town atmosphere along the coast

☐ Dense development, large town with high-rise hotels and casinos, many restaurant and shopping opportunities

☐ Mix of low development and dense development places

☐ No preference

o. Some people may be okay with staying in dense developed areas, but when doing certain recreation activities like visiting beaches, fishing, SCUBA diving, snorkeling, boating, surfing, wind surfing, paddle boarding, viewing wildlife, photography and hiking trails prefer to have views unobstructed by development (e.g. big hotels, offshore oil and gas platforms, wind turbines etc.).

How important to you is it to have areas with natural views protected? (Check one answer only)

__ Not important
__ Somewhat Important
___ Important
___ Very important
------ Extremely important

In this next set of questions, we want to ask you about several issues of importance in managing Puerto Rico's natural resources that support recreation activities or protect resources by preservation methods.

Please indicate your level of agreement with each of the statements below. **(Use radio buttons 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree).**
C8.

1) I support the creation of marine protected areas that allow activities as long as the activities don't harm the resource.

2) I support the creation of marine reserves that prohibit all activities that take things like fishing and ornamental trade for aquariums.

3) I support the creation of research only areas that only allow scientific and educational activities.

3) I support increased protection of threatened and endangered species like turtles and Elkhorn and Staghorn corals.

5) I support increased enforcement of environmental laws and regulations

6) I support increased education and outreach for violators of environmental laws and regulations.

7) I support a mixed approach to using education and outreach and enforcement on violators of environmental laws and regulations.

8) I support more coral nurseries to help restore coral reefs.

PART D. Expenditures

Section 1 – TRIP EXPENDITURES

Here we would like to ask you about the expenses related to the most recent trip to do recreation activities on Puerto Rico's coral reefs (the trip when we interviewed you).

Please complete one of the questions below, indicating for how many people you paid expenses.

D1-1a. If you paid your own expenses or if you shared expenses with someone else, please check this box (**radio button**).

D1-1b. If you were paying all the expenses for yourself and for one or more others, please check this box (**radio button**).

D1-2. Number of people you were paying expenses for including yourself. _____

D1-3. For which of the following items did you have expenditures on your last trip. (**use radio buttons, in next section on expenditure amounts only ask for expenditures categories selected here).**

Trip expenditures include expenditures you made while at home planning the trip and expenditures you made in Puerto Rico.

LODGING, PRIVATELY OWNED (NON-GOVERNMENT)
Hotel/motel/bed & breakfast, etc.
Rental home, cottage, cabin, condo
Camping site (RV/tent/camper)
FOOD & BEVERAGES
Food and drinks consumed at restaurants and bars
Drinks consumed at bars and clubs during non-meal times (nighttime recreation)
Food & Beverages purchased at a store for carryout

TRANSPORTATION
Rental automobile, motor home, trailer, motorcycle or other recreation vehicle
Gas & oil – auto/RV

Repair & service – auto/RV
Parking fees & tolls
Taxi fare
Ferry
Train
Airline Fare
a. Package tour
b. Any other airline fare

BOATING

Boat, jet ski, and wave runner rental
Boat fuel and oil
Boat repairs
Boat launch fees
Boat slip fees or marine fees (this trip only)
Sailing charters or sunset cruises

FISHING

Cut bait
Live bait
Daily or special fishing permits
Fishing lines, fly lines, fishnets, and minnow traps
Charter/party boat, guide service

SCUBA DIVING/SNORKELING

Rental fee for equipment
Charter/party boat, guide service

SIGHTSEEING

Sightseeing tours
Glass-bottom boat rides
Excursions, kayak tours
Park entrance fees
Admission to tourist, amusement, festivals and other commercial attractions
Food and drinks on sightseeing tours

OTHER ACTIVITY EXPENDITURES

Rental fee for recreation equipment (surfboards, paddleboards, kite boards, Golf carts, or others not listed above)
Guide service, tour, or outfitters (not listed above)
Admission to motion pictures, theaters, museums, musical performances, concerts, etc.
Admission to musical performances, concerts (not listed above)
Spa treatments
Fitness activities (gym fees, fitness classes/instruction)

MISCELLANEOUS EXPENDITURES

Film purchases
Film developing
Footwear
Clothing
Souvenirs and gifts (not clothing)
Barber, laundry, and other personal services
Telephone, copying, fax or other business services
Physician, dentist, or other medical services
Other, Specify _____

Next you will be asked your expenditures for each of the items where you said you made expenditures.

Please report your expenditures for each of the items to the nearest whole dollar. In Column A, put the total amount of money you spent on the item, regardless of where you spent it. In Column B, report only the amount

you spent while in Puerto Rico.

EXAMPLE: Joe and Jane Smith purchase roundtrip tickets to Puerto Rico on-line at $400 each, for a total of $800. Their total amount spent for the trip was $800 (Column A). The amount spent while in Puerto Rico was $0 (Column B).

Item	Column A: Total amount spent on this trip	Column B: Of the amount in Column A, how much did you spend in Puerto Rico?
TRANSPORTATION Airline Fare		
a. Package tour		
b. Any other airline fare	800	0

Item	Column A: Total amount spent on this trip	Column B: Of the amount in Column A, how much did you spend in Puerto Rico?

Section 2 – ANNUAL VACATION EXPENDITURES AND EQUIPMENT PURCHASES

This section asks about money people spent on recreational equipment, boat storage, time-share and condo fees and related purchases for items you own over the past 12 months. Do not include expenditures for rentals since they were included in Section 1.

D2-1. During the past 12 months, how many times did you take a trip away from home for a boating-related activity (sailing, waterskiing, canoeing, fishing from a boat, motor boating, SCUBA diving, jet skiing, etc.)? _____ (number of times)

D2-2. Of these trips, how many were to some place outside Puerto Rico? _____ (number of times)

D2-3.
For which of the following items have you made a purchase or made an expenditure in the past 12 months. Please include purchases you made anywhere. (**radio buttons to be programmed for next section).**

MAJOR RECREATIONAL EQUIPMENT (not rentals)
Diving or snorkeling equipment
Fishing rods and reels
Cameras and other photo gear
Binoculars and other viewing equipment
BOATING EQUIPMENT AND FEES (not rentals)
New motorized boats or jet skis/wave runners
New non-motorized boats (sailboats, row boats, canoes, kayaks, etc.)
New boat engines
New sails or rigging
New boat trailer
Boat storage and marina fees
Other boating expenses
Describe: _____
ANNUAL LODGING-RELATED FEES
Condo and time-share fees
RV or trailer park fees

D2-4 For each of the items where you made purchases or expenditures, indicate in Column A the total amount of money you spent on that equipment in the past 12 months. In Column B, report the total amount of purchases you made just in the county or city where you live. In Column C, report the total amount of purchases you made in Puerto Rico.

EXAMPLE: Joe and Jane Smith purchased a boat for $17,000 from a dealer at their home in New York last summer. They also purchased a jet ski for $12,000 from a dealer in Puerto Rico. Here is how they would report these expenditures.

Item	Column A: Total purchases in past 12 months	Column B: Purchases in home county or city	Column C: Purchases in Puerto Rico
BOATING EQUIPMENT New motorized boats or jet skis	29,000	17,000	12,000

Item	Column A: Total purchases in past 12 months	Column B: Purchases in home county or city.	Column C: Purchases in Puerto Rico

PART E: Economic Valuation of Puerto Rico's Coral Reef Ecosystems

In this section of the survey, we will first present to you some definitions and scientific facts about Puerto Rico's coral reef ecosystems. We will then present you with different reef conditions and the cost to your household to achieve those conditions. We will then ask you to choose among a set of different conditions and the cost to your household. You can think of this like you think about buying a car or a house, which would have many different features at different costs.

First, here are some photographs of the kinds of features or attributes one might see on Puerto Rico's coral reef ecosystems.

(put in photos).

Here are some definitions of what we mean by coral reefs and coral reef ecosystems; what the conditions of coral reefs are; the current and future health of Puerto Rico's coral reef ecosystems; and the problems and possible management solutions.

Definitions

- **<u>Coral reefs</u> are colonies of connected skeletons of millions of small animals called corals.**

- **<u>Coral reef ecosystems</u> include the coral reefs, neighboring areas of sea bottom, ocean waters, sponges, algae, seagrasses and mangroves.**

- **<u>Coral reef ecosystems</u> provide a place to live for many ocean species including, fish, sea turtles, conchs, lobsters, crabs, sponges, urchins, sea plants and marine mammals like dolphins and manatees.**

- **Most coral reef ecosystems in Puerto Rico are in water less than 60 feet deep.**

Conditions

- **Research by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) has measured the abundance and diversity (number of different species) of stony corals, soft corals, sponges, fish, and macroinvertebrates (conch, spiny lobster, and urchins) on Puerto Rico's coral reefs.**

- **Measures of abundance and diversity were measured on how much was there per square meter of coral reef area.**

- **For abundance, the following measures were taken:**

- **Stony corals: Percent (%) of hard-bottom covered per square meter and percent of the coral tissue is alive.**
- **Soft corals and Sponges: Square centimeters per square meter of reef area.**
- **Fish: Number per square meter.**
  Fish were classified into fish people eat (consumptive) and fish that people just view (Tropical/Ornamental fish). A few fish that normally would be classified as consumptive were not counted as consumptive because of ciguatera poisoning. Fish were also classified as Sport/Trophy fish (Ladyfish, Permit, Bonefish, Tarpon, Barracuda, Jacks). Some of these may be known to have ciguatera poisoning but are still fun to catch.

- **Consumptive fish: Puerto Rico has only a few species with limits on length to be legal for keeping (Yellowtail Snapper, White Grunt, Silk Snapper, and Black Snapper). Some are permanently closed to fishing (Nassau Grouper and Goliath Grouper). Still others have closed seasons (Silk, Vermillion, Black and Blackfin Snappers Oct. – Dec.; Mutton and Lane Snappers April-May; Red Hind Dec. – Feb.). We present the number of consumptive fish that meet legal size for keeping per square meter of reef area.**
- **Tropical/Ornamental fish: Number of fish per square meter.**
- **Sport/Trophy fish: Opportunity to catch or see trophy fish on the entire reef not the number per square meter.**
- **Macroinvertebrates (conchs, spiny lobsters, and urchins): The number per square meter. For conchs, the maximum number observed was 3 per square meter, while for spiny lobster, the maximum observed was 1 per square meter. Urchins tend to be observed in much higher numbers. For Long-spined urchins, the maximum observed was 8 per square meter, while for smaller species of urchins as many as 37 per square meter have been observed. Seasonal closure of Queen Conch is July – Sept.**

Health of the Reefs

- **Urchins are known to increase the health of reefs for stony corals.**

- **Stony corals predominate in the healthiest reefs.**

- **Soft Corals and Sponges tend to dominate in reef areas where the water quality is relatively poor. Scientists have found that soft corals and sponges are more able than stony corals to thrive in relatively poor water quality and move into places where stony corals have died.**

- **Soft Corals and Sponges are often very colorful, serve as important habitat for fish, and help improve water quality by filtering nutrients thereby reducing algal growth that can smother reefs and improving water clarity/visibility**

- **Most of the coral reef ecosystems in Puerto Rico are currently in a poor or fair condition. Overfishing, water pollution, careless anchoring, and sediments from runoff from development and agricultural areas have been the most important factors damaging the coral reef ecosystems.**

Problems and Management Solutions

- **If current management practices continue in the future (Status Quo), in 10 to 20 years scientists expect that all but the few areas that are receiving special protection will be in a poor or low condition with respect to the corals, sponges, fish, and water clarity/visibility. If rules and regulations are not enforced even the specially protected areas will be in poor or low condition.**

- **If management is changed to improve reef conditions, it will require both public and private investments to protect and restore the coral reef ecosystems, which would include enforcement of rules and regulations.**

- **In the next section of the survey, you will be presented with several sets of coral reef ecosystem conditions. There is an estimated cost to your household per trip that would be required to achieve each condition.**

- **The cost per trip is based on the costs that will be paid by businesses and households to pay for investments that protect and restore the coral reef ecosystems like improved sewage treatment, filtering and cleaning urban run-off, erosion control from agricultural areas and development projects, installation of mooring buoys to protect reefs from anchor damage, restoration of reefs, and enforcement of rules and regulations.**

- **The costs per trip would be paid by all residents and visitors to Puerto Rico through increased prices of goods and services. This might also include increases in local sales taxes to cover government costs to pay for protection and restoration.**

- **The <u>Option A: Status Quo</u> (No change in management), will cost your household nothing ($0 per trip), but will result in <u>low reef conditions</u> on all of Puerto Rico's coral reef ecosystems, except for the few specially protected areas if rules and regulations are enforced.**

- **You will always have the option of choosing the Status Quo (Option A).**

Before we get started on presenting to you the choices we are asking you to make, here are three illustrations showing coral reef ecosystem conditions where all conditions are at a high level, a medium level and a low level. You will be presented with different mixes of these conditions for different attributes of the reefs and the corresponding costs to your household of achieving these conditions.

