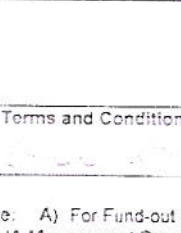
 <p>United States Environmental Protection Agency Washington, DC 20460</p> <p><b>Interagency Agreement/ Amendment</b></p> <p><b>Part 1 - General Information</b></p>	1. EPA IA Identification Number DW-13-92357901 - 0	2. Funding Location by Region EPA HQ							
	3. Other Agency IA ID Number (if known) MOA-2012-027/8530	4. Awarding Office IASSC East							
	5. Type of Action New	6. IA Specialist: NancyT Brown 202-564-3264 brown.nancyt@epa.gov							
7. Name and Address of EPA Organization US Environmental Protection Agency IASSC East 1200 Pennsylvania Avenue, NW Mail code 3903R Washington, DC 20460	8. Name and Address of Other Agency Department of Commerce-NOAA Office of National Marine Sanctuaries 1315 East West Highway Silver Spring, MD 20910								
9. DUNS: 029128894	10. BETC: DISB	12. BETC: COLL							
11. DUNS: 784769085									
13. Project Title and Description Market and Non-market valuation of Puerto Rico's coral reef ecosystem services									
The goal of this collaboration is to complete an economic valuation (market and non market) survey for four ecosystem services (tourism and recreation, fishing, shoreline protection, and natural products) for Puerto Rico. There are five phases that must be completed to achieve this goal: 1) understanding the Puerto Rico context for decisions; 2) designing the survey sampling frame; 3) designing the survey instruments; 4) implementing the surveys; and 5) assessing and publishing the survey results.									
14. EPA Project Officer (Name, Address, Telephone Number) William Fisher 1 Sabine Island Drive Gulf Breeze, FL 32561-5299 850-934-9394 E-Mail: Fisher.William@epamail.epa.gov FAX: 850-934-9201	15. Other Agency Project Officer (Name, Address, Telephone) Dr. Vernon R. (Bob) Leeworthy 1315 East West Highway Silver Spring, MD 20910 301-713-0404 E-Mail: bob.leeworthy@noaa.gov FAX: 301-713-7235								
16. Project Period: <del>05/01/2012</del> to <del>12/31/2015</del> <i>when signed</i>	17. Budget Period: <del>05/01/2012</del> to <del>12/31/2015</del> <i>when signed</i>								
18. Scope of Work (See Attachment) <i>CZMA, IC USC 1456c</i> See Attached SOW. Program Authority: <i>NMSA-16 USC 1431 et seq</i>									
19. Employer/Tax ID No. 520852695	20. CAGE No: 347A4	21. ALC: 68-01-0727							
22. Statutory Authority for Transfer of Funds and Interagency Agreement Clean Water Act: Sec. 104(b)(2)		23. Other Agency Type Federal Agency							
24. Revise Reimbursable Funds and Direct Fund Cites (only complete if applicable)									
	Previous Funding	This Action	Amended Total						
Revise Reimbursable (in-house)			0						
Direct Fund Cite (contractor)			0						
Total			0						
Funds	Previous Amount	Amount This Action	Total Amount						
25. EPA Amount		\$195,000	\$195,000						
26. EPA In-Kind Amount		\$129,363	\$129,363						
27. Other Agency Amount			\$0						
28. Other Agency In-Kind Amount		\$53,715	\$53,715						
29. Total Project Cost		\$378,078	\$378,078						
30. Fiscal Information									
Treas. Symbol	DCN	FY	Appropriation	Budget Org	PRC	Object Class	Site/Project	Cost Org	Ob/De-Ob Amt
682/30107	1226XQ0197	1213	C	26XQ000	301FK8XPW	2571			195,000
									195,000

