APPENDIX D: PRETEST RESULTS

Introduction

The original design called for and Airport survey to estimate the number of visitors (measured in person-trips) that visited Puerto Rico and did at least one coral reef activity on their trip. Estimates of person-trips were to be made by region (five regions) and activity. For intensity of use measured in person-days and number of dives by region and reef activity; expenditures; importance-satisfaction ratings; and non-market economic values and Internet Panel was to be used. The Internet Panel was to be recruited at the airport and e-mails obtained from those who agreed to join the panel. GfK, Inc. would implement the Internet Panel survey.

In the pre-test, GfK required that the University of Puerto Rico deliver at least 600 e-mails to get 200 completes. The 200 completes were thought necessary to design the dollar bid amounts for the stated preference choice questions to be used to estimate non-market economic value of coral reef attributes.

The University of Puerto Rico delivered 602 e-mails to GfK along with the airport activity participation data to make it more efficient in asking for the number of days and number of dives by activity and region. It took 714 airport completed interviews to get the 602 recruited into the Internet Panel or 84.3% agreed to join the Internet Panel. The Tally Sheet, used to estimate the percent of all visitors that use the coral reefs for at least one coral reef activity yielded an estimate of 13.09% of all Puerto Rico's visitors used the coral reefs. However, we expect this could differ by season. The cooperation rate, i.e. those who were eligible for the survey that completed the airport survey was 78.59%.

The Internet survey was not successful. Only 30 people responded to the Internet survey even after three e-mail follow-ups. So we had to abandon this approach and re-design the survey using an approach that has worked successfully in the Florida Keys in 1995-96, 2000-01, and 2007-08. We designed an On-site survey to be implemented at various sites around the island including hotels, marinas, dive shops and beaches. Puerto Rico Sea Grant selected the sites and got permissions from the owners/managers for the University of Puerto Rico students to access the sites and interview their customers. A Tally sheet was also designed to screen people for being eligible for the survey. To be eligible, a visitor had to be 18 years or older (University of Puerto Rico IRB Review requirement for human subjects), had to have done at least one recreation activity on the coral reefs on the interview trip (see Blue Card), and had to be ending their trip the day of the interview or before Noon-time the next day. We didn't want people speculating about what they might do on the trip.

We needed to test the time it took to complete the On-site questionnaire. We wanted to keep it to an average time of 15-20 minutes.

The first draft of the questionnaire included four choice questions as was planned for the Internet survey (see Part B for the requirements for an optimal design of the choice questions). After testing on 30 people, we learned that with four choice questions the survey was too long. So we re-drafted the questionnaire to include only two choice questions per respondent. This required us to increase the number of versions from nine to 18 to meet the optimal design requirement of 36 choices.

The expenditure and importance-satisfaction information that was originally designed primarily from the Internet survey was moved to two mailbacks in the airport survey as they have been used in the Florida Keys successfully in 1995-95 and 2007-08. The mailbacks were already going to be used in the airport survey for people who did not join the Internet Panel, but agreed to take the two mailbacks. These di not require pretesting since they have been used successfully in the past.

On-site Survey Pretest Results

The On-site questionnaire was pretested at 26 sites around the island between May 28 and June 22, 2016. One hundred and ninety-six (196) completes were obtained. The average time was within the 15-20 minute limit.

Choice Question Dollar Bid Design. Our optimal design called for six different dollar bid amounts. The optimal design simply assigned a dollar bid price level as 1, 2, 3, 4, 5 or 6. Our task was to design the dollar amounts associated with each of the price levels.

The pretest used eight versions of the survey. This was the same design that was submitted for the pretest application for approval (0648-0713), except the Internet had four versions with four choices per version whereas the On-site survey had eight versions with two choices per version. We used nine different prices ($30, $60,, $95, $125, $190, $250, $375, $500, $750, and $1,000). Prices are increases to the household per trip in their total trip costs. These prices were assigned to different combinations of attributes (alternatives within a choice set). Each choice has three options: 1) A=Status Quo which includes all attributes at the low level with a cost of $0; 2) B=mix of attribute levels at a price greater than $0, and 3) C=mix of attributes at a price greater than $0. Table D.1 shows the prices assigned to each version and each choice within a version, while Table D.2 shows the levels of attributes for each option and choice for each version. The questionnaires and cards handed to the respondents are included at the end of this appendix.

Table D.1. Prices used in the Pretest by Version, Choice and Option

	Choice 1			Choice 2		
Version	A	B	C	A	B	C
!a	$0	$500	$1,000	$0	$750	$750
1b	$0	$500	$500	$0	$250	$250
2a	$0	$250	$500	$0	$375	$375
2b	$0	$250	$250	$0	$125	$125
3a	$0	$125	$250	$0	$190	$190
3b	$0	$125	$125	$0	$60	$60
4a	$0	$60	$125	$0	$95	$95
4b	$0	$60	$60	$0	$30	$30

A= Status Quo

Table D.2. Attribute Condition Levels by Version, Choice and Option

	Choice 1			Choic 2		
Version	A	B	C	A	B	C
1a	All Low	All M	All H	All Low	6M & 6H	6H & 6M
1b	All Low	6L & 6H	6H & 6L	All Low	6M & 6H	6H & 6M
2a	All Low	All M	All H	All Low	6M & 6H	6H & 6M
2b	All Low	6L & 6H	6H & 6L	All Low	6L & 6M	6M & 6L
3a	All Low	All M	All H	All Low	6M & 6H	6H & 6M
3b	All Low	6L & 6H	6H & 6L	All Low	6L & 6M	6M & 6L
4a	All Low	All M	All H	All Low	6M & 6H	6H & 6M
4b	All Low	6L & 6H	6H & 6L	All Low	6L & 6M	6M & 6L