Insert illustrations

Low, Medium and High Conditions for Reefs

Crowding: Beaches and Reefs

E1. Did you believe the information by coral scientists that in 10 to 20 years if current management practices continue that nearly all the coral reefs in Puerto Rico would be in a poor or low condition?

a. Yes
b. No (Go to C4)

E2. If we don't change current management practices (Status Quo), do you think that the coral reefs conditions in 10 to 20 years in Puerto Rico will

a. Stay the same
b. Improve
c. Worsen

- **Remember when making your choices on how much you are willing to pay that you only have so much income and if you pay to improve reef condtions you will have less to spend on other goods, services, and social issues that are important to you.**

- **Also, even under the low conditions there are three coral reefs within Puerto Rico that have strong protections that you could use, in addition to coral reefs outside Puerto Rico.**

Choice 1

Option A: Status Quo – No changes in management	**Option B**: Coral Reefs In Medium Level of Condition	**Option C**: Coral Reefs in High Level of Condition
Corals and Sponges	**Corals and Sponges**	**Corals and Sponges**
No stony corals, only soft corals and sponges	Up to 4 species of stony corals covering 5 to 20% of hard-bottom with 60 to 90% live coral tissue.	5 to 17 species of stony corals covering more than 20% and up to 100% of hard-bottom with over 90% to 100% live coral tissue.
Up to 4 species of soft corals for a total of 14 to 25 square centimeters per square meter	Up to 3 species of soft corals for a total of 4 to 14 square centimeters per square meter.	1 species of soft corals for a total of less than 4 square centimeters per square meter.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per square meter	Up to 3 species of sponges for a total of 2 to 7 square centimeters per square meter.	1 species of sponges for a total of less than 2 square centimeters per square meter.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per square meter with no fish of legal size to keep	3 to 6 species of consumptive fish for a total of 10 fish per square meter with up to 50% of legal size to keep.	Up to 15 species of consumptive fish for a total of 100 or more fish per square meter with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per square meter	4 to 10 species of tropical/ornamental fish with a total of 10 fish per square meter.	25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per square meter.
No Macroinvertebrates (conch, lobster or urchins)	1 species of Macroinvertebrates (urchins) with 1 to 20 per square meter.	2 or more species of Macroinvertebrates (conch, lobster or urchins) with 20 or more per square meter (mostly urchins).
No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	Opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)
No opportunity to see or catch Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)	No opportunity to see or catch Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)	Opportunity to catch or see Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)
Water Conditions	**Water Conditions**	**Water Conditions**
Clarity/Visibility: Less than 10 feet	Clarity/Visibility: 10 to 50 feet	Clarity/Visibility: Greater than 50 feet
Cleanliness: Not healthy for swimming	Cleanliness: healthy for swimming	Cleanliness: healthy for swimming
Depth of Reefs: Greater than 60 feet	**Depth of Reefs:** 20 to 60 feet	**Depth of Reefs:** less than 20 feet
Crowdedness: 21 or more people	**Crowdedness:** 11 to 20 people	**Crowdedness:** 0 to 10 people
$0	**$**	**$**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

E3. Which option do you prefer? ___A __B ___C

E4. How many days would you use Puerto Rico's Coral reefs under the reef conditions for the option you preferred? ____ (number of days)

E5. Please provide a brief comment that helps us to understand why you chose the option you most preferred.

_____

_____

E6. How sure are you that the option you chose as your most preferred among the three options is your most preferred (radio buttons 1=not sure at all, 2=slightly sure, 3=moderately sure, 4=very sure, 5=extremely sure)

Choice 2

Option A: Status Quo – No changes in management	**Option B**: 6M & 6H	**Option C**: 6H & 6M
Corals and Sponges	**Corals and Sponges**	**Corals and Sponges**
No stony corals, only soft corals and sponges	**M:**.Up to 4 species of stony corals covering 5 to 20% of hard-bottom with 60 to 90% live coral tissue.	**H:** 5 to 17 species of stony corals covering more than 20% and up to 100% of hard-bottom with over 90% to 100% live coral tissue.
Up to 4 species of soft corals for a total of 14 to 25 square centimeters per square meter	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per square meter.	**H:** 1 species of soft corals for a total of less than 4 square centimeters per square meter.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per square meter	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per square meter.	**H:** 1 species of sponges for a total of less than 2 square centimeters per square meter.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per square meter with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per square meter with up to 50% of legal size to keep.	**H:** Up to 15 species of consumptive fish for a total of 100 or more fish per square meter with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per square meter	**M:** 4 to 10 species of tropical/ornamental fish with a total of 10 fish per square meter.	**H:** 25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per square meter.
No Macroinvertebrates (conch, lobster or urchins)	**M:** 1 species of Macroinvertebrates (urchins) with 1 to 20 per square meter.	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) with 20 or more per square meter (mostly urchins).
No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	**H**: Opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	**M:** No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)
No opportunity to see or catch Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)	**H:** Opportunity to catch or see Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)	**M**: No opportunity to see or catch Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)
Water Conditions	**Water Conditions**	**Water Conditions**
Clarity/Visibility: Less than 10 feet	**H:** Clarity/Visibility: Greater than 50 feet	**M**: Clarity/Visibility: 10 to 50 feet
Cleanliness: Not healthy for swimming	**H**: Cleanliness: Healthy for swimming	**M:** Cleanliness: Healthy for swimming
Depth of Reefs: Greater than	**H**: **Depth of Reefs:** Less than	**M**: **Depth of Reefs:** 20 to 60

60 feet	20 feet	feet
Crowdedness: 21 or more people	**H: Crowdedness:** 0 to 10 people	**M: Crowdedness:** 11 to 20 people
$0	**$**	**$**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

E7. Which option do you prefer? ___A __B ___C
E8. How many days would you use Puerto Rico's Coral reefs under the reef conditions for the option you preferred? ____ (number of days)
E9. Please provide a brief comment that helps us to understand why you chose the option you most preferred.
_____
_____
E10. How sure are you that the option you chose as your most preferred among the thre options is your most preferred (radio buttons 1=not sure at all, 2=slightly sure, 3=moderately sure, 4=very sure, 5=extremely sure)
Choice 3

Option A: Status Quo – No changes in management	**Option B**: 6L and 6H	**Option C**: 6 H and 6L
Corals and Sponges	**Corals and Sponges**	**Corals and Sponges**
No stony corals, only soft corals and sponges	**L:** No stony corals, only soft corals and sponges	**H:** 5 to 17 species of stony corals covering more than 20% and up to 100% of hard-bottom with over 90% to 100% live coral tissue.
Up to 4 species of soft corals for a total of 14 to 25 square centimeters per square meter	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per square meter	**H:** 1 species of soft corals for a total of less than 4 square centimeters per square meter.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per square meter	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per square meter	**H:** 1 species of sponges for a total of less than 2 square centimeters per square meter.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per square meter with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per square meter with no fish of legal size to keep	**H**: Up to 15 species of consumptive fish for a total of 100 or more fish per square meter with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per square meter	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per square meter	**H:** 25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per square meter.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) with 20 or more per square meter (mostly urchins).
No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	**H:** Opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	**L:** No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)
No opportunity to see or catch Sport/Trophy fish (ladyfish,	**H:** Opportunity to catch or see Sport/Trophy fish (ladyfish,	**L**: No opportunity to see or catch Sport/Trophy fish

permit, bonefish, tarpon, snook, jacks)	permit, bonefish, tarpon, snook, jacks)	(ladyfish, permit, bonefish, tarpon, snook, jacks)
Water Conditions	**Water Conditions**	**Water Conditions**
Clarity/Visibility: Less than 10 feet	**H:** Clarity/Visibility: Greater than 50 feet	**L**: Clarity/Visibility: Less than 10 feet
Cleanliness: Not healthy for swimming	**H:** Cleanliness: Healthy for swimming	**L:** Cleanliness: Not healthy for swimming
Depth of Reefs: Greater than 60 feet	**H: Depth of Reefs:** less than 20 feet	**L: Depth of Reefs:** Greater than 60 feet
Crowdedness: 21 or more people	**H: Crowdedness:** 0 to 10 people	**L: Crowdedness:** 21 or more people
$0	**$**	**$**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

E11. Which option do you prefer? ___A __B ___C
E12. How many days would you use Puerto Rico's Coral reefs under the reef conditions for the option you preferred? ____ (number of days)
E13. Please provide a brief comment that helps us to understand why you chose the option you most preferred.
_____
_____
E14. How sure are you that the option you chose as your most preferred among the three options is your most preferred (radio buttons 1=not sure at all, 2=slightly sure, 3=moderately sure, 4=very sure, 5=extremely sure)

Choice 4

Option A: Status Quo – No changes in management	**Option B**: 6L and 6 M	**Option C**: 6M and 6 L
Corals and Sponges	**Corals and Sponges**	**Corals and Sponges**
No stony corals, only soft corals and sponges	**L:** No stony corals, only soft corals and sponges	**M:** Up to 4 species of stony corals covering 5 to 20% of hard-bottom with 60 to 90% live coral tissue.
Up to 4 species of soft corals for a total of 14 to 25 square centimeters per square meter	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per square meter	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per square meter
Up to 4 species of sponges for a total of 7 to 15 square centimeters per square meter	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per square meter	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per square meter.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per square meter with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per square meter with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per square meter with up to 50% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per square meter	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per square meter	**M**: 4 to 10 species of tropical/ornamental fish with a total of 10 fish per square meter.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**M:** 1 species of Macroinvertebrates (urchins)

		with 1 to 20 per square meter.
No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	**M:** No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	**L:** No opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)
No opportunity to see or catch Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)	**M**: No opportunity to see or catch Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)	**L:** No opportunity to see or catch Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, snook, jacks)
Water Conditions	**Water Conditions**	**Water Conditions**
Clarity/Visibility: Less than 10 feet	**M:** Clarity/Visibility: 10 to 50 feet	**L**: Clarity/Visibility: Less than 10 feet
Cleanliness: Not healthy for swimming	**M:** Cleanliness: Healthy for swimming	**L:** Cleanliness: Not healthy for swimming
Depth of Reefs: Greater than 60 feet	**M: Depth of Reefs:** 20 to 60 feet	**L: Depth of Reefs:** Greater than 60 feet
Crowdedness: 21 or more people	**M: Crowdedness:** 11 to 20 people	**L: Crowdedness:** 21 or more people
$0	**$**	**$**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

E15. Which option do you prefer? ___A __B ___C
E16. How many days would you use Puerto Rico's Coral reefs under the reef conditions for the option you preferred? ____ (number of days)
E17. Please provide a brief comment that helps us to understand why you chose the option you most preferred.
_____
_____
E18. How sure are you that the option you chose as your most preferred among the three options is your most preferred (radio buttons 1=not sure at all, 2=slightly sure, 3=moderately sure, 4=very sure, 5=extremely sure)

E19. Did you understand that the dollar amount for each alternative was the per trip cost to your household?
a. Yes
b. No.

E20. There are different ways for people to pay for new programs to protect the environment. One way is for the government to pay the cost. This will raise everyone's taxes. Another way is for the government to create incentives for investment in environmental protection. Still another way is for businesses to pay the cost. This will make prices go up for everyone.

If you had to choose, would you prefer to pay for new environmental programs through higher taxes, the cost of incentives to businesses and households, or through higher prices? (**radio buttons 1=though higher taxes, 2=through the cost of incentives to businesses and households, 3=through higher prices, 4=no preference**).

E21. Who do you think should manage the additional funding obtained for reef management? **(radio buttons 1=Federal government, 2=Territorial government, 3=Non-government Organization like The Nature Conservancy or Protectores de Cuencas, a local organization, 4= Other (specify)_____**

E22. Would you say you think of yourself as (**radio buttons 1=not an environmentalist at all, 2=slightly an environmentalist, 3=moderate environmentalist, 4=a strong environmentalist, 5=very strong environmentalist**).

E23. We would like to learn more about how you reacted to the questions that asked you to choose between various options of reef conditions. For each of the statement below, tells us how strongly you agree or disagree with each statement. (**use radio buttons 1=Strongly Disagree, 2=Somewhat Disagree, 3=Neither Agree of Disagree, 4=Somewhat Agree, 5=Strongly Agree**).

E23a. Costs should not be a factor when protecting the environment.
E23b. I found it difficult to select an option of reef conditions I preferred.
E23c. I was concerned that the Puerto Rico government cannot effectively manage coral reefs.
E23d. I should not have to pay more to protect or restore coral reefs in Puerto Rico.
E23e. The public's views as expressed in this survey should be important to the Puerto Rico government when it chooses how to manage coral reefs.
E23f. I understood the different alternatives presented in each choice question.
E23g. The different reef attribute levels in each alternative were clear and I was able to distinguish the difference across the "Status Quo" and alternatives B and C in making my choices.
E23h. The illustrations of coral reef conditions of coral reef conditions helped me distinguish low, medium and high conditions for all reef attributes.
E23i. The pictures of different crowding conditions helped me distinguish low, medium and high crowding conditions.
E23j. The government should use incentives to businesses and households to pay for environmental protections instead of regulations that result in higher prices or taxes to businesses and households.

E24. What condtion are the reefs in that you personally visit or use?
1 = low
2 = medium
3 = high

E25. How certain are you that additional funding would achieve the goals of protecting the environment?

1 = very uncertain
2 = uncertain
3 = somewhat certain
4 = certain
5 = very certain

E26. Please provide us any comments you would like to make to help us understand your views about coral reefs in Puerto Rico and your Reponses to this survey.

_____
_____
_____
_____

THANK YOU that concludes our survey. You will be entered into the sweepstakes/lottery to win a free vacation and other prizes. If your contact information changes, you can send your new information to Miguel.delpozo@upr.edu. Your contact information will be destroyed after the prizes are awarded.