Part II - Approved Budget				EPA IAG Identification Number DW-13-92357901 - 0
Budget Categories	Itemization of All Previous Actions	Itemization of This Action	In-Kind Itemization of This Action	Itemization of Total Project Cost to Date
(a) Personnel			\$142,815	\$142,815
(a) Fringe Benefits			\$27,313	\$27,313
(b) Travel		\$5,000	\$3,000	\$8,000
(c) Equipment				\$0
(d) Supplies				\$0
(f) Procurement/ Assistance		\$188,000	\$1,950	\$189,950
(g) Construction				\$0
(h) Other		\$2,000	\$8,000	\$10,000
Total Direct Charges	\$0	\$195,000	\$183,078	\$378,078
(j) Indirect Costs:	\$0			\$0
Max Fund Amount: \$ Other: \$ Total Charges: \$ Funds Out: Not charged by Other Agency Estimate by other Agency Amount: \$				
(g) Total EPA Share 85.79 %	\$0	\$195,000	\$183,078	\$378,078
(k) Other Agency Share 14.21 %				
32 How was the IDC Base calculated?				
33 Is equipment authorized to be furnished by EPA or leased, purchased, or rented with EPA funds? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Identify all equipment costing \$1,000 or more)				
34 Are any of these funds being used on extramural agreements? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Type of Extramural Agreement: Cooperative Agreement / Contract				
Contractor/Recipient Name (if known)	Total Extramural Amount Under This Project		Percent Funded by EPA (if known)	
TBD	189950 Total \$ 189,950.00		100	
Part III - Funding Methods and Billing Instructions				
(Note: EPA Agency Location Code (ALC) - 55010727)				
35 Disbursement Agreement: Request for repayment of actual costs must be itemized on SF 1185 and submitted to the Financial Management Office, Cincinnati, OH 45268-7002.				
Repayment	Monthly	<input checked="" type="checkbox"/> Quarterly	Upon Completion of Work	
Advance	On a available term use by Federal agencies as working capital fund only with appropriate justification of need for the type of payment method. Unexpended funds at close of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Center, EPA, Cincinnati, OH 45268-7002.			
Allocation Transfer-Out	Used to transfer obligations authority or transfer of function between Federal agencies. Must receive prior approval by the Office of Controller, Budget Division, Budget Formulation and Control Branch, EPA Hdqtrs. Forward with supporting documents to the Financial Reports and Analysis Branch, Financial Management Division, RM-226F, EPA, Washington, DC 20460.			
36 Reimbursement Agreement: Repayment   Advance				
Allocation Transfer-In				
Other Agency's Billing Address (include ALC or Station Symbol Number)			Other Agency's Billing Instructions and Frequency	



<b>Part IV - Acceptance Conditions</b>		EPA Identification Number  DW-13-92357901 - 0
37. Terms and Conditions, when included, are located at the end of the 1610-1, or as an attachment.		
<b>Part V - Offer and Acceptance</b>		
<p>Note: A) For Fund-out actions, the agreement/amendment must be signed by the other agency official in duplicate and one original returned to the Grants and IA Management Division for Headquarters agreements or to the appropriate EPA Regional IA administration office within 3 calendar weeks after receipt or within any extension of time that may be granted by EPA. The agreement/amendment must be forwarded to the address cited in item 23 after acceptance signature.</p> <p>Failure to return the properly executed document within the prescribed time may result in the withdrawal of offer by EPA. Any change to the agreement/amendment by the other agency after the document is signed by the EPA Award Official, which the Award Official determines to materially alter the agreement/amendment, shall void the agreement/amendment.</p> <p>B) For Funds-In actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IA administration office for signature on behalf of the EPA. EPA will return one original copy after acceptance returned to the other agency after acceptance.</p>		
EPA IA Administration Office (for administrative assistance)		EPA Program Office (for technical assistance)
38. Organization/Address	39. Organization/Address	
U.S. Environmental Protection Agency IASSC East 1200 Pennsylvania Avenue, NW Mail code 3903R Washington, DC 20460	US Environmental Protection Agency ORD - Office of Research and Development 1 Sabine Island Drive Gulf Breeze, FL 32561-5299	
Award Official on Behalf of the Environment Protection Agency		
40. Digital signature applied by EPA Award Official   FOR Frank N. Roth - Chief Fellowship IA & SEE Branch Michelle Messick - AO delegate		Date 06/26/2012
Authorizing Official on Behalf of the Other Agency		
41. Signature	Typed Name and Title	Date
	Daniel J. Basta, Director, Office of National Marine Sanctuaries	9/14/12

## **IA Terms and Conditions**

1. In accordance with Public Law 102-389, EPA's policy requires, to the fullest extent possible, that at least 8% of its overall Federal funding for prime and subcontracts awarded in support of authorized programs be awarded to business concerns or other organizations owned or controlled by socially and economically disadvantaged individuals, including historically Black colleges and universities and women. Also, in accordance with CERCLA, as amended (P.L. 99-499), Section 105, any Federal agency awarding contracts, grants or cooperative agreements utilizing Superfund monies shall consider the availability of minority contractors for participation in contracts. This includes, but is not limited to: contracts, subcontracts, and any sub-agreements. The IA recipient will also strive to meet EPA's SBA negotiated goals for awarding contracts to small and disadvantaged businesses. The IA recipient will accomplish these objectives through adherence to the small and minority owned business requirements set forth in the Small Business Act, 15 U.S.C. 631 et seq and the annual Small Business goals negotiated with the IA recipient and the Small Business Administration. All reporting on MBE/WBE and small business accomplishments will be done through the existing federal contracting reporting mechanism, currently the "Federal Procurement Data System, Next Generation," which is available at: [https://www.fpds.gov/fpdsng\\_cms/](https://www.fpds.gov/fpdsng_cms/).

