

SUPPORTING STATEMENT

SOCIOECONOMICS OF CORAL REEF CONSERVATION

OMB CONTROL NO. 0648-xxxx

**U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Services Center
Coral Reef Conservation Program**

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INTRODUCTION

This request is for a new information collection.

The National Oceanic and Atmospheric Administration (NOAA) created the Coral Reef Conservation Program to safeguard and ensure the welfare of the coral reef ecosystems along the coastlines of America's States and Territories. The administration of this program has potential economic and cultural impacts on the lives of nearby residents and citizens. In accordance with its mission goals, NOAA has designed a survey to help assess the impacts of the Coral Reef Conservation Program.

The survey is designed to be repeated every three to four years in order to provide longitudinal data about the impact of the Coral Reef Conservation Program.

A. JUSTIFICATION

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

The purpose of this information collection is to obtain information from individuals in the seven US jurisdictions containing coral reefs. Specifically, NOAA is seeking information on the behaviors and activities related to coral reefs, as well as information on knowledge and attitudes related to coral reefs and specific reef protection activities.

The Coral Reef Conservation Program (CRCP), developed under the authority of the [Coral Reef Conservation Act of 2000](#) (P.L. 106-562; 16 U.S.C. 6401 *et seq.*) is responsible for programs intended to enhance the conservation of coral reefs. Under this authority, CRCP works with local partners in Florida, US Virgin Islands, Puerto Rico, Hawaii, American Samoa, Guam, and Commonwealth of the Northern Mariana Islands to reduce key threats to coral reefs, including climate change, land based sources of pollution, and impacts from fishing.

CRCP is embarking on a new National Coral Reef Monitoring Program (NCRMP), intended to enhance the conservation of coral reefs. As part of this program, CRCP intends to gather and monitor a collection of socioeconomic variables, including those related to knowledge, attitudes, and perceptions of coral reefs and coral reef management of jurisdictional residents.

CRCP intends to use the information collected through this instrument for research purposes as well as measuring and improving the results of our reef protection programs. Because many of our efforts to protect reefs rely on education and changing attitudes toward reef protection, the information collected will allow CRCP staff to ensure programs are designed appropriately at the start, future program evaluation efforts are as successful as possible, and outreach efforts are targeting the intended recipients with useful information.

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

The purpose of the survey is to gather longitudinal information from residents in Florida, US Virgin Islands, Puerto Rico, Hawaii, American Samoa, Guam, and Commonwealth of the Northern Mariana Islands (CNMI) related to their knowledge, attitudes, and perceptions of coral reefs and coral reef management practices.

As part of the NCRMP, CRCP, in consultation with partners and stakeholders developed a set of long-term core indicators that will be measured overtime across all coral reef jurisdictions. The data gathered as part of this information collection request will assist CRCP in tracking these indicators and improve the results of its existing and future programs. A list with a description and the relevance of each indicator is shown in Table 1 below.

Table 1: National Indicators for the National Coral Reef Ecosystem Monitoring Program

National Indicator	Priority	Importance of Gathering Data to Measure Indicator
1. Participation in reef activities (including snorkeling, diving, fishing, harvesting)	Critical	Understand the economic and recreational importance of coral reefs to local residents; understand level of extractive and non-extractive pressures on reefs
2. Knowledge of coral reef rules and regulations	Critical	Tracking this information over time at the jurisdictional or national level will provide a better understanding of the effect of investing in education and outreach
3. Perceived compliance with coral reefs rules and regulations	Critical	Determine how people are impacting coral reefs and effectiveness of regulations and enforcement efforts
4. Perceived resource condition	Critical	Complement biophysical information. Key to understanding public support for various management strategies
5. Knowledge of threats to coral reefs	Critical	Monitoring this information over time is key to tracking whether CRCP constituents understand threats to coral reefs. Data gathered will help inform management strategies and education and outreach efforts
6. Attitudes towards coral reef management strategies	Critical	Monitoring this information over time will be valuable to decision-makers. Information collected will assist decision-makers to evaluate and improve existing strategies and design new management approaches
7. Participation in behaviors that may	Critical	Improve existing knowledge and gain a better understanding on how human behaviors impact coral

improve coral reef health		reefs positively and negatively
8. Cultural importance of reefs	Critical	Understand traditional and cultural significance of coral reefs to jurisdictional residents and whether their significance is changing over time
9. Population trends change near coral reefs	Important	Determine how changing population trends increase pressure on coral reefs and reef-adjacent population
10. Economic impact of coral reef fishing to jurisdiction	Important	Track the economic contributions of coral reefs to reef fishing and justify government funding of coral reef protection programs
11. Economic impact of dive/snorkel tourism to jurisdiction ¹	Important	Track the economic contributions of coral reefs to tourism and justify government funding of coral reef protection programs