Your participation in this
recreation expenditure survey is

GREATLY APPRECIATED

Dear Visitor,

During your recent trip to Puerto Rico you indicated that you would be willing to complete this questionnaire. It is self-explanatory and should about 20 minutes to complete. Please record your answers accurately and legibly. Your answers represent many other people not included in this survey effort so it is very important that you return your questionnaire.

Your answers are voluntary. Your name will never be released to anyone unless otherwise required by law. After the completion of the project all materials identifying you as an individual will be destroyed.

Before you mail back the questionnaire, please reverse-fold it so that our return address is on the outside. Please staple or tape to seal the questionnaire and mail it back to us. No postage is needed. Your cooperation in this effort is greatly appreciated.

Sincerely,

Dr. Miguel del Pozo (Project Lead)
University of Puerto Rico - Mayaguez Campus
Telephone: (787) 941-3559
Miguel.delpozo@gmail.com

Dr. Ruperto Chaparro (Project Co-lead)
Puerto Rico Sea Grant Program
Extension Leader
University of Puerto Rico
P.O. Box 5000
Mayaguez, PR 00681
Telephone: (787) 832-8045
Ruperto.chaparro@upr.edu

Please note: It is very important that the same person who participated in the on-site interview also complete this questionnaire.

PART A: YOUR EXPENDITURES FOR THIS TRIP

We would like to ask you about the expenses related to your recent trip to Puerto Rico. Please complete one of the questions below, indicating for how many people you paid expenses.

1) If you paid your own expenses or if you shared expenses with someone else, please check this box ☐
On the following pages, report only those trip expenses you personally paid for.

2) If you were paying all the expenses for yourself and for one or more others, please check this box ☐
and record in the box below the number of persons you paid expenses for, including yourself.
Report the total amount of expenses you paid for on the following pages.

Number of people you were paying expenses for, including yourself ☐

Please report your expenditures for each of the items listed to the nearest whole dollar. In Column A, put the total amount of money you spent on that item, regardless of where you were when you spent it. In Column B, report only the amount you spent while you were in Puerto Rico.

EXAMPLE: Joe and Jane Smith purchased round-trip tickets to Puerto Rico online at $400 each, or a total of $800. Their total amount spent for the trip was $800 (Column A). The amount spent in Puerto Rico was $0 (Column B).

Item	Column A: Total amount spent for this trip	Column B: Of the amount in column A, how much did you spend in Puerto Rico?
TRANSPORTATION Airline Fare a) Package tour b) Any other airline fare	800	0

Item	Column A: Total amount spent for this trip	Column B: Of the amount in Column A, how much did you spend in Puerto Rico?
LODGING, PRIVATELY OWNED (non-government)		
Hotel/motel/bed & breakfast, etc.	_____	_____
Rental home, cottage, cabin, condo	_____	_____
Camping site (RV/tent/camper)		_____
LODGING, PUBLICLY OWNED (government)		
Hotel/motel/bed & breakfast/cabin, etc.	_____	_____
Camping site (RV/tent/camper)	_____	_____
FOOD & BEVERAGES		
Food and drinks consumed at restaurants and bars	_____	_____
Drinks consumed at bars and clubs during non-meal times (nighttime recreation)	_____	_____
Food & Beverages purchased at a store for	_____	_____
carry-out	_____	_____
TRANSPORTATION		
Rental automobile, motor home, trailer, motorcycle or other recreation vehicle	_____	_____
Gas & oil - auto/RV	_____	_____
Repair & service - auto/RV	_____	_____
Parking fees & tolls	_____	_____
Taxi fare	_____	_____
Ferry	_____	_____
Train	_____	_____
Bus fare		
a) Package tour	_____	_____
b) Any other bus fare	_____	_____
Airline fare		
a) Package tour	_____	_____
b) Any other airline fare	_____	_____

Item	Column A: Total amount spent for this trip	Column B: Of the amount in Column A, how much did you spend in Puerto Rico?
BOATING		
Boat, jet ski, and wave runner rental	_____	_____
Boat fuel and oil	_____	_____
Boat repairs	_____	_____
Boat launch fees	_____	_____
Boat slip fees or marina fees (this trip only)	_____	_____
Sailing charters or sunset cruises	_____	_____
FISHING		
Cut bait	_____	_____
Live bait	_____	_____
Daily or special fishing permits	_____	_____
Fishing lines, fly lines, fish nets, and minnow traps	_____	_____
Charter/party boat, guide service		
SCUBA DIVING/SNORKELING		
Rental fee for equipment	_____	_____
Charter/party boat, guide service	_____	_____
SIGHTSEEING		
Sightseeing tours	_____	_____
Glass bottom boat rides	_____	_____
Excursions, kayak tours	_____	_____
Park entrance fees	_____	_____
Admission to tourist, amusement, festivals and other commercial attractions	_____	_____
Food and drinks on sightseeing tours	_____	_____

Item	Column A: Total amount spent for this trip	Column B: Of the amount in Column A, how much did you spend in Puerto Rico?
OTHER ACTIVITY EXPENDITURES		
Rental fee for recreation equipment (surfboards, golf carts or others not listed above)	_____	_____
Guide service, tour, or outfitters (not listed above, like parasailing)	_____	_____
Admission to motion pictures, theaters, museums, etc.	_____	_____
Admission to musical performances, concerts	_____	_____
Spa treatments	_____	_____
Fitness activities (gym fees, fitness classes/ instruction)	_____	_____
MISCELLANEOUS EXPENDITURES		
Film Purchases	_____	_____
Film Developing	_____	_____
Footwear	_____	_____
Clothing	_____	_____
Souvenirs and gifts (not clothing)	_____	_____
Barber, laundry and other personal services	_____	_____
Telephone, copying, fax and other business	_____	_____
services	_____	_____
Physician, dentist, and other medical services		

PART B: ANNUAL VACATION EXPENDITURES AND EQUIPMENT PURCHASES

This section asks about money people spent on recreational equipment, boat storage, time-share and condo fees and related purchases for items you own over the past 12 months. Do not include rentals, they were included in Part A. For each of the items listed, indicate in Column A the total amount of money you spent on that equipment in the past 12 months. In Column B, report the total amount of purchases you made just in the county where you live. In Column C, report the total amount of purchases you made in Puerto Rico.

First, please answer these questions regarding your boating recreation.

→ During the past 12 months, how many times did you take a trip away from home for a boating-related activity (sailing, waterskiing, canoeing, fishing from a boat, motor boating, SCUBA diving, jet skiing, etc.)? _____

→ Of these trips, how many were to some place outside Puerto Rico? _____

Example: Joe and Jane Smith purchased a boat for $17,000 from a dealer at their home in New York last summer. They also purchased a jet ski for $12,000 from a dealer in Puerto Rico. Here is how they would report these expenditures.

Item	Column A: Total Purchases in Past 12 Months	Column B: Purchases in Your Home County	Column C: Purchases in Puerto Rico
BOATING EQUIPMENT			
New motorized boats or jet skis	29,000	17,000	12,000

Item	Column A: Total Purchases in Past 12 Months	Column B: Purchases in Your Home County	Column C: Purchases in Puerto Rico
MAJOR RECREATIONAL EQUIPMENT (not rentals)			
Diving or snorkeling equipment	_____	_____	_____
Fishing rods and reels	_____	_____	_____
Cameras and other photo gear	_____	_____	_____
Binoculars and other viewing equipment	_____	_____	_____
Miscellaneous (boats, guns, surfboard, vehicles, any other major equipment), specify _____	_____	_____	_____
BOATING EQUIPMENT AND FEES (not rentals)			
New motorized boats or jet skis	_____	_____	_____
New nonmotorized boats (sailboats, row boats, canoes, kayaks, etc.)	_____	_____	_____
New boat engines	_____	_____	_____
New boat accessories	_____	_____	_____
New sails or rigging	_____	_____	_____
New boat trailer	_____	_____	_____
Boat storage and marina fees	_____	_____	_____
Other boating expenses (not rentals) Describe: _____			
ANNUAL LODGING-RELATED FEES (not rentals)			
Condo and time-share fees	_____	_____	_____
RV or trailer park fees			

OMB Approval #:
Expiration Date:

Number: _____

That's All!! If you would like to be entered into a sweepstakes to win a free Vacation to Puerto Rico, fill out your name, address and phone number below. All prizes will be awarded in TBD.

Name: _____

Address: _____

City: _____

State:_____Zip:_____Phone: _____

Prizes to be awarded are:

GRAND PRIZE – in Vieques

* Lodging (a room for two for 3 nights) – provided by Esperanza Inn
* Dive tour for 2 – provided by Isla Nena Scuba
* 1/2 Day fishing trip – provided by Vieques Sport Fishing (Capt. J. Ferguson)
* Coffee table book (*Beneath the Waves*) – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by the Surfrider Foundation Rincon

- Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve
- Puerto Rico T-shirt – provided by Puerto Rico Tourism Company

FIRST PRIZE

* Dive trip for 2 certified divers from Fajardo reefs – provided by Sea Ventures Inc.
  1/2 Day deep sea fishing trip (1/2 price) from Fajardo – provided by Light Tackle Paradise (Capt. Marcos Hanke)
* Coffee table book (*Beneath the Waves)* – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
* Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve

SECOND PRIZE

* 1/2 Day fishing trip (in-shore) in Cabo Rojo – provided by Light Tackle Adventures (Capt. Pochy Rosario)
* Coffee table book (*Beneath the Waves*) – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by the Surfrider Foundation Rincon
* Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve
* Puerto Rico T-shirt – provided by Puerto Rico Tourism Company

Consolation Prizes

* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
* Puerto Rico T-shirt – provided by Puerto Rico Tourism Company
* National Geographic Society logo shopping bag – provided by the National Geographic Society
* Book (On Assignment) – provided by National Geographic Society

-

This is a cooperative research project of the University of Puerto Rico-Mayaguez, Puerto Rico Sea Grant, the U.S. Environmental Protection Agency and the National Oceanic and Atmospheric

Administration. Public reporting burden for this collection of information is estimated to average 10 minutes including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230.

OMB Approval #:
Expiration Date:

THANK YOU!

for
participating in this
Recreation Survey

Dear Visitor,

During your recent trip to Puerto Rico you indicated that you would be willing to complete this questionnaire. It is self-explanatory and should take about 20 minutes to complete. **Please** record your answers accurately and legibly. Your answers represent many other people not included in this survey effort so it is **very important** that you return your questionnaire.

Your answers are voluntary. Your name will never be released to anyone unless otherwise required by law. After the comple- tion of the project all materials identifying you as an individual will be destroyed.

When you complete the questionnaire, please reverse-fold it so that our return address on the GREEN PAGE in the inside is folded to the out-side. Please staple or tape to seal the questionnaire and mail it back to us. No postage is needed. Your cooperation in this effort is greatly appreciated.

Sincerely,

Dr. Miguel del Pozo (Project Lead)
University of Puerto Rico - Mayaguez Campus
Telephone: (787) 941-3559
Miguel.delpozo@gmail.com

Dr. Ruperto Chaparro (Project Co-lead)
Puerto Rico Sea Grant Program
Extension Leader
University of Puerto Rico
P.O. Box 5000
Mayaguez, PR 00681
Telephone: (787) 832-8045
Ruperto.chaparro@upr.edu

Please note: It is very important that the same person who participated in the on-site interview also complete this questionnaire.

OMB Approval #:
Expiration Date:

THANK YOU!

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Recreation Survey

Dear Visitor,

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Please note: It is very important that the same person who participated in the on-site interview also complete this questionnaire.

In this section we are interested in identifying the recreation site information which is important to you, the visitor.

Ia Please read each statement and rate the importance of each item as it contributes to an ideal recreation/tourism setting for the activities you did in Puerto Rico. If an item does not apply, indicate by circling n/a (not applicable). Likewise, if you don't know, circle (dk).

IMPORTANCE (in the ideal recreational setting for activities)

		Not Applicable	Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
1)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
2)	Clean water for swimming and other water-based activities.	n/a	dk	1	2	3	4	5
3)	Amount of living coals on the reefs.	n/a	dk	1	2	3	4	5
4)	Many different kinds of fishes and sea life to view	n/a	dk	1	2	3	4	5
5)	Many different kinds of fishes and sea life to catch	n/a	dk	1	2	3	4	5
6)	Control of invasive species (lionfish)	n/a	dk	1	2	3	4	5
7)	Enforcement of environmental laws and regulations.	n/a	dk	1	2	3	4	5
8)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
9)	Easy, abundant and quality beach and shoreline access.	n/a	dk	1	2	3	4	5
10)	Marina facilities, boat ramps/launching facilities	n/a	dk	1	2	3	4	5
11)	Mooring buoys and navigational markers	n/a	dk	1	2	3	4	5
12)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers)	n/a	dk	1	2	3	4	5
13)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
14)	Availability of public restrooms	n/a	dk	1	2	3	4	5
15)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
16)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
17)	Public transportation	n/a	dk	1	2	3	4	5
18)	Parking	n/a	dk	1	2	3	4	5
19)	Historic preservation (historic landmarks, houses, etc.)	n/a	dk	1	2	3	4	5
20)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
21)	Availability of tour guides	n/a	dk	1	2	3	4	5
22)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
23)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
24)	Public safety (areas with low crime rates)	n/a	dk	1	2	3	4	5
25)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5

Ib. On the previous page you indicated the importance of a list of items to your recreational/tourist experiences. Now please read each of the items on this list and rate how satisfied you were with each at the places you did your activities in Puerto Rico. If an item does not apply, indicate by circling n/a (not applicable). Likewise, if you don't know, circle (dk).

