

**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 focus groups 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) have 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.

The estimated market and non-market economic values and the relationships on how these values change with changes in coral reef ecosystem attributes (e.g. coral cover, coral diversity, fish abundance, fish diversity, and water clarity/visibility) and user characteristics (e.g. residents of Puerto Rico versus visitors to Puerto Rico, household income, educational attainment, age, sex, and race/ethnicity) will, when combined with the physical/natural science in the decision support tool for the Guanica Bay Watershed Restoration Management Plan, support the assessment of the net benefits (benefits minus costs) of various restoration activities and regulations by the various agencies responsible for implementing the plan.

The economic value estimates or the benefits associated with changes in coral reef ecosystem attributes can also be utilized in assessing broader regulations affecting these attributes. Regulations such as water quality discharges and regulations establishing no-take marine

reserves are good examples. The benefit estimates can also be used in post implementation monitoring plans to assess the actual benefits that occur post implementation of restorations or regulations. In addition, the estimates can be used in evaluating public and private investments in coral reef ecosystem protection and restoration across all of Puerto Rico.

**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.**

This information collection will use focus groups to help design the full surveys of residents and visitors of Puerto Rico to address 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. NOAA has done a world-wide literature review of coral reef valuation and the attributes of coral reefs that recreational-tourism users value and how those values change with changes in the levels of attributes. This information will serve as a starting point in focus groups to identify what attributes and the levels of attributes that would be important for Puerto Rico.

Four focus groups of eight persons per group will be used: two focus groups for residents of Puerto Rico and two groups for visitors to Puerto Rico. A local marketing firm in Puerto Rico will be used to conduct the focus groups. This firm will be hired under sub-contract to the University of Puerto Rico – Mayaguez. NOAA is currently in the process of negotiating a cooperative agreement with the University of Puerto Rico – Mayaguez to implement the full surveys of visitors and residents and oversee the focus groups. The principal investigator from the University of Puerto Rico – Mayaguez will be Professor Manuel Valdez-Pizzini. Dr. Vernon R. (Bob) Leeworthy, ONMS Chief Economist, will take part in developing handout materials. All materials will be provided in English and Spanish. For the focus groups, the group discussion leader will be conversant in both English and Spanish.

In each of the four focus groups, about eight participants will provide oral and written feedback based on descriptive materials (e.g. pictures, videos and written descriptions of coral reef attributes of Puerto Rico's reefs). Open discussions will be conducted on what attributes of the coral reef ecosystems of Puerto Rico that people care about to support their recreation-tourist activities. Then discussions will be directed at the levels of each attribute that might change how they value coral reef ecosystems for their recreation-tourism activities. So during the focus group process, the study team will:

- Assess what attributes of Puerto Rico's coral reef ecosystems people care about to support their recreation-tourism activities.
- Assess the levels of each attribute that might affect people's value of coral reef ecosystems to support their recreation-tourist activities.

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

Four focus groups, two visitor and two resident focus groups, will be used to address the attributes of coral reef ecosystems that people may consider important, and the levels of the attributes to be valued. The first focus groups for residents and visitors will be used to identify the important attributes and their levels. The second focus groups will be used to learn how best to present the materials describing attributes and their levels to be used in the full surveys. 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.

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

#### ***Utility***

This information collection does not result directly into a product for public dissemination. The focus group work proposed here is to help design full surveys of residents and visitors to Puerto Rico who use coral reef ecosystems in Puerto Rico for recreation-tourism by gaining an understanding of the attributes of coral reef ecosystems of Puerto Rico are to resident and visitors that use the coral reefs for recreation-tourism and the levels of the attributes that affect users valuations. 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). The survey results and analysis will be used in a decision-support tool that will assess restoration strategies for the Guanica Bay Watershed Restoration Management Plan. The results for coral reef ecosystems will also support management of the coral reef ecosystems of Puerto Rico.