L = Low, M=Medium, and H=High Condition

Generally, as prices increased the percent choosing the option declined, holding mix of attributes constant. All those presented with the lowest dollar amount never selected the Status Quo, so we set our lowest dollar amount (price level 1) to $60. For $60, we had some choosing the Status Quo thus avoiding the “fat tails” problem. Not

everyone one selected the Status Quo for the highest dollar amount so price level 6 was set to $1,000. For price levels 2 to 4, we approximately doubled the price levels with price level 2=$125, price level 3=$250, and price level 4=$500. For price level 5, we went halfway between price level 5 and price level 6 or $750. This method of setting prices has worked in many applications in the past.

Scenario Rejection/Protestors. In every application of non-market economic valuation, researchers are forced to deal with the possibility that some people will not accept the valuation scenario and therefore not provide their "true" willingness to pay for the goods and services being offered. Sometimes people do not like the payment method used. Sometimes they don't believe the information provided that provides the basis of describing the nature of the goods and services or changes in the goods and services being offered. Sometimes the method of supply of the goods and services are rejected. In many of this latter case, people express anti-government attitudes. Still others believe think that in some cases of public good supply, such as natural resources quantity and quality is a moral issue and they don't think they should have to pay to protect and/or restore these resources.

We included several questions to help identify scenario rejection/protestors. We defined a "protestor" as anyone that always chose the Status Quo, that they responded they did not believe the scientific information provided about the future conditions of the reefs if current management and policies continued (Question C3) or in the open ended question following each choice (C7 for choice 1 and C11 for choice 2) provided a non-economic reason for selecting the Status Quo or not answering the choice questions. Everyone in the sample answered all the choice questions. For Choice 1, 14.72% chose the Status Quo, while 11.22% chose the Status Quo for choice 2. Only three of those sampled were classified as "protestors" or 1.5%.

For these protestors, we further explored their responses to other questions. Questions C17a, C17c, C17d, C17e and C17j provided more information to better understand why they were protesting. These questions used a five-point Likert agreement scale where 1=Strongly disagree, 2=Somewhat disagree, 3=Neither agree or disagree (neutral), 4=Somewhat agree and 5=Strongly agree.

C17a: Cost should not be a factor when protecting the environment.

Answers of agreement to this statement would reveal a person who leans towards the moral argument for protection and is therefore rejecting our scenario. Two out of the three protestors strongly agreed with this statement and one strongly disagreed.

C17c: I was concerned that the Puerto Rico government cannot effectively manage coral reefs.

This is a weak indicator of protests since many in the focus groups said they thought that the Puerto Rcio government was not effectively managing the coral reefs but the reason was the lack of information on the importance of the reefs in terms of economics. They thought the information from this study was critical to getting the Puerto Rico government to give the reefs more attention. One of the protestors strongly agreed, one somewhat agreed and one was neutral.

C17d: I should not have to pay more to protect or restore coral reefs in Puerto Rico.

Two of the protestors strongly agreed and one somewhat disagreed. Of the two who strongly agreed, they also indicated in their answers to the open questions C7 and C11 that it was a moral issue or they thought they already had paid a tourist tax and those funds should be used instead.

C17e: 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.

One protestor strongly agreed and two somewhat agreed with this statement.

C17j: 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.

Agreement with this statement would support the rejection of our scenario. Two of the protestors strongly agreed and one strongly disagreed.

Another question was asked after the choice questions that goes to accepting our scenario.

C19: How certain are you that additional funding would achieve the goals of protecting the environment?

One protestor answered they were very sure, one was moderately sure and one was not sure at all. The protestor that was not sure at all also had responded to C17c that they strongly agreed that Puerto Rico could not effectively manage the coral reefs.

Overall, we conclude that scenario rejection/protestors are not a significant problem.

Item Non-response

As with many applications of this survey questionnaire over the years, item non-response is very limited. The only problems were with demographics with a higher than usual non-response to Household Income.

- Four people did not provide activity data (2%)
- D2 – Year born had one non-respondent of (0.5%)
- D4 – Ethnicity (Latino, Hispanic or Spanish Origen) eight non-respondents (4.1%)
- D5 – Race one non-respondent (0.5%)
- D6 – Household Income 58 non-respondents (29.6%)

Household income is of concern since it is often related to willingness to pay. The non-response rate was higher than that of visitors at the airport which had a non-response rate of 14%. Thus this could be an interviewer problem that could be corrected with additional training.

Tally Sheet
On-site Survey

Hello, I am from the University of Puerto Rico and we are doing a survey on recreation-tourism in Puerto Rico. Those who complete the survey will be entered into a sweepstakes/lottery to win free vacation prizes. **(Hand respondent gift brochure).**

1. Are you a permanent resident of Puerto Rico?

☐ Yes — Thank you. We are only interviewing nonresidents of Puerto Rico. (Place tic mark in column 4)

☐ No — Are you ending your trip to the Puerto Rico today?