SATISFACTION
(with each of these items where you did activities in Puerto Rico)

		Not Applicable	Don't Know	Terrible	Unhappy/Dissatisfied	Mixed	Happy/Satisfied	Delighted
1)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
2)	Clean water for swimming and other water-based activities.	n/a	dk	1	2	3	4	5
3)	Amount of living coals on the reefs.	n/a	dk	1	2	3	4	5
4)	Many different kinds of fishes and sea life to view	n/a	dk	1	2	3	4	5
5)	Many different kinds of fishes and sea life to catch	n/a	dk	1	2	3	4	5
6)	Control of invasive species (lionfish)	n/a	dk	1	2	3	4	5
7)	Enforcement of environmental laws and regulations.	n/a	dk	1	2	3	4	5
8)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
9)	Easy, abundant and quality beach and shoreline access.	n/a	dk	1	2	3	4	5
10)	Marina facilities, boat ramps/launching facilities	n/a	dk	1	2	3	4	5
11)	Mooring buoys and navigational markers	n/a	dk	1	2	3	4	5
12)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot shower)	n/a	dk	1	2	3	4	5
13)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
14)	Availability of public restrooms	n/a	dk	1	2	3	4	5
15)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
16)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
17)	Public transportation	n/a	dk	1	2	3	4	5
18)	Parking	n/a	dk	1	2	3	4	5
19)	Historic preservation (historic landmarks, houses, etc.)	n/a	dk	1	2	3	4	5
20)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
21)	Availability of tour guides	n/a	dk	1	2	3	4	5
22)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
23)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
24)	Public safety (areas with low crime rates)	n/a	dk	1	2	3	4	5
25)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5

Ic. Had you visited Puerto Rico more than five years ago?
- ☐ If "yes" answer question Id.
- ☐ If "no" skip to question IIa on page 4.

Id. Now please read each of the items on this list and rate how satisfied you were with each five years ago or more in Puerto Rico. If an item does not apply, indicate by circling n/a (not applicable). Likewise, if you don't know, circle (dk).

SATISFACTION (with each of these items five years ago in Puerto Rico)

		Not Applicable	Don't Know	Terrible	Unhappy/Dissatisfied	Mixed	Happy/Satisfied	Delighted
1)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
2)	Clean water for swimming and other water-based activities	n/a	dk	1	2	3	4	5
3)	Amount of living coals on the reefs	n/a	dk	1	2	3	4	5
4)	Many different kinds of fishes and sea life to view	n/a	dk	1	2	3	4	5
5)	Many different kinds of fishes and sea life to catch	n/a	dk	1	2	3	4	5
6)	Control of invasive species (lionfish)	n/a	dk	1	2	3	4	5
7)	Enforcement of environmental laws and regulations	n/a	dk	1	2	3	4	5
8)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
9)	Easy, abundant and quality beach and shoreline access	n/a	dk	1	2	3	4	5
10)	Marina facilities, boat ramps/launching facilities	n/a	dk	1	2	3	4	5
11)	Mooring buoys and navigational markers	n/a	dk	1	2	3	4	5
12)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot shower)	n/a	dk	1	2	3	4	5
13)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
14)	Availability of public restrooms	n/a	dk	1	2	3	4	5
15)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
16)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
17)	Public transportation	n/a	dk	1	2	3	4	5
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21)	Availability of tour guides	n/a	dk	1	2	3	4	5
22)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
23)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
24)	Public safety (areas with low crime rates)	n/a	dk	1	2	3	4	5
25)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5

IIa. Now please read each of the items on the list below and rate **your** expectations for each of the following in Puerto Rico. If an item does not apply, indicate by circling not applicable (n/a). Likewise, if you don't know, circle (dk).

EXPECTATION (with each of these items in Puerto Rico)

		Not Applicable	Don't Know	Did not expect	Small expectation	Moderate expectation	Large expectation	Very large expectation
1)	Marina facilities	n/a	dk	1	2	3	4	5
2)	Availability of public restrooms	n/a	dk	1	2	3	4	5
3)	Public transportation	n/a	dk	1	2	3	4	5
4)	Parking	n/a	dk	1	2	3	4	5
5)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
6)	Boat ramps/launching facilities	n/a	dk	1	2	3	4	5
7)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
8)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers)	n/a	dk	1	2	3	4	5
9)	Mooring buoys and navigational aids	n/a	dk	1	2	3	4	5
10)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5
11)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
12)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
13)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
14)	Easy, abundant, and quality beach & shoreline access	n/a	dk	1	2	3	4	5
15)	Enforcement of environmental laws & regulations	n/a	dk	1	2	3	4	5
16)	Public safety (area has low crime rates)	n/a	dk	1	2	3	4	5
17)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
18)	Availability of tour guides	n/a	dk	1	2	3	4	5
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20)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
21)	Quality restaurants	n/a	dk	1	2	3	4	5
22)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
23)	Clean water for swimming and other water-based activities	n/a	dk	1	2	3	4	5
24)	Amount of living coral on the reefs	n/a	dk	1	2	3	4	5
25)	Many kinds of fish and sealife to view	n/a	dk	1	2	3	4	5

IIb. Now please read each of the items on the list below and rate how they **met** your expectations for each of the following in If an item does not apply, indicate by circling not applicable (n/a). Likewise, if you don't know, circle (dk).

ACCOMPLISHMENT (with each of these items in Puerto Rico)

		Not Applicable	Don't Know	Completely did not meet expectation	Slightly met expectation	Met expectation	Slightly exceded expectation	Completely exceded expectation
1)	Marina facilities	n/a	dk	1	2	3	4	5
2)	Availability of public restrooms	n/a	dk	1	2	3	4	5
3)	Public transportation	n/a	dk	1	2	3	4	5
4)	Parking	n/a	dk	1	2	3	4	5
5)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
6)	Boat ramps/launching facilities	n/a	dk	1	2	3	4	5
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21)	Quality restaurants	n/a	dk	1	2	3	4	5
22)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
23)	Clean water for swimming and other water-based activities	n/a	dk	1	2	3	4	5
24)	Amount of living coral on the reefs	n/a	dk	1	2	3	4	5
25)	Many kinds of fish and sealife to view	n/a	dk	1	2	3	4	5

In this section we have a few special issues questions we would like to ask you.

IIIa. Do you own a boat in Puerto Rico?

☐ Yes (Continue) ☐ No (Go to Question IIId)

IIIb. What is the length of your boat?

_____ (Feet)

IIIc. Do you trailer your boat or do you store it at a dock or marina?

☐ Trailer
☐ Store at a dock or marina

IIId. Do you own or rent a vacation home on the coast with access to the water?

☐ Yes ☐ No

IIIe. How important were Puerto Rico's beaches to your decision to visit Puerto Rico?

Not Important	Somewhat Important	Important	Veryt Important	Extremely Important
1	2	3	4	5

IIIf. Was this trip your first visit to Puerto Rico for recreation activities?

☐ Yes (Go to Question IVa) ☐ No (Continue)

IIIg. How many years have you been coming to Puerto Rico for recreation activities?

_____ (Years)

IVa. How likely is it that you will recommend Puerto Rico to a friend or family member for their next vacation?
(Circle the appropriate answer)

Don't Know	Will Not Recommend	Somewhat Likely	Likely	Very Likely	Will Recommend
dk	1	2	3	4	5

IVb. How likely is it that you will return to Puerto Rico for a visit?
(Circle the appropriate answer)

Don't Know	Will Return	Somewhat Likely	Likely	Very Likely	Will Return
dk	1	2	3	4	5

<If you circle "Don't Know" or "Will Not Return" above, go to Question V>

IVc. How soon might you return to Puerto Rico?

☐ Don't Know
☐ In less than 3 months
☐ 3 to 6 months
☐ 6 to 12 months
☐ Greater than one year

Va. On your first visit ever to Puerto Rico, was your visit on a cruise ship stopover?

☐ Yes ☐ No (Skip to Section VI)

Vb. Did your stopover experience in Puerto Rico result in you choosing Puerto Rico as a destination for a non cruise ship visit?

☐ Yes ☐ No

Vc. If this cruise ship visit was your first visit, did your experience lead you to think about planning a future non cruise ship visit to Puerto Rico?

☐ Yes ☐ No

VIa. Islands like Puerto Rico face competing demands for development. When choosing a destination for your vacation and/or recreation activities what is your preference? (Check one answer only)

☐ Low development, small town atmosphere along the coast

☐ Dense development, large town with high-rise hotels and casinos, many restaurant and shopping opportunities

☐ Mix of low development and dense development places

☐ No preference

VIb. Some people may be okay with staying in dense developed areas, but when doing certain recreation activities like visiting beaches, fishing, SCUBA diving, snorkeling, boating, surfing, wind surfing, paddle boarding, viewing wildlife, photography and hiking trails prefer to have views unobstructed by development (e.g. big hotels, offshore oil and gas platforms, wind turbines etc.).

How important to you is it to have areas with natural views protected? (Check one answer only)

☐ Not important

☐ Somewhat important

☐ Important

☐ Very important

☐ Extremely important

VII. In this section, we want to ask you about several issues of importance to managing Puerto Rico's natural resources that support recreation activities, or protect the resources by preservation methods

For the following statements, please indicate if you 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree, or dk = don't know. (Please circle one number for each statement)

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1)	I support the creation of marine protected areas that allow activities as long as they don't harm the resource	1	2	3	4	5
2)	I support the creation of marine reserves that prohibit all activities that take things like fishing and ornamental trade for aquariums.	1	2	3	4	5
3)	I support the creation of research only areas that only allow scientific and educational activities	1	2	3	4	5
3)	I support increased protection of threatened and endangered species like turtles and elk and staghorn corals	1	2	3	4	5
5)	I support increased enforcement of environmental laws and regulations	1	2	3	4	5
6)	I support increased education and outreach for violators of environmental laws and regulations.	1	2	3	4	5
7)	I support a balanced approach to using education and outreach and enforcement on violators of environmental laws and regulations	1	2	3	4	5

OMB Approval #:
Expiration Date:

That's All!! If you would like to be entered into a sweepstakes to win a free Vacation to Puerto Rico, fill out your name, address and phone number below. All prizes will be awarded TBD.

Name: _____

Address: _____

City: _____

State:_____Zip:_____Phone: _____

Prizes to be awarded are:

GRAND PRIZE – in Vieques

* Lodging (a room for two for 3 nights) – provided by Esperanza Inn
* Dive tour for 2 – provided by Isla Nena Scuba
* 1/2 Day fishing trip – provided by Vieques Sport Fishing (Capt. J. Ferguson)
* Coffee table book (*Beneath the Waves*) – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by the Surfrider Foundation Rincon
- Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve
- Puerto Rico T-shirt – provided by Puerto Rico Tourism Company

FIRST PRIZE

* Dive trip for 2 certified divers from Fajardo reefs – provided by Sea Ventures Inc.
  1/2 Day deep sea fishing trip (1/2 price) from Fajardo – provided by Light Tackle Paradise (Capt. Marcos Hanke)
* Coffee table book (*Beneath the Waves)* – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
* Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve

SECOND PRIZE

* 1/2 Day fishing trip (in-shore) in Cabo Rojo – provided by Light Tackle Adventures (Capt. Pochy Rosario)
* Coffee table book (*Beneath the Waves*) – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by the Surfrider Foundation Rincon
* Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve
* Puerto Rico T-shirt – provided by Puerto Rico Tourism Company

Consolation Prizes

* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
* Puerto Rico T-shirt – provided by Puerto Rico Tourism Company
* National Geographic Society logo shopping bag – provided by the National Geographic Society
* Book (On Assignment) – provided by National Geographic Society

-

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estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230.

In this section we are interested in identifying the recreation site information which is important to you, the visitor.

Ia Please read each statement and rate the importance of each item as it contributes to an ideal recreation/tourism setting for the activities you did in Puerto Rico. If an item does not apply, indicate by circling n/a (not applicable). Likewise, if you don't know, circle (dk).

IMPORTANCE (in the ideal recreational setting for activities)

		Not Applicable	Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
1)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
2)	Clean water for swimming and other water-based activities.	n/a	dk	1	2	3	4	5
3)	Amount of living coals on the reefs.	n/a	dk	1	2	3	4	5
4)	Many different kinds of fishes and sea life to view	n/a	dk	1	2	3	4	5
5)	Many different kinds of fishes and sea life to catch	n/a	dk	1	2	3	4	5
6)	Control of invasive species (lionfish)	n/a	dk	1	2	3	4	5
7)	Enforcement of environmental laws and regulations.	n/a	dk	1	2	3	4	5
8)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
9)	Easy, abundant and quality beach and shoreline access.	n/a	dk	1	2	3	4	5
10)	Marina facilities, boat ramps/launching facilities	n/a	dk	1	2	3	4	5
11)	Mooring buoys and navigational markers	n/a	dk	1	2	3	4	5
12)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers)	n/a	dk	1	2	3	4	5
13)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
14)	Availability of public restrooms	n/a	dk	1	2	3	4	5
15)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
16)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
17)	Public transportation	n/a	dk	1	2	3	4	5
18)	Parking	n/a	dk	1	2	3	4	5
19)	Historic preservation (historic landmarks, houses, etc.)	n/a	dk	1	2	3	4	5
20)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
21)	Availability of tour guides	n/a	dk	1	2	3	4	5
22)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
23)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
24)	Public safety (areas with low crime rates)	n/a	dk	1	2	3	4	5
25)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5

Ib. On the previous page you indicated the importance of a list of items to your recreational/tourist experiences. Now please read each of the items on this list and rate how satisfied you were with each at the places you did your activities in Puerto Rico. If an item does not apply, indicate by circling n/a (not applicable). Likewise, if you don't know, circle (dk).