While the indicators to be measured are applicable to all jurisdictions, it is important to note that there are considerable geographical, cultural and linguistic differences among residents nearby and tourists to these coral reef areas. In order to provide flexibility in the data collection instrument to account for those and other differences, CRCP decided to construct a bank of questions, instead of administering a single survey to all jurisdictions. The question bank will ensure that specific topics relevant to each of the seven jurisdictions are addressed, and that the questions asked as part of the surveys will be relevant to the target audiences and the sampled populations.

The bank of questions (which ultimately contains 138 questions) was created in coordination with NOAA staff and partners in these jurisdictions, and incorporates questions from former regional and local surveys, published articles and other information pertaining coral reefs and coral reef management. In addition, all the questions included in the bank are associated to one or more national indicators, and therefore, all are relevant to measure these indicators. In addition to the indicator-related questions, a number of demographic questions were also included, with the purpose of allowing CRCP to sort the responses into different subgroups and analyze how demographics relate to question responses.

Table 2 presents a summary of the question categories included in the question bank.

¹ CRCP will track this information for these indicators (9-11) indirectly through secondary sources and separate data collection activities. This will reduce the burden on participants.

Table 2: Question Bank Categories

Question Number	Category	Description
1-13	Attitude toward / importance of coral reefs	Importance of coral reef aspects, including willingness to pay for coral reef protection, and satisfaction with the state of coral reefs over time
14-28	Participation in coral reef activities	Frequency of participation in coral reef activities, including activities conducted at the coral reef jurisdiction and how deterioration of coral reef conditions could affect participation in these activities
29-35	Perceived threats to coral reefs	Perceived threats in coral reef jurisdiction, including familiarity with common threats to coral reefs and perception on their potential impact
36-48	Marine Protected Areas	Familiarity with Marine Protected areas (MPAs), including perceived purpose, benefits and impact, and effect on coral reef activities
49-66	Resource conditions of coral reefs	Perception of the condition of coral reefs over time, and willingness to accept actions such as limited access, increased restrictions on coral reef activities (e.g. fishing, boating), more stringent pollution regulation, and statutes limiting development
67-73	Coral reef changes since establishment of MPAs	Perceived changes since the introduction of MPAs and impact of these changes on personal use of coral reef areas
74-81	Knowledge of rules/regulations	Knowledge of applicable regulations and restrictions to coral reef activities in MPA, and knowledge/perceptions on the effectiveness of traditional or cultural methods for managing resources
82-85	Compliance with rules/regulations	Perception on level of compliance with regulations related coral reefs (e.g. by fishers, divers, local population, tourists), perception of enforcement levels, and rationale to follow coral reef regulations
86-100	Coral reef management processes	Level of support towards environmental causes, including donations, volunteering activities, and involvement in activities related to the management of coral reefs. Perceptions on the success of coral reef strategies and regulations and the roles of the Federal, local government, and local communities to protect coral reefs
101-104	Support for management processes and regulations	Perception on the success of different actors and regulation to address problems in coral reef areas. Level of support towards specific regulations and measures aimed to protecting coral reefs.

105-109	Sources of information available	Identification of most relevant sources of information about coral reefs (e.g. newspapers, radio, brochures, NOAA publications, etc.), and level of trust in information sources
110-119	Coral reef financial reliance	Reliability of coral reefs as a personal source of food or income, including involvement on commercial fishing activities and their impact on personal income.
120-138	Demographic questions	Generic demographic information to facilitate the categorization and analysis of the responses. Information includes family members, age, gender, education, occupation, household income, place of residence, race, languages, religious affiliation, and membership in community groups

Information on each jurisdiction will be collected at regular intervals every three to four years. The information will be collected by contractors in close coordination with CRCP in accordance with the methodology set forth in Part B. For each jurisdiction, CRCP will work with contractors to define the survey objectives, the data collection strategy, select relevant questions from question bank and tailor them to the specific jurisdiction. CRCP is planning to use the following approach to select the questions for each jurisdiction:

1. Identify the categories of questions that are necessary for that jurisdiction. Within each category, select which questions and answer choices are most applicable to that jurisdiction (e.g. questions of tribal affiliation are rarely applicable to residents of Florida)
2. Prioritize the questions chosen in order to obtain the most critical information while staying under the 30 minute threshold.