☐ Yes ☐ No — Thank you. We are only interviewing people at the end of their trip to the Puerto Rico. (Place tic mark in column 5)

→ Did you do any recreation/tourist activities on the coral reefs on this visit to Puerto Rico? (show recreation/tourist activity Blue Card)

☐ No — Thank you. We are only interviewing visitors that did recreation/tourist activities on coral reefs. (Place tic mark in column 6)

☐ Yes

Will you participate in a short 15-20 minute interview about your visit to Puerto Rico?

☐ No — Thank you. (Place tic mark in column 7)

☐ Yes — (Place tic mark in column 8)

1	2	3	4	5	6	7	8
Site	Date	Time Period	Permanent Resident	Non Exit Visitor	Non Reef Using Recreating/ Tourist	Reef User Recreating Visitor Refusal or Language	Reef Using Recreating Visitor Interviewed

REEF ACTIVITIES LIST

Number	Water-based Activities
	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 relative's 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 relative's 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 relative's 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 relative's 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

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:

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Telephone: (787) 508-2475
gpadillaplaza@gmail.com

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 Puerto Rico Sea Grant, 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 Tourism Company 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 4 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.

SECTION 1: Primary Purpose of Trip to Puerto Rico

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

SECTION 2: Race (Select All that Apply)

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

SECTION 3: HOUSEHOLD INCOME CATEGORIES (Annual Income before taxes)

A Less than $5,000
I $40,000 to $44,999
B $5,000 to $9,999
C $10,000 to $14,999
D $15,000 to $19,999
E $20,000 to $24,999
F $25,000 to $29,999
G $30,000 to $39,999
H $35,000 to $39,999
J $45,000 to $49,999
K $50,000 to $59,999
L $60,000 to $74,999
M $75,000 to $99,999
N $100,000 to $149,999
O $150,000 or more

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 1a

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

1. (a) How many people in your party are ages 18 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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 $500 per trip. For Option C, all reef conditions are improved to the highest condition and will cost your household $1,000 per trip.

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 $750 per trip. 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 $750 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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	C	Business trip	E	Other (specify)
B	Visit family or friends	D	Business/pleasure		

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

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 1b

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

1. (a) How many people in your party are ages 18 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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, some reef conditions are at the low level and some at the high level of condition and will cost your household $500 per trip. For Option C, some reef conditions are at the low level some are improved to the highest condition and this will cost your household $500 per trip.

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 low level and some at the medium level of condition and will cost your household $250 per trip. For Option C, some reef conditions are at the medium level and some are the low condition and this will cost your household $250 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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.

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 2a

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

1. (a) How many people in your party are ages 18 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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 $250 per trip. For Option C, all reef conditions are improved to the highest condition and will cost your household $500 per trip.

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 $375 per trip. 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 $375 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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	C	Business trip	E	Other (specify)
B	Visit family or friends	D	Business/pleasure		

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

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 2b

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

---

1. (a) How many people in your party are ages 18 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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, some reef conditions are at a low level and some at the high level of condition and will cost your household $250 per trip. 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 $250 per trip.

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 low level and some at the medium level of condition and will cost your household $125 per trip. For Option C, some reef conditions are at the medium level and some are the low condition and this will cost your household $125 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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	C	Business trip	E	Other (specify)
B	Visit family or friends	D	Business/pleasure		

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

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 3a

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

1. (a) How many people in your party are ages 186 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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 $125 per trip. For Option C, all reef conditions are improved to the highest condition and will cost your household$250 per trip.

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 $190 per trip. 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 $190 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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	C	Business trip	E	Other (specify)
B	Visit family or friends	D	Business/pleasure		

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

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 3b

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

1. (a) How many people in your party are ages 18 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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, some reef conditions are at a low level and some at the high level of condition and will cost your household $125 per trip. 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 $125 per trip.

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 low level and some at the medium level of condition and will cost your household $60 per trip. For Option C, some reef conditions are at the medium level and some are the low condition and this will cost your household $60 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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	C	Business trip	E	Other (specify)
B	Visit family or friends	D	Business/pleasure		

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

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 4a

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

1. (a) How many people in your party are ages 18 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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 $60 per trip. For Option C, all reef conditions are improved to the highest condition and will cost your household $125 per trip.

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 $95 per trip. 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 $95 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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	C	Business trip	E	Other (specify)
B	Visit family or friends	D	Business/pleasure		

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

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

OMB Approval #: 0648-07130
Expiration Date: 4/30/2018

On-site Survey – Version 4b

On-site Survey Number: _____

Screening Criteria: 1) Visiting PR and did reef activities
(See Tally Sheet) 2) Meets Exit condition

Site: _____ _____ _____ _____
Month Day Time

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

1. (a) How many people in your party are ages 18 or older? _____ (# of People)

   (b) How many people in your party are under 18?) _____ (# of People)

2. Where is your primary residence?

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

   Country: _____

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

If overnight visitor, hand respondent maps of Puerto Rico. If not overnight visitor, skip to next section.

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

Interviewer: Make sure if answer to Q.4. is greater than one, that answer to Q.6. is not equal to Q.5.

1

Part B: Coral reef use in the Puerto Rico during this trip.

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 this trip 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 this trip in Region 1, Region 2, Region 3, Region 4, Region 5.

B3. How many others in your party 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 this trip?

Note: Count any part of a day as a whole day for each activity.