SATISFACTION
(with each of these items where you did activities in Puerto Rico)

		Not Applicable	Don't Know	Terrible	Unhappy/Dissatisfied	Mixed	Happy/Satisfied	Delighted
1)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
2)	Clean water for swimming and other water-based activities.	n/a	dk	1	2	3	4	5
3)	Amount of living coals on the reefs.	n/a	dk	1	2	3	4	5
4)	Many different kinds of fishes and sea life to view	n/a	dk	1	2	3	4	5
5)	Many different kinds of fishes and sea life to catch	n/a	dk	1	2	3	4	5
6)	Control of invasive species (lionfish)	n/a	dk	1	2	3	4	5
7)	Enforcement of environmental laws and regulations.	n/a	dk	1	2	3	4	5
8)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
9)	Easy, abundant and quality beach and shoreline access.	n/a	dk	1	2	3	4	5
10)	Marina facilities, boat ramps/launching facilities	n/a	dk	1	2	3	4	5
11)	Mooring buoys and navigational markers	n/a	dk	1	2	3	4	5
12)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot shower)	n/a	dk	1	2	3	4	5
13)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
14)	Availability of public restrooms	n/a	dk	1	2	3	4	5
15)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
16)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
17)	Public transportation	n/a	dk	1	2	3	4	5
18)	Parking	n/a	dk	1	2	3	4	5
19)	Historic preservation (historic landmarks, houses, etc.)	n/a	dk	1	2	3	4	5
20)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
21)	Availability of tour guides	n/a	dk	1	2	3	4	5
22)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
23)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
24)	Public safety (areas with low crime rates)	n/a	dk	1	2	3	4	5
25)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5

Ic. Had you visited Puerto Rico more than five years ago?
- ☐ If "yes" answer question Id.
- ☐ If "no" skip to question IIa on page 4.

Id. Now please read each of the items on this list and rate how satisfied you were with each five years ago or more in Puerto Rico. If an item does not apply, indicate by circling n/a (not applicable). Likewise, if you don't know, circle (dk).

SATISFACTION (with each of these items five years ago in Puerto Rico)

		Not Applicable	Don't Know	Terrible	Unhappy/Dissatisfied	Mixed	Happy/Satisfied	Delighted
1)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
2)	Clean water for swimming and other water-based activities	n/a	dk	1	2	3	4	5
3)	Amount of living coals on the reefs	n/a	dk	1	2	3	4	5
4)	Many different kinds of fishes and sea life to view	n/a	dk	1	2	3	4	5
5)	Many different kinds of fishes and sea life to catch	n/a	dk	1	2	3	4	5
6)	Control of invasive species (lionfish)	n/a	dk	1	2	3	4	5
7)	Enforcement of environmental laws and regulations	n/a	dk	1	2	3	4	5
8)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
9)	Easy, abundant and quality beach and shoreline access	n/a	dk	1	2	3	4	5
10)	Marina facilities, boat ramps/launching facilities	n/a	dk	1	2	3	4	5
11)	Mooring buoys and navigational markers	n/a	dk	1	2	3	4	5
12)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot shower)	n/a	dk	1	2	3	4	5
13)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
14)	Availability of public restrooms	n/a	dk	1	2	3	4	5
15)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
16)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
17)	Public transportation	n/a	dk	1	2	3	4	5
18)	Parking	n/a	dk	1	2	3	4	5
19)	Historic preservation (historic landmarks, houses, etc.)	n/a	dk	1	2	3	4	5
20)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
21)	Availability of tour guides	n/a	dk	1	2	3	4	5
22)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
23)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
24)	Public safety (areas with low crime rates)	n/a	dk	1	2	3	4	5
25)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5

IIa. Now please read each of the items on the list below and rate **your** expectations for each of the following in Puerto Rico. If an item does not apply, indicate by circling not applicable (n/a). Likewise, if you don't know, circle (dk).

EXPECTATION (with each of these items in Puerto Rico)

		Not Applicable	Don't Know	Did not expect	Small expectation	Moderate expectation	Large expectation	Very large expectation
1)	Marina facilities	n/a	dk	1	2	3	4	5
2)	Availability of public restrooms	n/a	dk	1	2	3	4	5
3)	Public transportation	n/a	dk	1	2	3	4	5
4)	Parking	n/a	dk	1	2	3	4	5
5)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
6)	Boat ramps/launching facilities	n/a	dk	1	2	3	4	5
7)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
8)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers)	n/a	dk	1	2	3	4	5
9)	Mooring buoys and navigational aids	n/a	dk	1	2	3	4	5
10)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5
11)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
12)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
13)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
14)	Easy, abundant, and quality beach & shoreline access	n/a	dk	1	2	3	4	5
15)	Enforcement of environmental laws & regulations	n/a	dk	1	2	3	4	5
16)	Public safety (area has low crime rates)	n/a	dk	1	2	3	4	5
17)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
18)	Availability of tour guides	n/a	dk	1	2	3	4	5
19)	Historic preservation (historic landmarks, houses, etc.)	n/a	dk	1	2	3	4	5
20)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
21)	Quality restaurants	n/a	dk	1	2	3	4	5
22)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
23)	Clean water for swimming and other water-based activities	n/a	dk	1	2	3	4	5
24)	Amount of living coral on the reefs	n/a	dk	1	2	3	4	5
25)	Many kinds of fish and sealife to view	n/a	dk	1	2	3	4	5

IIb. Now please read each of the items on the list below and rate how they **met** your expectations for each of the following in If an item does not apply, indicate by circling not applicable (n/a). Likewise, if you don't know, circle (dk).

ACCOMPLISHMENT (with each of these items in Puerto Rico)

		Not Applicable	Don't Know	Completely did not meet expectation	Slightly met expectation	Met expectation	Slightly exceded expectation	Completely exceded expectation
1)	Marina facilities	n/a	dk	1	2	3	4	5
2)	Availability of public restrooms	n/a	dk	1	2	3	4	5
3)	Public transportation	n/a	dk	1	2	3	4	5
4)	Parking	n/a	dk	1	2	3	4	5
5)	Cleanliness of streets and sidewalks	n/a	dk	1	2	3	4	5
6)	Boat ramps/launching facilities	n/a	dk	1	2	3	4	5
7)	Well maintained roads and bridges	n/a	dk	1	2	3	4	5
8)	Value of lodging (cost vs amenities: clean rooms & linens, working ac, hot showers)	n/a	dk	1	2	3	4	5
9)	Mooring buoys and navigational aids	n/a	dk	1	2	3	4	5
10)	Good maps and signage for road navigation	n/a	dk	1	2	3	4	5
11)	Resorts with focus on Ecotourism/green initiatives: low energy use, recycling	n/a	dk	1	2	3	4	5
12)	Educational posters, signs, brochures	n/a	dk	1	2	3	4	5
13)	Availability of lifeguards for beach safety	n/a	dk	1	2	3	4	5
14)	Easy, abundant, and quality beach & shoreline access	n/a	dk	1	2	3	4	5
15)	Enforcement of environmental laws & regulations	n/a	dk	1	2	3	4	5
16)	Public safety (area has low crime rates)	n/a	dk	1	2	3	4	5
17)	Customer service and friendliness of people	n/a	dk	1	2	3	4	5
18)	Availability of tour guides	n/a	dk	1	2	3	4	5
19)	Historic preservation (historic landmarks, houses, etc.)	n/a	dk	1	2	3	4	5
20)	Artificial reefs (sunken ships, reef balls)	n/a	dk	1	2	3	4	5
21)	Quality restaurants	n/a	dk	1	2	3	4	5
22)	Clear water (high visibility)	n/a	dk	1	2	3	4	5
23)	Clean water for swimming and other water-based activities	n/a	dk	1	2	3	4	5
24)	Amount of living coral on the reefs	n/a	dk	1	2	3	4	5
25)	Many kinds of fish and sealife to view	n/a	dk	1	2	3	4	5

In this section we have a few special issues questions we would like to ask you.

IIIa. Do you own a boat in Puerto Rico?

☐ Yes (Continue) ☐ No (Go to Question IIId)

IIIb. What is the length of your boat?

_____ (Feet)

IIIc. Do you trailer your boat or do you store it at a dock or marina?

☐ Trailer
☐ Store at a dock or marina

IIId. Do you own or rent a vacation home on the coast with access to the water?

☐ Yes ☐ No

IIIe. How important were Puerto Rico's beaches to your decision to visit Puerto Rico?

Not Important	Somewhat Important	Important	Veryt Important	Extremely Important
1	2	3	4	5

IIIf. Was this trip your first visit to Puerto Rico for recreation activities?

☐ Yes (Go to Question IVa) ☐ No (Continue)

IIIg. How many years have you been coming to Puerto Rico for recreation activities?

_____ (Years)

IVa. How likely is it that you will recommend Puerto Rico to a friend or family member for their next vacation?
(Circle the appropriate answer)

Don't Know	Will Not Recommend	Somewhat Likely	Likely	Very Likely	Will Recommend
dk	1	2	3	4	5

IVb. How likely is it that you will return to Puerto Rico for a visit?
(Circle the appropriate answer)

Don't Know	Will Return	Somewhat Likely	Likely	Very Likely	Will Return
dk	1	2	3	4	5

<If you circle "Don't Know" or "Will Not Return" above, go to Question V>

IVc. How soon might you return to Puerto Rico?

☐ Don't Know
☐ In less than 3 months
☐ 3 to 6 months
☐ 6 to 12 months
☐ Greater than one year

Va. On your first visit ever to Puerto Rico, was your visit on a cruise ship stopover?

☐ Yes ☐ No (Skip to Section VI)

Vb. Did your stopover experience in Puerto Rico result in you choosing Puerto Rico as a destination for a non cruise ship visit?

☐ Yes ☐ No

Vc. If this cruise ship visit was your first visit, did your experience lead you to think about planning a future non cruise ship visit to Puerto Rico?

☐ Yes ☐ No

VIa. Islands like Puerto Rico face competing demands for development. When choosing a destination for your vacation and/or recreation activities what is your preference? (Check one answer only)

☐ Low development, small town atmosphere along the coast

☐ Dense development, large town with high-rise hotels and casinos, many restaurant and shopping opportunities

☐ Mix of low development and dense development places

☐ No preference

VIb. Some people may be okay with staying in dense developed areas, but when doing certain recreation activities like visiting beaches, fishing, SCUBA diving, snorkeling, boating, surfing, wind surfing, paddle boarding, viewing wildlife, photography and hiking trails prefer to have views unobstructed by development (e.g. big hotels, offshore oil and gas platforms, wind turbines etc.).

How important to you is it to have areas with natural views protected? (Check one answer only)

☐ Not important

☐ Somewhat important

☐ Important

☐ Very important

☐ Extremely important

VII. In this section, we want to ask you about several issues of importance to managing Puerto Rico's natural resources that support recreation activities, or protect the resources by preservation methods

For the following statements, please indicate if you 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree, or dk = don't know. (Please circle one number for each statement)

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1)	I support the creation of marine protected areas that allow activities as long as they don't harm the resource	1	2	3	4	5
2)	I support the creation of marine reserves that prohibit all activities that take things like fishing and ornamental trade for aquariums.	1	2	3	4	5
3)	I support the creation of research only areas that only allow scientific and educational activities	1	2	3	4	5
3)	I support increased protection of threatened and endangered species like turtles and elk and staghorn corals	1	2	3	4	5
5)	I support increased enforcement of environmental laws and regulations	1	2	3	4	5
6)	I support increased education and outreach for violators of environmental laws and regulations.	1	2	3	4	5
7)	I support a balanced approach to using education and outreach and enforcement on violators of environmental laws and regulations	1	2	3	4	5

OMB Approval #:
Expiration Date:

That's All!! If you would like to be entered into a sweepstakes to win a free Vacation to Puerto Rico, fill out your name, address and phone number below. All prizes will be awarded TBD.

Name: _____

Address: _____

City: _____

State:_____Zip:_____Phone: _____

Prizes to be awarded are:

GRAND PRIZE – in Vieques

* Lodging (a room for two for 3 nights) – provided by Esperanza Inn
* Dive tour for 2 – provided by Isla Nena Scuba
* 1/2 Day fishing trip – provided by Vieques Sport Fishing (Capt. J. Ferguson)
* Coffee table book (*Beneath the Waves*) – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by the Surfrider Foundation Rincon
- Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve
- Puerto Rico T-shirt – provided by Puerto Rico Tourism Company

FIRST PRIZE

* Dive trip for 2 certified divers from Fajardo reefs – provided by Sea Ventures Inc.
  1/2 Day deep sea fishing trip (1/2 price) from Fajardo – provided by Light Tackle Paradise (Capt. Marcos Hanke)
* Coffee table book (*Beneath the Waves)* – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
* Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve

SECOND PRIZE

* 1/2 Day fishing trip (in-shore) in Cabo Rojo – provided by Light Tackle Adventures (Capt. Pochy Rosario)
* Coffee table book (*Beneath the Waves*) – provided by PR Sea Grant
* Reuseable Gore Tex shopping bag – provided by the Surfrider Foundation Rincon
* Children's Book (*Adventures of Pelican)* – provided by Jobos Bay National Estuarine Reserve
* Puerto Rico T-shirt – provided by Puerto Rico Tourism Company

Consolation Prizes

* Reuseable Gore Tex shopping bag – provided by Surfrider Foundation Rincon
* Puerto Rico T-shirt – provided by Puerto Rico Tourism Company
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estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230.