The questions for the Guam interviews have already been selected from the bank, and are included in this submission as a separate document.

As described in Question 3 below, the information will be collected by using the most efficient and effective means in the individual jurisdiction. During the three years covered by this clearance we expect to use face-to-face interviews in American Samoa, phone or internet based survey techniques in Hawaii, Florida, and Puerto Rico, telephone surveys in Commonwealth of the Northern Mariana Islands (CNMI) and Guam, and phone or face to face interviews in the US Virgin Islands (USVI).

Data collected will not be disseminated to the public in a way which could potentially reveal personally identifiable information (PII). Aggregate and summary statistics will only be publicly available for the data which will allow the identities of survey respondents to remain confidential. CRCP will maintain the data in accordance with the highest standards of information security and will keep PII data only as long as is absolutely necessary to complete the survey.

CRCP fully acknowledges the possibility of experiencing potential bias during the data collection, for example, in case of non-response to certain questions or non-truthful answers (these scenarios are dealt with in Part B's detailed descriptions of methodology).

The risk associated with these potential biases skewing the analysis will be minimized by the fact that CRCP will be primarily using the information as indicative parameters to analyze the effectiveness of its programs. The information collected will not be used by CRCP to conduct comprehensive evaluations of its programs nor will the data from this survey be used in isolation be used to make decisions about these programs. Any decisions to modify existing programs and to create new coral reef initiatives will be made using information collected from a number of sources, including this survey and other tools such as, such as formal program assessments and evaluations and CRCP's strategic plans.

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

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

We are planning on conducting face to face interviews in America Samoa due to the low density of internet and phone connections, phone interviews in CNMI and Guam, and depending on feasibility in each location and advice from local survey firms, phone or face to face interviews in USVI, and phone or internet interviews in Hawaii, Puerto Rico, and Florida.

This combination of information collection techniques has been designed with the objective of selecting the most cost-effective approach depending on the specific conditions in each jurisdiction, and at the same time, to reduce the burden on respondents.

It is important to mention that the use of internet-based techniques versus phone-based techniques will be dependent on the percentage of internet users in each jurisdiction. In jurisdictions with high-internet use rates like Florida, Hawaii, and Puerto Rico, most of the information may be collected using electronic means. However, in jurisdictions with a lower proportion of internet users like the US Virgin Islands, CNMI, and Guam, a significant percentage of information may be collected via phone surveys.

4. Describe efforts to identify duplication.

A literature review was conducted to identify studies analyzing knowledge, attitudes and reef use patterns and protection activities, including social and economic data related to the communities

affected by coral reef conservation programs. There are no published studies that provide this information.

In addition, there are no currently approved information collections requesting similar information in the seven jurisdictions containing coral reefs. There is a currently approved collection (OMB Control Number 0648-0585) to conduct a survey to estimate individuals' preferences and economic values of the Hawaiian coral reef ecosystem. However, the scope of this study only includes one jurisdiction, and its focus is only to evaluate a number of specific management actions provided in the survey.

Finally, this effort is being coordinated by the CRCP's Social Science Coordinator. Part of her job is to coordinate survey efforts occurring in the jurisdictions to reduce survey fatigue and avoid unnecessary expenditure of resources. All efforts will be made to ensure that this data collection is not redundant with other efforts in the jurisdictions.

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

N/A. Only individuals will be interviewed.

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

One of the main objectives of this collection is to assist the Coral Reef Conservation Program (CRCP) to fulfill its mission of enhancing the conservation of coral reefs. The information requested will allow CRCP to gauge the effects of its existing conservation programs and improve them accordingly. In addition, the information will allow CRCP to design new programs and ensure that they are as successful as possible.

Not conducting this investigation could undermine CRCP's ability to effectively evaluate its programs, and to ensure that they are helping achieve its mission.

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

No special circumstances are anticipated. The information requested will be voluntary and the collection will be conducted in accordance with OMB guidelines.