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 this trip?

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

There is one table for each of the five regions of the Puerto Rico
(Region 1, Region 2, Region 3, Region 4, Region 5)

Interview Number:

☐ **No Reef Use** **Region 1**

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

☐ **No Reef Use** **Region 2**

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

☐ **No Reef Use** **Region 3**

B1	B2	B3	B4	B5
Activity	Resp.	# Others	Respondent # of days	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, some reef conditions are at a low level and some at the high level of condition and will cost your household $60 per trip. 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 $60 per trip.

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 low level and some at the medium level of condition and will cost your household $30 per trip. For Option C, some reef conditions are at the medium level and some are the low condition and this will cost your household $30 per trip.

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)

C13. Did you understand that the dollar amount for each alternative was the per trip cost to your household?

a. Yes
b. No

C14. 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)

C15. 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 _____

C16. 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)

C17. 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 businesses and households.					

C18. What condition are the reefs in that you personally visit or use?

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

C19. 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 answer only. ___ (letter)

C20. 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 visitors.

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

Hand respondent Green Card

D1. 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.

D2. In what year were you born? (Code last two digits) __ __

D3. Sex male ☐ female ☐

D4. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

D5. 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 Alaskan Native

D __ Native Hawaiian or Pacific Islander

D6. 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.

a b c d e f g h i j k l m n o

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ refused

Thank You that is the end of our Survey.

If you would like to be included in the sweepstakes/lottery, if you could provide us contact information to award the prizes.

Telephone _____ e-mail _____

Mailing address: _____

Part C: Economic Value of Puerto Rico's Coral Reef Ecosystems – Version 1a, Choice Set 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 10 square meters	Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
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 10 square meters with no fish of legal size to keep	3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.	25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	1 species of Macroinvertebrates with 1 to 20 per 10 square meters (urchins).	2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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
$0	**$ 500**	**$ 1,000**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version1a, 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 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**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 10 square meters.	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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 60 feet	**H: Depth of Reefs:** Less than 20 feet	**M: Depth of Reefs:** 20 to 60 feet
Crowdedness: 21 or more people	**H: Crowdedness:** 0 to 10 people	**M: Crowdedness:** 11 to 20 people
$0	**$ 750**	**$ 750**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 1b, Choice 1

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**H:** 25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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, permit, bonefish, tarpon, snook, jacks)	**H:** Opportunity to catch or see 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	**H:** Clarity/Visibility: Greater than 50 feet	**L**: Clarity/Visibility: Less than 10 feet
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
$0	**$ 500**	**$ 500**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 1b, Choice 2

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters with up to 50% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**M**: 4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**M:** 1 species of Macroinvertebrates with 1 to 20 per square meter (urchins).
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:** 11 to 20 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
$0	**$ 250**	**$ 250**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Part C: Economic Value of Puerto Rico's Coral Reef Ecosystems – Version 2a, Choice Set 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 10 square meters	Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
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 10 square meters with no fish of legal size to keep	3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.	25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	1 species of Macroinvertebrates with 1 to 20 per 10 square meters (urchins).	2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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
$0	**$ 250**	**$ 500**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 2a, 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 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**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 10 square meters.	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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 60 feet	**H: Depth of Reefs:** Less than 20 feet	**M: Depth of Reefs:** 20 to 60 feet
Crowdedness: 21 or more people	**H: Crowdedness:** 0 to 10 people	**M: Crowdedness:** 11 to 20 people
$0	**$ 375**	**$ 375**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 2b, Choice 1

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**H:** 25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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, permit, bonefish, tarpon, snook, jacks)	**H:** Opportunity to catch or see 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	**H:** Clarity/Visibility: Greater than 50 feet	**L**: Clarity/Visibility: Less than 10 feet
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
$0	**$ 250**	**$ 250**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 2b, Choice 2

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters with up to 50% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**M**: 4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**M:** 1 species of Macroinvertebrates with 1 to 20 per square meter (urchins).
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:** 11 to 20 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
$0	**$ 125**	**$ 125**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Part C: Economic Value of Puerto Rico's Coral Reef Ecosystems – Version 3a, Choice Set 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 10 square meters	Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
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 10 square meters with no fish of legal size to keep	3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.	25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	1 species of Macroinvertebrates with 1 to 20 per 10 square meters (urchins).	2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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
$0	**$ 125**	**$ 250**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 3a, 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 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**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 10 square meters.	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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 60 feet	**H: Depth of Reefs:** Less than 20 feet	**M: Depth of Reefs:** 20 to 60 feet
Crowdedness: 21 or more people	**H: Crowdedness:** 0 to 10 people	**M: Crowdedness:** 11 to 20 people
$0	**$ 190**	**$ 190**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 3b, Choice 1

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**H:** 25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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, permit, bonefish, tarpon, snook, jacks)	**H:** Opportunity to catch or see 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	**H:** Clarity/Visibility: Greater than 50 feet	**L**: Clarity/Visibility: Less than 10 feet
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
$0	**$ 125**	**$ 125**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 3b, Choice 2