Economic Valuation of Puerto Rico's Coral Reef-Associated Tourism and Recreation

Sweepstakes Lottery Gifts for Visitors

Grand Prize—in Vieques

- Lodging (a room for two for 3 nights) - provided by Esperanza Inn
- Dive tour for 2 - provided by Isla Nena Scuba
- ½ day fishing trip - provided by Vieques Sport Fishing (Capt. J. Ferguson)
- Coffee table book (*Beneath the Waves*) - provided by PR Sea Grant
- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Children's Book *(Adventures of Pelican)* - provided by Jobos Bay National Estuarine Reserve
- Puerto Rico T-shirt - provided by Puerto Rico Tourism Company

First Prize

- Dive trip for 2 certified divers from Fajardo reefs - provided by Sea Ventures Inc.
- 1/2 day deep sea fishing trip (1/2 price) - from Fajardo - provided by Light Tackle Paradise (Capt. Marcos Hanke)
- Coffee table book (*Beneath the Waves*) - provided by PR Sea Grant
- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Children's Book *(Adventures of Pelican)* - provided by Jobos Bay National Estuarine Reserve

Second Prize

- 1/2 day fishing trip (in-shore) in Cabo Rojo - provided by Light Tackle Adventures (Capt. Pochy Rosario)
- Coffee table book (*Beneath the Waves*) - provided by PR Sea Grant
- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Children's Book *(Adventures of Pelican)* - provided by Jobos Bay National Estuarine Reserve
- Puerto Rico T-shirt - provided by Puerto Rico Tourism Company

Consolation Prizes

- Reusable Gore Tex shopping bag - provided by Surfrider Foundation Rincón
- Puerto Rico T-shirt - provided by Puerto Rico Tourism Company
- National Geographic Society logo shopping bag - provided by National Geographic Society
- Book (*On Assignment*) - provided by National Geographic Society

Sweepstakes Lottery is being conducted by Ridge to Reefs, Inc.

For Further information, contact:

Dr. Miguel del Pozo (Project Lead)
University of Puerto Rico – Mayagüez Campus
Telephone: (787) 941-3559
Miguel.delpozo@gmail.com

ATTACHMENT C: FOCUS GROUP REPORT

We received approval to conduct two focus groups of eight persons for each group for both residents of Puerto Rico and visitors to Puerto Rico who have used Puerto Rico's coral reefs for recreation (OMB Control Number 0648-0660, Expiration:02/29/2016).

The objectives of the focus groups were as follows:

1. Identify reef attributes people care about when they do recreation activities on Puerto Rico's coral reefs.
2. Identify levels of conditions of each attribute that would affect their economic value for coral reef use.
3. Check to see if Illustration and Scientific Bullets describing reef attribute conditions were consistent (i.e. tell the same story).
4. Identify and reef attributes not in the current list of attributes and their levels, if they affect their economic values.
5. For what attributes not in the illustrations are visual aids needed.
6. Maximum willingness to pay for different reef attributes' conditions. This to provide a starting point for designing the dollar bids for the pre-test choice questions.
7. Check to see if payment vehicle for willingness to pay might include some biases or result in scenario rejection.

A set of focus group materials was developed by NOAA, EPA and the University of Puerto Rico-Mayaguez. These are included here:

1. Focus Group Task/Script
2. Definition of coral reef ecosystems and conditions (CORAL REEF DEFINITIONS and CONDITIONS CARD.
3. Reef Activities List
4. Attributes important to different recreation activities on the reefs. Table focus group members fill-out.
5. Attribute levels and if willingness to pay changes with attribute levels. Table focus group members fill-out.
6. Illustrations of coral reef conditions (Low, Medium and High). See Appendix D.
7. Willingness to Pay Card.
8. Demographics Card.

Focus Group Results

The University of Puerto Rico – Mayaguez recruited focus group members and conducted the focus group interviews under the guidance of Dr. Miguel del Pozo, Project Leader under contract to NOAA's Office of National Marine Sanctuary. Dr. Vernon R. (Bob) Leeworthy is the overall Project Leader and attended the first resident focus group as an observer.

The original plan was for four focus groups; two for residents and two for visitors with each consisting of eight members. However, it proved difficult to assemble focus groups, especially visitors during the low season despite incentives. For residents, two groups of 6 for a total of 12 people participated. For visitors, instead of groups, seven one-on-ones were conducted. Dinner was provided for each participant in a "comfortable and appealing setting". Focus group sessions lasted 2 hours for each session and all tasks were completed.

Task 1: Identify reef attributes people care about when they do recreation activities on Puerto Rico's coral reefs.

Both residents and visitors thought we should consider surfing, wind surfing, kite boarding and paddle boarding as reef using activities. Focus group members mentioned issues of clean water that healthy for swimming as an additional important attribute and that depth of coral reefs was important. They thought that sponges and soft corals could be combined for diversity and abundance.

Task 2: Identify levels of conditions of each attribute that would affect their economic values for coral reef use.

Both residents and visitors thought the levels of each attribute were good and moving from low to medium conditions and medium to high conditions would change their economic values. There was on possible exception and that was soft corals and sponges. Several focus group members thought that more soft corals and sponges would increase their economic values even though the scientific information provided suggests that they are predominant where water quality conditions are of lower condition and hard corals are significantly reduced or eliminated.

Task 3: Illustrations and Scientific Bullets - Are they consistent (i.e. tell the same story)?

Both resident and visitors agreed that the illustrations and scientific bullets were giving a consistent story on the relative condition of reef attributes. Some wanted to see more soft corals and sponges in the low condition illustration. This is being done.

Task 4: Reef Attributes not included in illustrations – Do we need some visual aids for these attributes?

Both residents and visitors wanted us to add depth of the reefs and water cleanliness (healthy for swimming or not healthy for swimming and no visual aids were needed for these attributes.

Both residents and visitors wanted some photos in the introduction of hard corals (stony corals), soft corals and sponges, fish and invertebrates, and mega fauna (large animals/predators) that one might see on a Puerto Rican coral reef.

Both residents and visitors thought we needed an additional visual aid for the issue of crowding. They thought that it did not have to include number of boats on the water or number of people in the water, but should just have different number of people such as on a beach in Puerto Rico. Some even said it didn't necessarily have to be a beach in Puerto Rico. We took a picture of a Puerto Rican beach a Photo-shopped in different numbers of people to the three different levels of crowding that have affected people's satisfaction ratings in other studies.

Residents and visitors did not think a visual aid was needed for water clarity/visibility, the bullet descriptions were sufficient.

Task 5: Bid Amounts for Willingness to Pay for different reef conditions

Residents and visitors understood the task after the explanation was provided that it wasn't natural to reveal their maximum willingness to pay, but we needed them to help us design the survey by providing their maximum willingness to pay. Results were surprising. We expected that visitors would have higher willingness to pay than residents as visitors have significantly higher incomes. With the small sample sizes (7 visitors and 12 residents), there wasn't a statistical difference between visitor's and resident's willingness to pay. There wasn't a clear relationship between any socioeconomic/demographic factor and willingness to pay. In the pre-test, we therefore will use the same range of bids to help design the final bids for the choice questions.

Residents (N=12): Moving from low to medium attribute conditions ranged from $0 to $500 with a mean of $172.92, a median of 50. Actual numbers (0, 0, 20, 25, 30, 50, 50, 200, 300, 400, 500, 500). Moving from medium to high attribute conditions ranged from $0 to $1,000 with a mean of $328.75 and a median of $92.50. Actual numbers (1, 10, 20, 40, 40, 85, 100, 250, 600, 800, 1000, 1000).

Visitors (N=7): Moving from low to medium attribute conditions ranged from $20 to $240 with a mean of $86.43 and median of $70. Actual numbers (20, 25, 50, 70, 100, 100, 240). Moving from medium to high attribute conditions ranged from $40 to $240 with a mean of $115.71 and a median of $100. Actual numbers (40, 80, 100, 100, 100, 150, 240).

Residents were more skeptical about the territorial government's ability to effectively use the funds obtained to manage the coral reefs. They preferred a federal agency or a private non-profit. They didn't like the use of direct user fees and generally accepted our payment vehicle as general increases in the price of goods and services. We added in some questions in the pre-test to further explore the possibility of vehicle payment bias.

Task 6: Background Questions about themselves.

Even though most of the residents answered the question on “RACE”, the group discussion was more negative. Puerto Rican residents have an ethnic identity, but not a racial one. Some wanted us to add categories such as: “mixed race” and “Afro-Caribbean”. Black Puerto Ricans may not identify themselves as “Afro-Americans” and prefer “Afro-Caribbean”. The problem with us changing categories is the requirement that we adhere to the Census categories in the OMB Guidelines for “Race”.

FOCUS GROUP TASKS/SCRIPT

Task 1: Identify reef attributes people care about when they do recreation activities on Puerto Rico's coral reefs.

1. Start out with a definition of coral reef ecosystems. (Handout) Brief discussion answering questions about definition.

2. Handout list of attributes and activities. Attributes are rows and activities columns. Ask focus group members to check which attributes are important to them for which activities.

   After they have completed.

3. Ask about any attributes not on the list that are important to them. Discuss.

4. Ask about attributes on the list that they don't think are important. Discuss.

Task 2: Identify levels of conditions of each attribute that would affect their economic values for coral reef use.

1. Start out with all attributes at *Low* conditions, all attributes at *Medium* conditions, and all attributes at *High* Conditions (Handout with *Low*, *Medium* and *High* conditions for each attribute).

   Explain that the conditions were derived from EPA-NOAA research on Puerto Rico's coral reefs.

2. Have them check columns indicating if their values for reefs would change if each attribute condition changed from Low to Medium and from Medium to High.

3. For those attributes where moving from *Low* to *Medium* conditions would not change their values, discuss what levels conditions would have to reach to change their values.

4. For those attributes where moving from *Medium* to *High* conditions would not change their values, discuss what level conditions would have to reach to change their values.

Task 3: Illustrations and Scientific Bullets - Are they consistent (i.e. tell the same story)?
(Handout illustrations and scientific bullets of each reef condition).

1. Do the illustrations capture the conditions specified in the illustrations for each condition level (*Low*, *Medium* and *High*)?

2. Do the illustrations show significant differences across the *Low*, *Medium* and *High* conditions?

3. Do the illustrations show improvements in reef conditions moving from *Low* to *Medium* and *Medium* to *High* condition?

Task 4: Reef Attributes not included in illustrations – Do we need some visual aids for these attributes?

1. Water clarity/visibility
2. Number of other users on the reefs

Task 5: Bid Amounts for Willingness to Pay for different reef conditions

1. First provide handout with payment vehicle (i.e., how reef users will pay for reef protection and restoration). Discuss and answer any questions.

2. Determine *Maximum* amount they would be willing to pay per year to move from *Low* to *Medium* conditions on all of Puerto Rico's coral reefs?

   If all conditions could be maintained or increased from the Low condition to the *Medium* condition,

What would be the maximum your household would be willing to pay per year and still maintain your current level of reef use? $ _____.

If all conditions could be maintained or increased from the *Low* condition to the *High* condition,

What would be the maximum your household would be willing to pay per year and still maintain you current level of reef use? $ _____.

3. Discuss the idea of willingness to pay improving reef conditions. What do they think are reasonable amounts? Open discussion. If they think the government can't be trusted to spend the money on protecting and/or restoring coral reefs, discuss how they think it should work. Should the money go into a trust fund that a non-governmental organization manages to protect and restore the reefs?

Task 6: Background Questions about themselves.

Activity on the Reefs

1. How many days have you used Puerto Rico's coral reefs during the last 12 months for your recreation activities? _____ (Number of days)

2. Handout Blue Card with Water-based Activities. Referring to the Blue Card, could you write down all the numbers for activities you do on Puerto Rico's coral reefs?

Demographics

1. Hand out the Demographics Card. Ask if they would write down the letter on the Green Card that best describes them. Age, Race, Education Level, Employment Status, Household Income

End. Thank them and handout any gifts or payment for attending.

CORAL REEF DEFINITIONS and CONDITIONS CARD

Definitions

Coral reefs are colonies of connected skeletons of millions of small animals called corals.

Coral reef ecosystems include the coral reefs, neighboring areas of sea bottom, ocean waters, sponges, algae, seagrasses and mangroves.

- **Coral reef ecosystems provide a place to live for many ocean species including, fish, sea turtles, conchs, lobsters, sponges, urchins, and marine mammals like dolphins and manatees.**

- **Most coral reef ecosystems in Puerto Rico are in water less than 60 feet deep.**

Conditions

- **Research by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) has measured the abundance and diversity (number of different species) of stony corals, soft corals, sponges, fish, macroinvertebrates (conch, spiny lobster, and urchins) on Puerto Rico's coral reefs.**

- **Measures of abundance and diversity were measured on how much was there per square meter of coral reef area.**

- **For abundance, the following measures were taken:**

  - **Stony corals: Percent (%) of hard-bottom covered per square meter and percent of the coral tissue is alive.**
  - **Soft corals and Sponges: Square centimeters per square meter of reef area.**
  - **Fish: Number per square meter.**

  Fish were classified into fish people eat (consumptive) and fish that people just view (Tropical/Ornamental fish). A few fish that normally would be classified as consumptive were not counted as consumptive because of ciguatera poisoning. Fish were also classified as Sport/Trophy fish (ladyfish, permit, bonefish, tarpon, barracuda, jacks). Some of these may be known to have ciguatera poisoning but are still fun to catch.