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

A Federal Register Notice was published on July 1, 2011 (76 FR 38618). One public comment was received. This comment was a request via email for a mailed copy of the question bank.

The question bank and the sampling strategies for this collection were developed in consultation with key CRCP staff and partners and are modeled on the national indicators for this program.

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

No payments or gifts are provided to respondents.

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

As stated on the questionnaires, identifying information (name, address, telephone number, email address) will be used only to administer the survey. This information will be viewed only by the contractor compiling the data, and will be destroyed at the end of the information collection. This process will maintain the anonymity of the responses received.

All data received from the surveys will be placed on a secure server and will be password protected. This website will not be available to the public. All computerized data will be maintained in a manner that is consistent with NOAA's IT Security Program. No data files will contain personal identifiers.

Additionally, all contract staff members working on the survey will be required to sign a statement pledging to maintain the confidentiality of all data. Access to survey data will be limited to the staff working on the survey. All respondents will be told their responses will be kept secure, to the extent permitted by law or government regulations. The data from this collection will be maintained until the completion of the survey or until no longer required for the research. Data will be destroyed as required by NOAA Records Management Program.

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

For this collection, no sensitive questions will be asked. However, certain questions included in the survey (i.e. religious affiliation) can be considered private.

A response to this type of question will be completely voluntary and therefore, no-response options will be added to the menus of possible answers.

The rationale behind the inclusion of religious affiliation questions in the survey is that in certain jurisdictions, especially in remote areas, coral conservation attitudes and practices may be linked to religious beliefs and local cultural ideas of nature. The collection of this information will allow CRCP to better understand the practices attributed to these beliefs, and thus adequately tailor its programs to these jurisdictions.

To address potential sensitivity issues associated with these questions, personal identifying information will not be stored and will only be used to administrate the survey. Identifying information will be viewed only by the contractor compiling the data, and will be destroyed at the end of the information collection. This process will maintain the anonymity of the responses received.

In addition, respondents will be told that a response to this or any other questions they view as sensitive is voluntary. Respondents will also be informed that all survey personnel working on the collection have signed confidentiality statements to maintain the confidentiality of the data, and that all information provided will be stored anonymously, in compliance with applicable laws and regulations.

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

A variety of instruments and platforms will be used to collect information from respondents. The annual burden hours requested (1,191) are based on the maximum number of collections we expect to conduct over the requested period for this clearance, even though we do not expect 100% response. Using average labor rates for the specific jurisdictions and for the nation as a whole when jurisdictional information is not available, the burden estimate results in expected labor costs of \$20,204.

The response burden is based on an average number of questions asked. Depending on the jurisdiction the composition of these questions will change to fit the particular circumstances. For statistical purposes, NOAA will always ask a core set of questions (i.e., demographics). These types of questions generally have a lower response burden than the more detailed questions in the survey. The response burden is based on three different components: the survey administrator explaining the purpose and need to the respondent, demographic questions for statistical purposes, and programmatic related questions. We estimate that the survey administrator will take 1 minute to explain the purpose and need of the survey to the respondent (if the call recipient declines the survey, this time will fall under nonresponse burden). The remaining number of questions will be determined by NOAA's research priorities at the time. The questions have been divided into indicator groups. Of these groups, NOAA will shift its importance and the number of questions asked from each group to keep the total time needed within 30 minutes.

We acknowledge that not all respondents contacted will be willing to participate in the survey. For these negative responses we estimate a non-response burden of 1 minute for the survey

administrator to explain the purpose and need for the survey and the respondent to decline. Based on previous NOAA surveys of the targeted population we expect a 50% response rate for mail surveys, 80% response rate for in-person surveys and 40% response rate for internet surveys².

Table 3: Estimates of Burden Hours (3.5-year time frame)

Requirements	# of Respondents	Responses Per Respondent	Total # of Responses	Response Time	Total Burden (in hours)	Labor Cost
Florida	2,600	1	2600	30 min.	1300	\$24,648
Guam	650	1	650	30 min.	325	\$4,657
Hawaii	975	1	975	30 min.	488	\$10,023
American Samoa	358	1	358	30 min.	179	\$3,741
Puerto Rico	1,625	1	1625	30 min.	813	\$10,034
Commonwealth of Northern Marianas Islands	325	1	325	30 min.	163	\$3,396
Virgin Islands	488	1	488	30 min.	244	\$4,111
Non response burden	3,779	1	3779	1 min.	63	\$0
Total Responses	10,800					
Total Public Burden					3,573	\$60,611
Annualized					1,191	\$20,204

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

There will be no cost to respondents beyond burden hours.