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters with up to 50% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**M**: 4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**M:** 1 species of Macroinvertebrates with 1 to 20 per square meter (urchins).
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:** 11 to 20 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
$0	**$ 60**	**$ 60**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Part C: Economic Value of Puerto Rico's Coral Reef Ecosystems – Version 4a, Choice Set 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 10 square meters	Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
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 10 square meters with no fish of legal size to keep	3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.	25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	1 species of Macroinvertebrates with 1 to 20 per 10 square meters (urchins).	2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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
$0	**$ 60**	**$ 125**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 4a, 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 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters.	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**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 10 square meters.	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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 60 feet	**H: Depth of Reefs:** Less than 20 feet	**M: Depth of Reefs:** 20 to 60 feet
Crowdedness: 21 or more people	**H: Crowdedness:** 0 to 10 people	**M: Crowdedness:** 11 to 20 people
$0	**$ 95**	**$ 95**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 4b, Choice 1

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**H:** 1 species of soft corals for a total of less than 4 square centimeters per 10 square meters.
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**H:** 1 species of sponges for a total of less than 2 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters 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 10 square meters with 75 to 100% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**H:** 25 to 30 species of tropical/ornamental fish for a total of 20 to 100 or more fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**H:** 2 or more species of Macroinvertebrates (conch, lobster or urchins) 1 lobster, 1 conch, and 20 or more urchins per 10 square meters.
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, permit, bonefish, tarpon, snook, jacks)	**H:** Opportunity to catch or see 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	**H:** Clarity/Visibility: Greater than 50 feet	**L**: Clarity/Visibility: Less than 10 feet
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
$0	**$ 60**	**$ 60**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

Version 4b, Choice 2

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 10 square meters	**L:** Up to 4 species of soft corals for a total of 14 to 25 square centimeters per 10 square meters	**M:** Up to 3 species of soft corals for a total of 4 to 14 square centimeters per 10 square meters
Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**L:** Up to 4 species of sponges for a total of 7 to 15 square centimeters per 10 square meters	**M:** Up to 3 species of sponges for a total of 2 to 7 square centimeters per 10 square meters.
Fish and Wildlife	**Fish and Wildlife**	**Fish and Wildlife**
Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**L:** Up to two species of consumptive fish for a total of 3 fish per 10 square meters with no fish of legal size to keep	**M:** 3 to 6 species of consumptive fish for a total of 10 fish per 10 square meters with up to 50% of legal size to keep.
Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**L:** Up to 3 species of tropical/ornamental fish with a total of 3 fish per 10 square meters	**M**: 4 to 10 species of tropical/ornamental fish with a total of 10 fish per 10 square meters.
No Macroinvertebrates (conch, lobster or urchins)	**L:** No Macroinvertebrates (conch, lobster or urchins)	**M:** 1 species of Macroinvertebrates with 1 to 20 per square meter (urchins).
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:** 11 to 20 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
$0	**$ 30**	**$ 30**
(Cost to your household per trip)	(Cost to your household per trip)	(Cost to your household per trip)

RESIDENT - 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, 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, 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,

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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 (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.**

CORAL REEF ECOSYSTEM HEALTH

- **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.**

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VISITOR'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 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 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.**

VISITORS - 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

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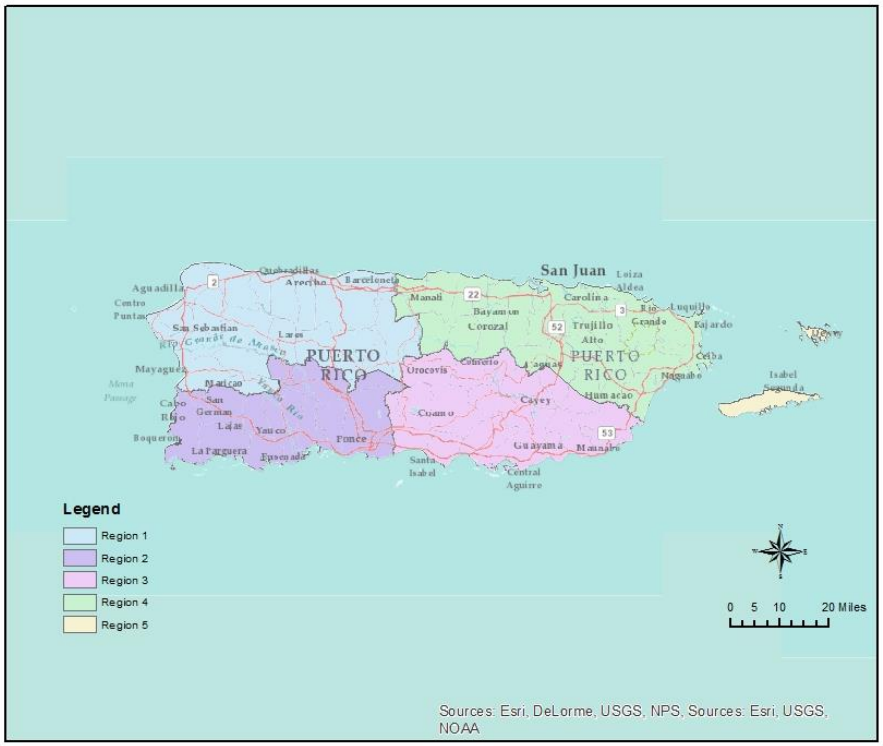
SECTION 4. Agreement with Statements

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 businesses and households.	☐	☐	☐	☐	☐

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

Select one answer only.

a. Very certain
b. Certain
c. Somewhat certain
d. Uncertain
e. Very uncertain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Sources: Esri, DeLorme, USGS, NPS, Sources: Esri, USGS, NOAA