2. Should disagreements arise on the interpretation of the provisions of this agreement or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each party and presented to the other party for consideration. If agreement or interpretation is not reached within 30 days, the parties shall forward the written presentation of the disagreement to respective higher officials for appropriate resolution.

If a dispute related to funding remains unresolved for more than 30 calendar days after the parties have engaged in an escalation of the dispute, disputes will be resolved in accordance with instructions provided in the Treasury Financial Manual (TFM) Volume I, Part 2, Chapter 4700, Appendix 10, available at <http://www.fms.treas.gov/tfm/index.html>.

### **3. Cost Collection Upon Cancellation**

If the Environmental Protection Agency (EPA) cancels the order, the Department of Commerce is authorized to collect costs incurred prior to cancellation of the order plus termination costs, up to the total payment amount provided for under the agreement.

4. When requesting payments, a breakdown of the cost associated with the billing request must be provided to the EPA Project Officer. This information should allow the Project Officer to determine that costs billed to EPA are necessary and reasonable. If this information is not provided, the EPA Project Officer will notify FMD to suspend or charge back the payment of the invoice.

5. EPA expressly reserves the right to terminate the IA for failure to make sufficient progress so as to reasonably ensure completion of the project within the project period, including any extensions. EPA will measure sufficient progress by examining the performance required under the Statement of Work, the time remaining for performance, and/or the availability of funds necessary to complete performance. In exercising this right to terminate, EPA will follow the procedures for terminating the IA in Term and Conditions.



6. This interagency agreement (IA) obligates and transfers or advances EPA funds appropriated under the Department of Interior, Environment, and Related Agencies Appropriations Act (FY12 Appropriations Act). As a result, this IA is subject to the provisions of Division Sections 433 and 434 of the Appropriations Act, regarding federal felony convictions and unpaid federal tax liabilities. Specifically, Section 433 provides:

None of the funds made available by this Act [FY12 Appropriations Act] may be used to enter into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee to, any corporation that was convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless the agency has considered suspension or debarment of the corporation, or such officer or agent, and made a determination that this further action is not necessary to protect the interests of the Government.

Section 434 of Division E of the Appropriations Act further provides:

None of the funds made available by this Act [FY12 Appropriations Act] may be used to enter into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee to, any corporation with respect to which any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless the agency has considered suspension or debarment of the corporation and made a determination that this further action is not necessary to protect the interests of the Government.

Accordingly, by accepting the award of this IA, the *Department of Commerce* agrees that it will comply with and implement the prohibitions of Sections 433 and 434 for any contract, assistance agreement, loan, loan guarantee or other instrument that uses funds provided under this IA.

Non-compliance with the provisions of Sections 433 and 434 may implicate the Antideficiency Act. *The Department of Commerce* will notify the EPA Award Official within 30 days of an award where the *Department of Commerce* considered suspension and debarment in accordance with Sections 433 and 434.

## 7. AMENDMENTS:

- A. This Agreement may be amended at any time by mutual written consent of the Partners.
- B. This agreement will be reviewed periodically, but not less than annually. It may be subject to reconsideration at such times as may be required and as agreed to by the Partners entering into this Agreement.

## 8. TERM OF AGREEMENT

- A. This Agreement becomes effective when all Partners sign it.
- B. This agreement will remain in effect until December 31, 2015, or until terminated by mutual written agreement of the Partners. Any Partner may terminate its participation in the agreement by giving the other Partner 30 days advance written notice.