  - **Consumptive fish: Puerto Rico has only a couple of species with limits on length to be legal for keeping (Yellowtail snapper, White Grunt, silk snapper, and black snapper). Some are permanently closed (Nassau grouper and Goliath Grouper). Still others have closed seasons (silk, vermillion, black and blackfin snappers Oct. – Dec.; mutton and lane snappers April-May; Red Hind Dec. –Feb.). We present the number of consumptive fish that meet legal size for keeping per square meter of reef area.**
  - **Tropical/Ornamental fish: Number of fish per square meter.**
  - **Sport/Trophy fish: Opportunity to catch or see trophy fish on the entire reef not the number per square meter.**

- **Macroinvertebrates (conchs, spiny lobsters, and urchins): The number per square meter. For conchs, the maximum number observed was 33 per square meter, while for spiny lobster, the maximum**

observed was 7 per square meter. Urchins tend to be observed in much higher numbers. For Long-spined urchins, the maximum observed was 81 per square meter, while for smaller species of urchins as many as 375 per square meter have been observed. Seasonal closure of Queen Conch July – Sept.

CORAL REEF ECOSYSTEM HEALTH

- **Urchins are known to increase the health of reefs for stony corals**.

- **Stony corals are dominant in the most healthy reefs.**

- **Soft Corals and Sponges tend to dominate in reef areas where the water quality is relatively poor. So scientists find that soft corals and sponges are more able than stony corals to thrive in relatively poor water quality and move into places where stony corals have died.**

- **Soft Corals and Sponges are often very colorful, serve as important habitat for fish, and help improve water quality by filtering nutrients that can reduce algal growth that can smother reefs and improve water clarity/visibility.**

- **Most of the coral reef ecosystems in Puerto Rico are currently in a fair to poor or low condition. Overfishing, water pollution, careless anchoring, and sediments from runoff from development and agricultural areas have been the most important factors damaging the coral reef ecosystems.**

Coral Reef Attributes Importance to Recreation Activities

Reef Attributes	Activities				
Corals and Sponges	SCUBA Diving	Snorkeling	Fishing	Glass-bottom Boat Ride Wildlife Viewing	Surfing, Windsurfing, Kite Boarding
Stony coral cover (percent of hard-bottom)					
Number of different species of stony corals					
Soft coral cover (percent of hard-bottom)					
Number of different species of soft corals					
Sponges (percent of bottom covered)					
Number of different kinds of sponges					
Fish and Wildlife					
Abundance of fish to eat					
Number of different species of fish to eat					
Abundance of fish to see (tropicals)					
Number of different species of fish to see					
Trophy/sport fish (lady fish, permit, bonefish, tarpon, snook, jacks)					
Number of species of macroinvertebrates					
Abundance of macroinvertebrates (conch, lobster, urchins)					
Opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)					
Other					
Water clarity/visibility					
Number of other reef users					

WILLINGNESS TO PAY CARD

- **If current management practices continue in the future (Status Quo), in 10 to 20 years scientists expect that all but a few areas that are receiving special protection will be in a poor or Low condition with respect to the corals, sponges, fish, and water clarity/visibility. If rules and regulations are not enforced even the specially protected areas will be in poor or Low condition.**

- **If management is changed to improve reef conditions, it will require both public and private investments to protect and restore the coral reef ecosystems, which would include enforcement of rules and regulations.**

- **There is an estimated cost to your household per year that would be required to achieve each condition.**

- **The cost per year is based on the costs that will be paid by businesses and households to pay for investments that protect and restore the coral reef ecosystems like improved sewage treatment, filtering and cleaning urban run-off, erosion control from agricultural areas and development projects, installation of mooring buoys to protect reefs from anchor damage, reef restoration activities, and enforcement of rules and regulations.**

- **The costs per year would be paid by all residents and visitors to Puerto Rico through increased prices of goods and services. This might also include increases in local sales taxes to cover government costs to pay for protection and restoration.**

1. If all conditions could be maintained or increased from the Low to Medium condition.

   What would be the maximum your household would be willing to pay per year and still maintain your current level of reef use? $_____

2. If all conditions could be maintained or increased from the Low condition to the High condition,

How Coral Reef Attributes Levels Change Economic Values

Reef Attributes	Reef Conditions			Would Change Value (Check one in each row)	
Corals and Sponges	**Low**	**Medium**	**High**	**Low to Medium**	**Medium to High**
Stony coral cover (percent of hard-bottom)	None	5 to 20%	Over 20 to 100%		
Percent of live tissue of stony corals	None	60 to 90%	Over 90 to 100%		
Number of difference species of stony corals	None	Up to 4	5 to 17		
Soft coral cover (percent of hard bottom)	14 to 25%	4 to 14%	Less than 4%		
Number of different species of soft corals	Up to 4	Up to 3	1		
Sponges (percent of bottom covered)	7 to 15%	2 to 7%	Less than 2%		
Number of different kinds of sponges	Up to 4	Up to 3	1		
Fish and Wildlife	**Low**	**Medium**	**High**	**Low to Medium**	**Medium to High**
Abundance of fish to eat	3/sq meter, none legal size	10/sq meter, 50% legal size	100 or more/sq meter, 75 to 100% legal size		
Number of difference species of fish to eat	Up to 2	3 to 6	Up to 15		
Abundance of fish to see (tropicals)	1 to 3	4 to 10	20 to 100		
Number of different species of fish to see	1	Up to 4	5 to 10		
Trophy/sport fish (lady fish, permit, bonefish, tarpon, snook, jacks)	None	None	Opportunity to catch and see		
Number of different species of macroinvertebrates	None	1	2 or more		
Abundance of macroinvertebrates (conch, lobster, urchins)	None	Conch: 0, Lobster: 0, Urchin:1 to 2	Conch: 3, Lobster: 1, Urchin: 8 to 37		
Opportunity to see large wildlife (sharks, rays, turtles, manatees, dolphins)	None	None	Opportunity to see		
Other	**Low**	**Medium**	**High**	**Low to Medium**	**Medium to High**
Water clarity/visibility	Less than 10 ft.	10 to 50 ft.	Greater than 50 ft.		
Number of other reef users	21 or more	11 to 20	0 to 10		

DEMOGRAPHICS CARD

What is your age?

a. [illegible] **d.** [illegible]
b. 25 – 34 **e.** 55 - 64
c. 35 – 44 **f.** 65 or older

What race do you consider yourself?

Select as [illegible]

a. White
b. Black or African American
c. American Indian or Alaskan Native
d. Asian
e. Native Hawaiian or Other Pacific Islander

What is the highest level of education that you have completed?

Select [illegible]

a. 8th grade or less
b. 9th to 11th grade
c. 12th grade. High School Graduate or equivalent (GED)
d. 13 to 15 years (some college or vocational training)
e. College Graduate
f. Graduate School, Law School, Medical School

What is your employment status?

Select a[illegible]

a. Unemployed **e.** Student
b. Employed full-time **f.** Homemaker
c. Employed Part-time **g.** None of the above (specify)
d. Retired _____

What is your household income before taxes?

Select one answer only

a. Under $5,000 **e.** $20,000 to $24,999 **i.** $50,000 to $59,999 **m.** $150,000 +
b. $5,000 to $9,999 **f.** $25,000 to $29,999 **j.** $60,000 to $74,999
c. $10,000 to $14,999 **g.** $30,000 to $39,999 **k.** $75,000 to $99,999
d. $15,000 to $19,999 **h.** $40,000 to $49,999 **L.** $100,000 to $149,999

ATTACHMENT E: Review of Literature on Coral Reef Attributes for Recreation-tourism

Beharry-Borg, Nesha and R. Scarpa, "*Valuing quality changes in Caribbean coastal waters for heterogeneous beach visitors.*" Ecological Economics 69 (2010): 1124-1139.

This study examines the impact of the quality of coastal waters upon the tourism sector in Tobago. The purpose of this study is to fill a gap in the literature on valuation estimates specific to Tobago. The study utilizes two choice experiments designed to estimate willingness to pay (WTP) for an improvement in coastal water quality for snorkellors and nonsnorkellers. Study results indicate WTP estimates vary significantly between these two groups. It also demonstrates the value of using estimation methods designed to account for individual-specific difference in WTP estimates. Of all the studies found in the literature review this one included the most comprehensive suite of indicators as noted below.

Coral cover levels were noted as up to 15% coral cover and up to 45% coral cover. Fish abundance levels were 0-10 and 0-60. Water clarity levels were noted as visibility up to 5 m and visibility up to 10 m. Number of other users included recreational and fishing boats near coastline (up to 2, up to 7) and number of snorkelers allowed per group (up to 5, up to 15). Presence of marine protected area included two permutations: MPA where you can tour, swim, snorkel, dive and fish and MPA where you can do all such activities except fish. Coastline development was indicated by levels of up to 75% development allowed and up to 25% development allowed. Levels for risk of contracting an ear infection from swimming in polluted water were noted as increased chance or reduced chance. Plastic debris, as measured by the number of plastics per 30 m of coastline, was indicated by levels of less than 5 pieces or up to 15 pieces. Finally, a contribution fee to beach authority notes pricing levels of $10, $20 and $25. In all cases, with the exception of the fee category, a third possibility for an attribute level was the total absence of a relevant policy.

Ditton, Robert B. and D. Clark, "*Characteristics, Attitudes, Catch and Release Behavior, and Expenditures of Billfish Tournament Anglers in Puerto Rico*." Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX. July 1, 1994.

This research paper was initiated by The Billfish Foundation. It was designed for three reasons: 1) educate people regarding the social and economic significance of billfish angling, 2) support billfish conservation and management efforts and 3) provide information useful to the billfish conservation community to positively influence policy decisions made by ICCAT. A mailed survey questionnaire was used to collect information from resident and non-resident anglers who participated in tournaments held in Puerto Rico between August, 1991 and October, 1992.

No discrete levels of indicators were noted in this study.

Hargreaves-Allen, Venetia, S. Mourato and E. Milner-Gulland, *"A Global Evaluation of Coral Reef Management Performance: Are MPAs Producing Conservation and Socio-Economic Improvements?"* Environmental Management 47 (2011) 684-700.

This paper provides an analysis using several metrics to answer the question as to whether marine protected areas provide conservation and socio-economic improvements. Performance measures utilized to test the hypothesis include (but were not limited to) fulfillment of design and management criteria, achievement of aims, cessation of banned or destructive activities and

changes in threats. Analytical results were mixed with most MPAs failing to produce improvement in coral cover and conflict reduction. Yet a majority did produce a slowing of coral loss, reduction in destructive uses and an increase in tourism and local employment.

The only indicators listed associated with coral reef condition are 'coral mining/destructive fishing never occurs', 'better coral cover than national average' and 'maintained or improved coral cover'. No discrete levels for these indicators are provided.

Edwards, Peter, *"Sustainable financing for ocean and coastal management in Jamaica: The potential for revenues from tourist user fees."* Prepared for the Latin American and Caribbean Environmental Economics Program. Project No. WP04. June, 2008.

This study explores the feasibility of implementing a sustainable funding mechanism for ocean and coastal management in Jamaica. The study models contingent behavior for tourists who receive two slightly different scenarios and provides hypotheses about how consumer demand may differ across individuals. Study results indicate that an environmental surcharge of US$2 per person could generate $3.4M per year for management with 0.2% rate of decline in tourist visitation.

No levels relevant to coral reef condition were noted in this study.

Parsons, George R. and Steven Thur, "*Valuing Changes in the Quality of Coral Reef Ecosystems: A Stated Preference Study of SCUBA Diving in the Bonaire National Marine Park."* Environmental Resource Economics 40 (2008): 593-608.

This study estimates the economic value of changes in the quality of a coral reef ecosystem to SCUBA divers in the Caribbean who purchased a tag to obtain diving access to Bonaire National Marine Park in 2001. A stated preference mail survey was used to infer the value of three different levels of quality defined by the metrics of visibility, species diversity and percent coral cover.

Coral cover levels are noted at 5%, 20%, 30% and 35%. Coral and fish diversity combination levels are 50 fish/10 corals, 125 fish/25 corals, 225 fish/40 corals and 300 fish/45 corals. Water visibility levels are noted at 20 feet, 50 feet, 75 feet and 100 feet.

Rudd, Murray A., "*Live long and prosper: collective action, social capital and social vision*." Ecological Economics 34 (234): 131-144.

"This paper demonstrates the utility of social capital theory by articulating linkages between human decision making at individual and collective levels and social vision, an important research focus within the emerging ecological economics research tradition."

No levels relevant to coral reef condition were noted in this study.

Schuhmann, Peter W., Juan Seijo and James Casey, "*Economics Considerations for Marine EBM in the Caribbean*" taken from "Towards Marine Ecoystems based Management in the Wider Caribbean." Center for Maritime Research. MARE Publication Series No. 6. Amsterdam University Press. 2011.

This paper contributes to the ongoing dialogue regarding how an ecosystem approach to fisheries (EAF) may inform ecosystem-based management (EBM) practices and ultimately contribute to successful implementation of EAF in the Caribbean Region. EAF is seen as desirable as it promotes a more holistic approach to resource allocation and management as opposed to the single-species approach to fisheries management.