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Sources: Esri, DeLorme, USGS, NPS, Sources: Esri, USGS, NOAA


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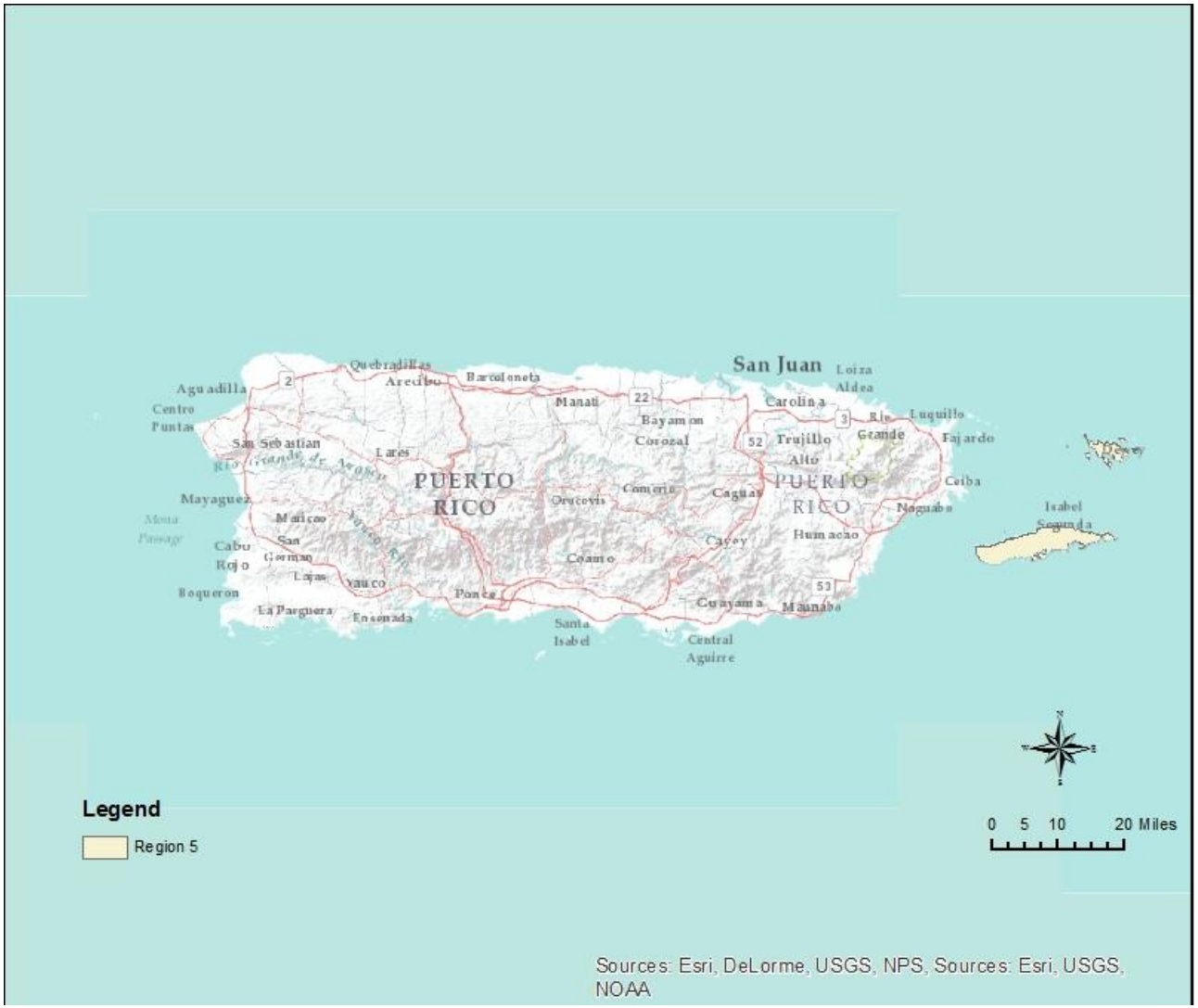
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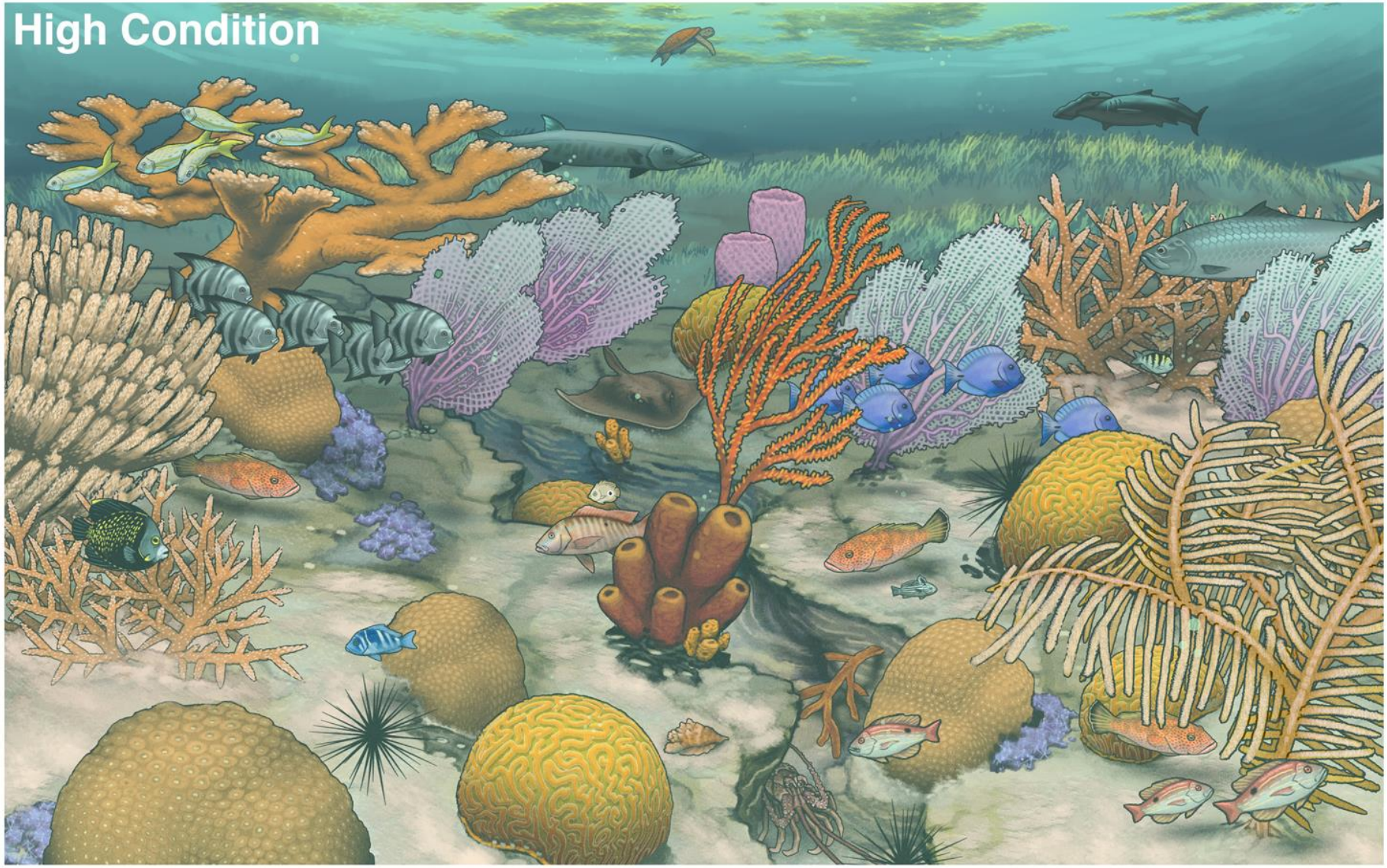