9. BILLING:

Fiscal and Accounting Data:

NOAA DUNS: 78-4769085

NOAA EIN: 52-0821608

NOAA Appropriation Code (for collection): 13x1450

EPA DUNS: 029128894

EPA EIN: 520852695

EPA Appropriation Code (for payment): 26XQ000



Scope of Work  
"Market and Non-market valuation of Puerto Rico's coral reef ecosystem services"

Interagency Agreement Between the  
Environmental Protection Agency  
Office of Research and Development  
National Health and Environmental Effects Laboratory  
Gulf Ecology Division  
And  
National Oceanic and Atmospheric Administration  
National Ocean Service  
Office of National Marine Sanctuaries

## I. BACKGROUND

### A.) EPA/ORD:

The Office of Research and Development (ORD) is the scientific research arm of EPA. ORD's mission is to perform research and development to identify, understand, and solve current and future environmental problems, provide responsive technical support to EPA's mission, integrate the work of ORD's scientific partners, and provide leadership in addressing emerging environmental issues and in advancing the science and technology of risk assessment and risk management.

The Gulf Ecology Division (GED) is one of four ecological divisions within the National Health and Environmental Effects Research Laboratory (NHEERL) of ORD. GED's mission includes developing the scientific basis for assessing the condition of estuarine and coastal ecosystems, their response to natural and anthropogenic stresses, and the development of methods to quantify ecosystem services provided by fishing, tourism, shoreline protection and natural products discovery.

### B.) NOAA/ONMS:

The Office of National Marine Sanctuaries (ONMS) manages 13 sanctuaries and one marine national monument encompassing more than 150,000 square miles of U.S. Ocean and Great Lakes waters. Important habitats like breeding and feeding grounds of whales, sea lions, sharks, and sea turtles; coral reefs; kelp forests; and historic shipwrecks are represented within the National Marine Sanctuary System.

National marine sanctuaries are centers for strong local economies and have economic value reaching far beyond the water. ONMS conducts socioeconomic research and monitoring, including nonmarket and market economic values of ecosystem services provided by natural and cultural resources as well as what economists call passive economic use value or what many have referred to as nonuse value.



### **C.) Puerto Rico:**

An insular U.S. Commonwealth, Puerto Rico represents a spatially-limited geographic system that is opportune for examining economic, social and ecological sustainability. Communities across Puerto Rico vary in population, economic base, ecological resources and culture, and the decisions made by one community can affect several others. As an island, Puerto Rico is highly dependent on coastal resources, including fisheries, tourism, shoreline protection from biogenic habitat, and has built a leading industry on development of pharmaceutical products from natural marine resources. Different watersheds in Puerto Rico face a variety of tradeoffs between land and coastal services.

The multi-Agency U.S. Coral Reef Task Force (USCRTF) initiated a program to address sediment and nutrient pollution of coral reefs in the Guanica Bay watershed in southwest Puerto Rico. Agencies involved in the partnership include NOAA, EPA, US Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS) and Forest Service (USDA-FS), US Fish and Wildlife Service (USFWS), US Geological Survey (USGS), and Puerto Rico Department of the Environment and Natural Resources (DRNA). NOAA funded the Center for Watershed Protection (CWP) to develop a Guanica Bay Watershed Management Plan, which was published in 2008 (CWP 2008). The plan recommended several potential management actions focused on a variety of issues that could reduce pollutant loads and adverse effects on coral reefs. In 2010, EPA and the Caribbean Coral Reef Institute (CCRI) held a Decision Workshop with resource managers, scientists and citizens to examine the objectives and activities proposed in the Management Plan and to conceptually organize the issues in a decision framework useful for identifying trade-offs and information gaps. A key aspect of the workshop was framing the management recommendations into a conceptual framework, the Driving forces-Pressure-State-Impact-Response (DPSIR) framework, an exercise that elicited valuable information on benefits, costs, values and unintended consequences of the proposed actions.

Effective protection of coral reefs begins with the recognition and appreciation of ecosystem services they provide. Land-use and water management decisions must be made with full understanding of potential economic and social losses to downstream resources.

## **II. PROJECT DESCRIPTION**

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) for Puerto Rico. There are five phases that must be completed to achieve this goal: 1) understanding the Puerto Rico context for decisions; 2) designing the survey sampling frame; 3) designing the survey instruments; 4) implementing the surveys; and 5) assessing and publishing the survey results.

### **I. Understanding the Puerto Rico context for decisions.**

Successful completion of this project requires:

- a. A sound understanding of coral reef ecosystems, threats to those systems, perceptions of their value and how they might be affected by different decision and management options. EPA will convene scientist and stakeholder panels to address these questions.

- b. An understanding of the Puerto Rico human population. NOAA will collect information from the US Census and other sources to characterize the Puerto Rican population.