No levels relevant to coral reef condition were noted in this study.

Spash, Clive L., *"Multiple Value Expression in Contingent Valuation: Economics and Ethics."* Environmental Science and Technology 34 (2000): 1433-1438.

This paper explores the influence of ethics and economics in human value formation. It specifically presents evidence "confirming the influence of ethical beliefs about rights for endangered species in determining willingness to pay (WTP) responses to a CVM survey."

No levels relevant to coral reef condition were noted in this study.

Spash, Clive L., "*Ecosystems, contingent valuation and ethics: the case of wetland recreation*." Ecological Economics 34 (2000): 195-215.

"This paper addresses a current issue in environmental valuation, namely, the extent to which environmental preferences depart from the usual economics paradigm to incorporate some lexicographic elements. After a theoretical discussion the paper reviews attempts to explore this question empirically by supplementing contingent valuation analyses with an exploration of the motives behind willingness-to-pay responses, including zero bids and refusals to answer."

No levels relevant to coral reef condition were noted in this study.

Uyarra, Maria C., Isabelle Cote, Jennifer Gill, Rob Tinch, David Viner and Andrew Watkinson, "*Island-specific preferences of tourists for environmental features: implications of climate chance for tourism-dependent states."* Environmental Conservation 32 (1): 11-19.

This paper examines the impact that climate change induced alteration in key environmental components of tourism destinations may have on the tourism economies of Bonaire and Barbados. Temperature, water clarity and health risk were determined to be environmental features most influential upon holiday destination selection. A strong correlation was found between the quality of environmental attributes and a willingness of tourists to return. For example, "more than 80% of tourists in Bonaire and Barbados were noted to be unwilling to return for the same holiday price in the event, respectively, or coral bleaching as a result of elevated sea surface temperatures and reduced beach area as a result of sea level rise."

This study provided a number of environmental attributes to assess what may influence tourism behavior. Environmental attributes included coral diversity, coral cover, coral health, fish diversity, fish abundance,

presence of sea turtles, bird diversity, landscape attractiveness, water clarity, air temperature, few tropical diseases, no malaria, no vaccination requirements, beach size, sand quality and number of tourists. No discrete values for these attributes were provided. Importance of attributes was computed using a Likert scoring system.

Van Beukering, Pieter J.H., Samia Sarkis, Emily McKenzie, Sebastiaan Hess, Luke Brander, Mark Roelfsema, Loes Looijenstijn-van der Putten and Tadzio Bervoets, "*Total Economic Value of Bermuda's Coral Reefs, Valuation of Ecosystem Services*"
Institute for Environmental Studies, Vrije Universiteit, Amsterdam, The Netherlands.

"This environmental economic study seeks to address the lack of environmental consideration in current policy and decision-making for the marine environment, by providing a means of recognizing the value of the range of ecosystem services provided by Bermuda's coral reefs. Bermuda is one of the most densely populated countries in the world, with an economy supported by international business and tourism; increasing coastal development places intense pressure on the island's natural resources, namely on the marine environment and more specifically on the northernmost coral reef system in the world. The policy issues affecting Bermuda's coral reefs involve the lack of formal procedure when "planning" or "developing" in the marine environment, and the absence of a mechanism for integrating environmental values into those decisions."

No levels relevant to coral reef condition were noted in this study.

Waterman, Troy, "*Assessing Public Attitudes and Behavior Toward Tourism Development in Barbados: Socio-Economic and Environmental Implications*." Systems Consulting Ltd. Presented at Annual Review Seminar, Central Bank of Barbados. July 27-30, 2009.

"This research discusses the negative social, environmental and economic impacts of tourism development in Barbados; describes the perceptions of residents and tourists to such; and measures their preferences for environmental management changes using the island's lone marine reserve, the Folkestone Marine Reserve, as a case study. The research outcomes demonstrated that environmental management within the context of tourism development in Barbados requires the balancing of public needs with the environmental and economic consequences of development."

Attributes listed in this study are *not specific* to coral reef quality. Selected attributes and levels include sewage treatment, facilities and information, watersports zoning, and a payment vehicle for both residents and visitors. Sewage treatment levels include no change in policy, most sewage treated to moderate quality and most sewage treated to high quality. Facility levels include no policy change and signposts showing zones and user information with or without additional public showers/toilets. Zoning possibilities included no policy change, an expansion of watersports zone and complete exclusion of watercrafts from recreational zone. Resident payment levels included $9, $15, $20, $37, $48 and $70. Non-resident (visitor) payment levels were $15, $25, $43, $60, $74 and $100.

Wielgus, Jeffrey, Nanette Chadwick-Furman, Naomi Zeitouni and Mordechai Shechter, *"Effects of Coral Reef Attribute Damage on Recreational Welfare."* Marine Resource Economics 18 (2003): 225-237.

"This paper presents the results of an economic valuation of coral reef degradation at Eilat, Israeli Red Sea. The marginal prices of coral and fish diversity and water visibility are estimated to be US$2.60 and US$1.20 per dive, respectively. From the standpoint of recreational diving welfare, the annual social costs of activities contributing to coral reef degradation are approximately US$2.86 million."

Coral cover and fish abundance attribute levels are indicated by a combined index which is based on the number of different taxonomic categories for coral and fish plus abundance per square meter. A low level is 7 taxonomic categories plus 1.75 abundance per square meter. Medium is 20 taxonomic categories plus 5.75 abundance per square meter. High is 21 taxonomic categories plus 11.25 abundance per square meter.

Coral Reef Ecosystem Attributes for Recreation-tourism Ecosystem Service

Attributes/Levels	Reference
1. Coral Cover	
low, medium, high (videos of sites with different levels) See index below under coral and fish diversity.	Wielgus (2003)
Can view up to 15% coral cover while snorkeling, can view up to 45% coral cover while snorkeling	Beharry-Borg/Scarpa (2010)
5%, 20%, 30%, 35%	Parsons & Thur (2008)
2. Coral and fish diversity	
low, medium and high (videos of sites with different levels)	Wielgus (2003)
Calculated Index as number of different taxomic categories for coral and fish plus abundance per square meter (m^2).	
Low = 7 taxonomic categories plus 1.75 abundance/m^2 or 8.85	
Medium = 20 taxonomic categories plus 5.75 abundance/m^2 or 25.75	
High = 21 taxonomic categories plus 11.25 abundance/m^2 or 32.25	
50 fish 10 corals, 125 fish 25 corals, 225 fish 40 corals, 300 fish, 45 corals	Parsons & Thur (2008)
3. Fish Abundance	
low, medium, high (see combined index above)	Wielgus (2003)
0-10, 0-60	Beharry-Borg/Scarpa (2010)
4. Water Clarity/Visibility	
Meters of maximum visibility 3, 10 and 30 (videos of reference SCUBA diver at different distances)	Wielgus (2003)
Visibility up to 5 m, visibility up to 10m	Beharry-Borg/Scarpa (2010)
20 feet, 50 feet, 75 feet, 100 feet	Parsons & Thur (2008)
5. Opportunity to View Major Predators/Large Fauna	
Presence/absense	

6. Number of Other Users	
Number of recreational and fishing boats near coastline - up to 2, up to 7	Beharry-Borg/Scarpa (2010)
Number of snorkelers allowed per group - up to 5, up to 15	Beharry-Borg/Scarpa (2010)
7. Marine protected area - (presence of a marine protected area)	
MPA where you can tour, swim, snorkel, dive AND fish, MPA where you can all EXCEPT fish	Beharry-Borg/Scarpa (2010)
8. Coastline development - percentage of coastal development on the coastline	
Up to 75% development allowed, up to 25% development allowed	Beharry-Borg/Scarpa (2010)
9. Average bathing water quality - Risk of contracting an ear infection from swimming in polluted water	
Increased chance, reduced chance	Beharry-Borg/Scarpa (2010)
10. Plastic debris - number of plastics per 30m of coastline	
Less than 5 pieces, up to 15 pieces	Beharry-Borg/Scarpa (2010)
11. Sewage Treatment	
Most sewage treated to moderate quality, most sewage treated to high quality	Waterman (2009)
12. Facilities/Information	
Signposts showing zones and user info, signposts showing zones and user info + more public showers/toilet	Waterman (2009)
13. Watersports zoning	
Expansion of watersports zone, total exclusion of watercraft from recreational zone	Waterman (2009)
14. Fee - Contribution fee to beach authority	
$10, $20, $25	Beharry-Borg/Scarpa (2010)
Called a 'conservation levy': For residents: $9, $15, $20, $37, $48, $70 For visitors: $15, $25, $43, $60, $74, $100	Waterman (2009)

effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995.

DATES: Written comments must be submitted on or before March 10, 2014.

ADDRESSES: Direct all written comments to Jennifer Jessup, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6616, 14th and Constitution Avenue NW., Washington, DC 20230 (or via the Internet at *JJessup@doc.gov*).

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the information collection instrument and instructions should be directed to Dr. Vernon R. (Bob) Leeworthy, (301) 713–7261 or *Bob.Leeworthy@noaa.gov.*

SUPPLEMENTARY INFORMATION:

I. Abstract

This request is for a regular submission (new information collection).

NOAA and the U.S. Environmental Protection Agency (EPA) have entered a partnership to estimate the market and non-market economic values of Puerto Rico's coral reef ecosystems. Estimates will be made for all ecosystem services for the Guanica Bay Watershed and for recreation-tourism for all of Puerto Rico's coral reef ecosystems.

We will conduct surveys of visitors to Puerto Rico and residents of Puerto Rico who use the coral reef ecosystems to estimate the amount and type of use, their spending while undertaking coral reef use activities, the economic value of reef attributes (e.g. water clarity/visibility, coral abundance and diversity, fish and invertebrate abundance and diversity, and opportunity to see large wildlife) and how economic value changes with changes in reef attributes.

II. Method of Collection

Visitors to the island will be recruited into an Internet Panel via stratified random sampling at the various access modes of transportation to the island (e.g. airports, cruise ship docks and ferries). The panel recruitment surveys will use a short-form (5 to 10 minutes) to gather information of place of permanent residence, length of stay in Puerto Rico, activities participated in while on their stay, and demographic information. A tally sheet will be used to screen survey participants for coral reef use. This will then allow for connection to air enplanement data, cruise ship passenger data, and ferry passenger data to estimate the total number of reef users. Those who agree to the Internet Panel will then be asked more detailed questions on intensity of coral reef use (person-days of reef activity by type of activity), spending while doing reef activities, and economic value of reef attributes. For those who do not want to join the Internet Panel, they will be offered mail back surveys to gather the information that would be gathered in the Internet Panels.

Residents of the island will be surveyed face-to-face in the home. Information on activity participation and use of the coral reefs, demographics, and economic value of coral reefs and how those values change with changes in reef attributes will be gathered in the face-to-face in-home surveys. Additional mail backs will be used for importance-satisfaction ratings and spending while recreating on the coral reefs.

III. Data

OMB Control Number: None.

Form Number: None.

Type of Review: Regular submission (new information collection).

Affected Public: Individuals or households.

Estimated Number of Respondents: 2,000.

Estimated Time per Response: 2 hours per individual/household.

Estimated Total Annual Burden Hours: 4,000.

Estimated Total Annual Cost to Public: $0 in recordkeeping/reporting costs.

IV. Request for Comments

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden (including hours and cost) of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: January 3, 2014.

Gwellnar Banks,

Management Analyst, Office of the Chief Information Officer.

[FR Doc. 2014–00120 Filed 1–8–14; 8:45 am]

BILLING CODE 3510–NK–P

CONSUMER PRODUCT SAFETY COMMISSION

Sunshine Act Meeting; Cancellation

FEDERAL REGISTER CITATION OF PREVIOUS ANNOUNCEMENT: Vol. 79, No. 2, Friday, January 3, 2014, page 387.

ANNOUNCED TIME AND DATE OF MEETING: Wednesday, January 8, 2014, 10 a.m.–12 p.m.

MEETING CANCELED.

For a recorded message containing the latest agenda information, call (301) 504–7948.

CONTACT PERSON FOR ADDITIONAL INFORMATION: Todd A. Stevenson, Office of the Secretary, 4330 East West Highway, Bethesda, MD 20814 (301) 504–7923.

Dated: January 7, 2014.

Todd A. Stevenson,

Secretary.

[FR Doc. 2014–00225 Filed 1–7–14; 4:15 pm]

BILLING CODE 6355–01–P

CORPORATION FOR NATIONAL AND COMMUNITY SERVICE

Sunshine Act Meeting

The National Civilian Community Corps Advisory Board gives notice of the following meeting:

DATE AND TIME: Wednesday, February 12, 2014, 1:30 p.m.–2:30 p.m. (ET).

PLACE: Conference Room 8312, 8th Floor, Corporation for National and Community Service Headquarters, 1201 New York Avenue NW., Washington, DC 20525.

CALL-IN INFORMATION: This meeting is available to the public through the following toll-free call-in number: 800–369–1759 conference call access code number 8093685. Kate Becker will be the lead on the call. Any interested member of the public may call this number and listen to the meeting. Callers can expect to incur charges for calls they initiate over wireless lines, and the Corporation will not refund any incurred charges. Callers will incur no charge for calls they initiate over land-line connections to the toll-free telephone number. Replays are generally available one hour after a call ends. The toll-free phone number for the