Illustration by Daniel Irizarri Oquendo

Medium Condition

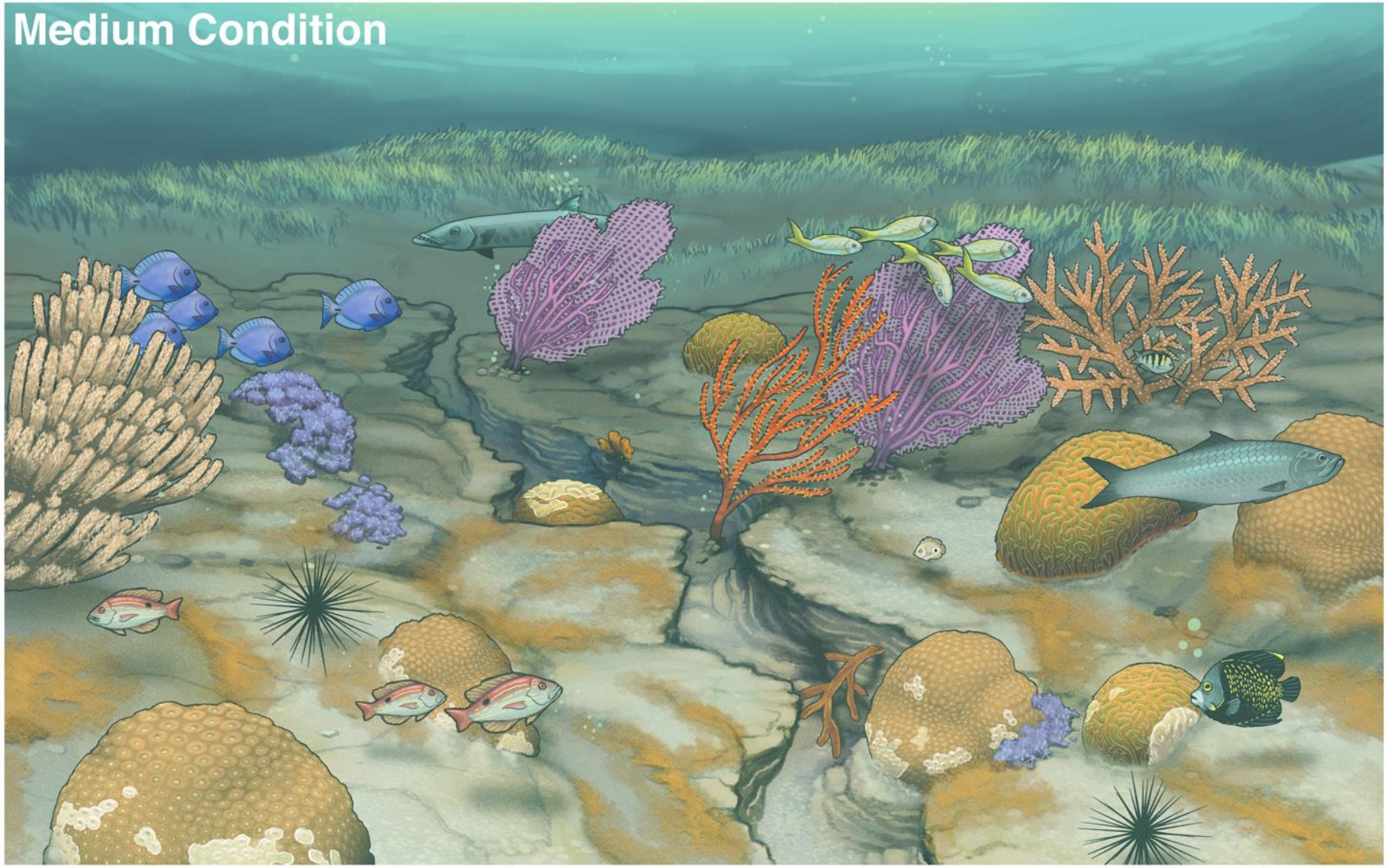

Illustration by Daniel Irizarri Oquendo