## 2. Designing the survey sampling frame.

In a statistically valid survey, the sample is objectively chosen so that the results can be reliably projected from the sample to the population. NOAA will design a statistically representative sample frame. We will be analyzing our data in five (5) regions (NE, SE SW, NW, and the islands of Vieques and Culebra).

## 3. Designing the survey instruments.

Surveys represent one of the most common types of quantitative, social science research. In survey research, the researcher selects a sample of respondents from a population and administers a standardized questionnaire to them. The questionnaire, or survey, can be a written document that is completed by the person being surveyed, an online questionnaire, a face-to-face interview, or a telephone interview. Using surveys, it is possible to collect data from large or small populations (sometimes referred to as the universe of a study).

NOAA will apply a modified form of the method used in the Florida Keys (Leeworthy 1996; Leeworthy and Wiley 1997) and in Hawaii (Bishop et al. 2011). This approach uses the stated-preference (SP) and stated-choice hybrid survey methods of estimating the values of attributes (ecosystem services) combined with surveys of residents and visitors to assess the value that stakeholders assign to coral reef attributes.

The project will use information collected in phase 1a; to generate meaningful survey questionnaires. The project will use a combination of paper survey questionnaires (for residents) and web-based surveys (for visitors and optional for residents). NOAA will lead the effort to develop the initial survey questions.

NOAA and EPA will hold focus groups and one-on-one interviews to pretest the survey instrument. The survey instrument will be designed so that all respondents will be able to fully complete the survey questionnaire within about 30 minutes.

NOAA and EPA will subject the survey instrument and related materials (e.g., underlying economic theory, experimental design) to an external peer review.

NOAA will submit the survey questionnaire and all required paperwork to OMB for approval prior to conducting the survey.

## 4. Implementing the surveys.

NOAA will be responsible for implementing the surveys.

We will use a combination of paper survey questionnaires (for residents) and web-based surveys (for visitors and optional for residents). We will target visitors at airports, deploying the short



on-site form (Leeworthy 1996). This form gathers demographic and use information from visitors departing the islands.

We will use this information to recruit visitors into Internet Panels for follow-up survey modules addressing market and non-market economic valuation. This method allows us to assess and weight non-response bias in the Internet Panels.

We will use a two-pronged approach to target Puerto Rico residents. We will first recruit residents into the sample via in-home survey and then ask them if they would fill out the longer survey questionnaire and mail it back. This approach will allow us to get probabilistic samples that can be extrapolated from sample to population. The forms will be in Spanish and in paper format.

5. Assessing and publishing the survey results.

Multiple human activities impinge on Puerto Rico's coral reefs. In order to gain insights into the public's values for coral reef protection and restoration, this study will focus on impacts from land-based sources of pollution. Of particular interest will be the management activities proposed in the Guanica Bay Watershed Management Plan, and the potential value to be derived from those.

We will be analyzing our data in five (5) regions (NE, SE, SW, NW, and the islands of Vieques and Culebra).

III. RESPONSIBILITIES OF THE PARTIES:

In section II above, some of the responsibilities of the parties were discussed. Here all the responsibilities of the parties are detailed. The responsibilities of EPA/ORD and NOAA/NOS/ONMS, the PARTNERS, described below are contingent upon the U.S. Office of Management and Budget (OMB) approval of all project survey sample designs and questionnaires under the Paperwork Reduction Act and the availability of appropriated funds to the agencies.

A. EPA/ORD agrees to:

1. Provide to NOAA/NOS/ONMS \$195,000 to fund contracts, cooperative agreements, and any travel necessary to design and implement the surveys of recreation-tourist users of Puerto Rico's coral reef ecosystems and the economic analysis and reporting of the information collected.
2. Provide the services of Pat Bradley for overall project management and coordination.
3. Provide EPA economists to assist in survey designs and economic analyses and internal project peer review.
4. Provide a series of workshops in Puerto Rico to help determine what attributes of Puerto Rico's coral reef ecosystems people care about and thus have economic value.



5. Provide a team of physical/natural scientists to estimate how coral reef ecosystems will change with changes in management strategies.

B. NOAA/NOS/ONMS agrees to:

1. Provide the services of ONMS Chief Economist, Dr. Vernon R. (Bob) Leeworthy to serve as project co-manager, lead the design and implementation of surveys, and the analysis and reports of the survey data.
2. Lead the design of all survey sample designs and questionnaires meeting PARTNER objectives and provide to all PARTNERS for review and approval. In addition, to be responsible for all activities related to getting OMB approval of all survey sample designs and questionnaires.
3. Fully participate in planning and conducting research in analyzing results, and in disseminating research results and publishing findings.
4. Coordinate all project activities related to the economic components of the project and all the deliverables described in Section IV.
5. Enter and manage all contracts and cooperative agreements necessary to design and implement surveys of Puerto Rico's coral reef system recreation-tourist users.