#### ***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 and in the full 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. 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.**

For presenting the different levels of coral reef ecosystem attributes, we will explore the use of videos. EPA, NOAA and other university entities have conducted underwater surveys of Puerto Rico's coral reef ecosystems and produced underwater videos. NOAA is trying to obtain these underwater videos to assess how they might be used in the survey in presenting different attributes and their levels to recreation-tourist users.

**4. Describe efforts to identify duplication.**

We have conducted a world-wide review of the literature (submitted as a supplementary document) 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.

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

The focus groups 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. Also, as discussed under item 1 above, NOAA, EPA, Puerto Rico Department of Natural Resources and other agencies that will invest in the Guanica Bay Watershed Restoration Management Plan or make investments in coral reef ecosystems protection and restoration will not be able to estimate the benefits of their investments or regulations to assess benefits relative to the costs.

**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 August 14, 2012 (77 FR 48504) solicited public comments. One set of comments were received from the Utility Water Act Group (UWAG) represented by the firm Hutton & Williams LLP. Comments were dated October 15, 2012 (Attachment A).

UWAG realizes that all their comments are on areas that are normally covered in the Supporting Statement, but felt it important to point out the issues they would like to make sure are addressed in the Supporting Statement.

We will list each issue UWAG would like to see addressed and reference the section of this supporting statement that addresses the issue.

**1. The notice does not reveal how the information will serve any statutory purpose or have “practical utility”.**

**NOAA Response:** See Part A Justification, Question 1 for background and statutory authorities to conduct the work. See Part A, Question 2, Utility for and explanation of how we are complying with NOAA Guidelines under the Information Quality Act in addressing the practical utility of the information to be collected.

**2. The determination of purpose has to be *before* public comment and before OMB review.**

**NOAA Response:** See Part A Justification, Questions 1 and 2 for how this was addressed.

**3. Assigning zero value to the public’s time is unrealistic.**

**NOAA Response:** There is no record keeping or reporting requirement of the focus group work proposed in this application for collection of information. The focus groups do use people’s time and we do plan to compensate people for their time. See answer to Part A, Question 9 for rate of compensation and answer to Part A Question 12 for the burden hours per respondent.

**Efforts to consult with persons outside the agency**

The planned focus group work is 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.marineecosystems-services.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).

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

Based on past experience and advice from Professor Manuel Valdez-Pizzini at the University of Puerto Rico – Mayaguez we will work with a local marketing firm to implement the focus groups. We are expecting to provide between \$50 and \$75 per participant per session (the standard range for focus groups, based on location). The purposes of the incentive are to encourage attendance and thank people for their time.

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

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 focus group members will be protected by using an independent contractor to collect the information, by enacting procedures to prevent unauthorized access to respondent data, and by preventing the public disclosure of the responses of individual participants. In each focus group we will ask only for the respondent to record his or her first name. The focus group will be taped to help prepare a summary of the group discussion. However, these recordings do not have any personal identifying information beyond respondents’ first names.

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

We will not ask questions of a sensitive nature.

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

Estimated number of participants: 32.

Estimated time per response: 2 hours.

Estimated total burden hours: 64 hours.

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

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

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

Total Costs to the Federal Government for the Focus Group Work (One Year)			
1. Contract for Local Marketing Firm	\$26,600 - \$27,400		
a. Incentives for focus group members @ \$50 to \$75 per respondent for 2-hr session.	\$1,600 - \$2,400		
b. Marketing Firm costs: staff, rooms, audio recordings, reports and overhead	\$25,000		
2. NOAA staff time ZP - 04Economist 80 hours @ \$80 per hr.	\$6,400		
3. NOAA travel to Puerto Rico	\$2,500		
<b>Total Costs</b>	<b>\$35,000 - \$36,300</b>		
Focus group work is a one-time effort done in less than one year's time.			

**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.**

The local marketing firm will provide NOAA with a report of the focus group discussions. No statistical analyses will be conducted, and there are no plans to publish the data for statistical use.

**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.