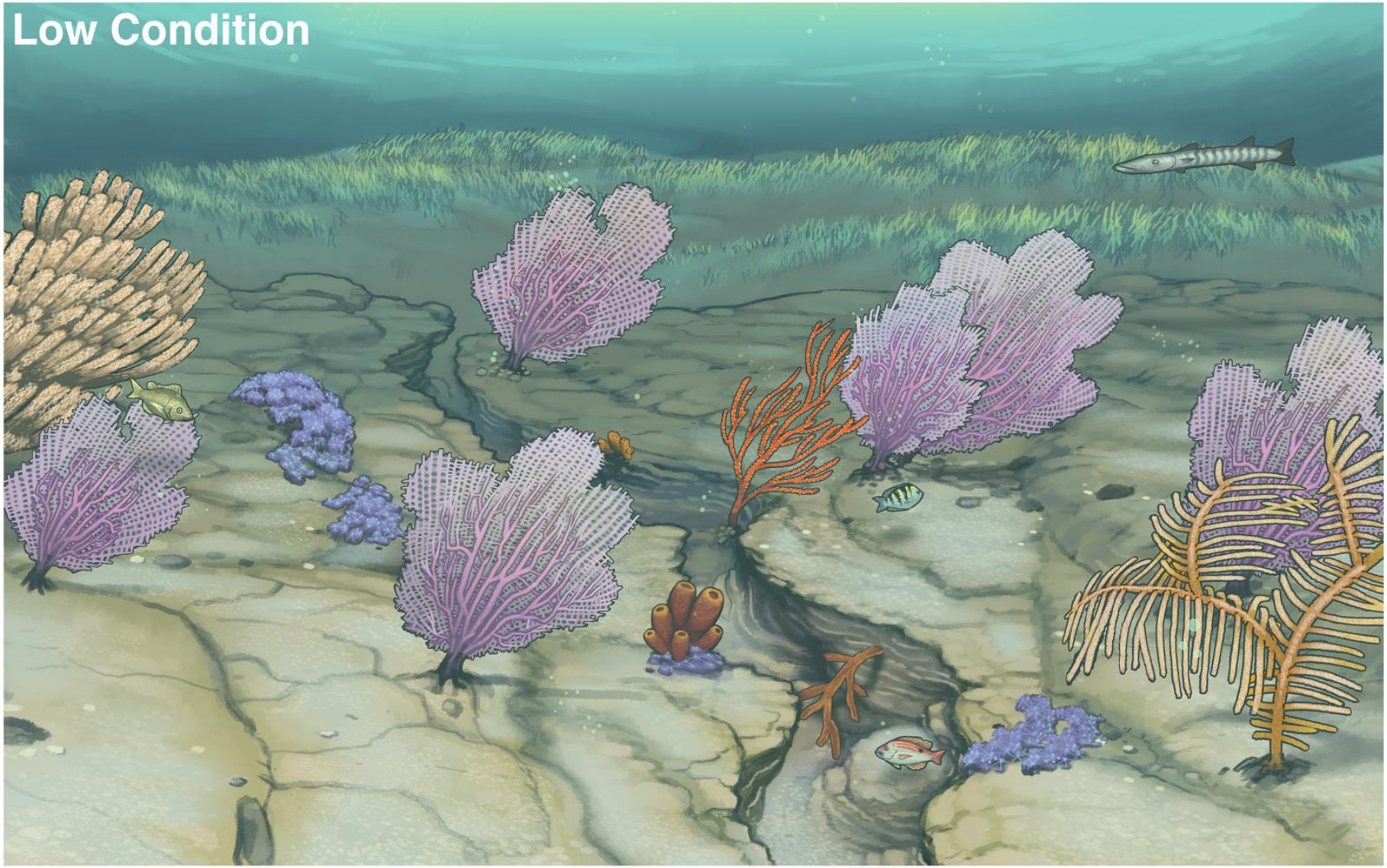

Illustration by Daniel Irizarri Oquendo

Stony Corals

Soft Corals and Sponges

Reef Fish

Invertebrates

Mega Fauna