#### **IV. DELIVERABLES:**

The following work products shall be delivered by NOAA/NOS/ONMS to EPA/ORD consistent with the terms of this agreement and the Budget and Timeline herein incorporated and made part of the agreement as Attachment A. All budget items are "best estimates" since the work will be done through contracts, sub-contracts and or cooperative agreements.

- A. OMB approved questionnaires and sample designs for surveys of residents of Puerto Rico and visitors to Puerto Rico that used the coral reef ecosystems in Puerto Rico.
- B. All data and documentation from the resident and visitor surveys in formats useable by EPA/ORD.
- C. Quarterly status reports summarizing progress on the project and preliminary data analyses as they become available.
- D. Final reports and analyses of the data collected, to include the following:
  1. Estimates of total resident and visitor use (person-trips and person-days) by user group (resident and visitor), by season (summer and winter), and by five geographic regions (NE, SE SW, NW, and the islands of Vieques and Culebra).
  2. Profiles of residents and visitors including information on age, race/ethnicity, sex, education level, household income, activity participation, and spending in the local and regional Puerto Rican economies.
  3. Estimates of economic impact (sales/output, income and employment) of visitor and resident spending associated with use of coral reef ecosystems.
  4. Estimates of non-market economic use values associated with coral reef ecosystem uses and how those values change with changes in coral reef ecosystem attributes.

## V. OWNERSHIP OF DATA AND DELIVERABLES:

The Partners to this Agreement shall be joint owners of, and shall have complete and equal access to all project data and deliverables, except as limited by applicable law with respect to confidential survey data. (Names and addresses of survey participants will be removed from all databases before distribution).

### POINTS OF CONTACT:

#### A. NOAA/NOS/ONMS

Dr. Vernon R. (Bob) Leeworthy  
Chief Economist  
NOAA/NOS/ONMS – N/NMSI  
1305 East West Highway, SSMC4, 11<sup>th</sup> floor  
Silver Spring, MD 20910  
Telephone: (301) 713-7261  
Fax: (301) 713-0404  
E-mail: Bob.Leeworthy@noaa.gov

#### B. EPA/ORD

Patricia Bradley  
US EPA/ORD/NHEERL/AED/MAB  
c/o Florida Keys National Marine Sanctuary  
33 East Quay Road  
Key West, FL 33040  
Telephone: 305-809-4690  
Fax: 305-293-5011  
E-mail: bradley.patricia@epa.gov

The Parties agree that if there is a change regarding the information in this section, the Party making the change will notify the other Party in writing of such change. An amendment is not required to make the change.

## References

- Bishop RS, Chapman OJ, Kanninen BJ, Krosnick JA, Leeworthy B, Neade NF. 2011. *Total Economic Value for protecting and restoring Hawaiian Coral Reef Ecosystems. Final Report*. Silver Spring, MD: NOAA Office of National Marine Sanctuaries, Office of response and Restoration, and Coral Reef Conservation Program. NOAA Technical Memorandum CRCP 16, 405 pp.
- Center for Watershed Protection (CWP). 2008. *Guernica Bay Watershed Management Plan*. Prepared for the NOAA Coral Reef Program. Center for Watershed Protection, Ellicott City, MD.
- Leeworthy VR. 1996. *Linking the Economy and Environment of the Florida Keys Florida Bay: Technical Appendix: Sampling Methodologies and Estimation Methods Applied to the Florida Keys Key West Visitors Surveys*. National Oceanic and Atmospheric Administration, Silver Spring MD.
- Leeworthy VR and Wiley PC. 1997. *Linking the Economy and Environment of the Florida Keys Florida Bay*.

*Technical Appendix: Sampling Methodologies and Estimation Methods Applied to the Survey of Monroe County Residents.* National Oceanic and Atmospheric Administration, Silver Spring MD.



**ATTACHMENT A**

**ESTIMATED BUDGET**

Item	Amount
Contracts/Cooperative Agreements for Surveys	\$188,000
Travel (two trips to Puerto Rico)	\$5,000
Data for IMPLAN 1-0 Model	\$2,000
Total	\$195,000