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

The government will implement two surveys each year, taking three and a half years to complete all seven surveys. The total cost to the government for these seven surveys is estimated at a total

² See “Public Perception and Attitudes about the Hawaiian Monk Seal, Survey Results Report”, Sustainable Resources Group International, Inc., prepared for NOAA Fisheries Service Pacific Islands Regional Office, April 2011. “Washington-Oregon-California Purse Seine Survey”, NOAA, 2007, OMB Control #: 0648-0369, Gulf States Marine Fisheries Commission (GSMFC). NOAA, “2011 National Marine Recreational Fishing Expenditure Survey” 2011. For internet surveys see “Beach Users Perceptions Concerning Zuma Beach Restoration”, David K. Loomis, University of Massachusetts Amherst, 2009.

of \$630,000, which averages to \$180,000 each year. Contractor costs are roughly \$120,000 per year or a total of \$420,000. These costs include survey design and preparation of the draft OMB Clearance package.

NOAA staff time and travel required to participate in planning and design activities is estimated to average \$60,000 a year, which is a total of \$210,000 for the three and a half years. NOAA staff will be responsible for fielding the survey (including response tracking, coding and processing the data, and delivery of final data files), and data analysis and reporting. Fielding the survey and processing the data activities are estimated at .20 FTE for a GS-09 per survey. This would result in a cost of roughly of \$48,000 per year. Additionally, the travel costs NOAA staff will include to conduct and deliver the survey will be roughly \$12,000 per year. (Table 4)

Table 4: Government Cost Distribution of all 7 surveys

	Total Cost for 3.5 years (\$)	Cost / Year (\$)
Contractor Costs	420,000	120,000
NOAA Personnel Costs (FTE + Travel)	210,000	60,000
TOTAL	430,000	180,000

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

Not applicable. This a new information collection request.

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

Data collected under this clearance will only be used for research purposes, to measure and improve the results of CRCP programs, and to target outreach efforts.

While the agency does not intend to publish its findings, it may receive requests to release some of its findings through congressional inquiries or Freedom of Information Act (FOIA) Requests. CRCP will disseminate the findings when appropriate, and strictly following NOAA’s guidelines, and all applicable laws and regulations.

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

Not applicable to this collection.

18. Explain each exception to the certification statement.

NA.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g. establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.

The potential respondent universe for this study is adults, eighteen years or older, who live near, and may use, coral reefs affected by activities related to the NOAA’s Coral Reef Conservation Program. The total population (all individuals) of the potentially impacted area is 11,244,759. Respondents will be classified into seven geographical jurisdictions and 22 reporting units, as defined in Table 5. In American Samoa, face-to-face interviews will be conducted and in the remaining jurisdictions, a combination of internet and phone based interview will occur. Each of the geographical jurisdictions is expected to be surveyed once every three to four years. Respondents will be randomly selected from the target audiences. Based on previous NOAA surveys of the target populations, we anticipate that the response rate will be 50 percent for mail surveys, 40% for internet surveys and 80 percent for in-person surveys.³ Dillman et al. (2009) considers a response rate above 50% a high response rate for mail surveys.⁴

Table 5: Study Jurisdictions and Reporting Units

Jurisdiction	Reporting units	Population
Puerto Rico	<ul style="list-style-type: none">• Western Islands• Eastern Islands <ul style="list-style-type: none">• South & West PR• North & East PR	3,725,789 ⁵
Florida	<ul style="list-style-type: none">• Monroe County• Miami-Dade County• Martin County <ul style="list-style-type: none">• Broward County• Palm Beach County	5,784,043 ⁶

³ See “Public Perception and Attitudes about the Hawaiian Monk Seal, Survey Results Report”, Sustainable Resources Group International, Inc., prepared for NOAA Fisheries Service Pacific Islands Regional Office, April 2011. “Beach Users Perceptions Concerning Zuma Beach Restoration”, David K. Loomis, University of Massachusetts Amherst, 2009.

“Washington-Oregon-California Purse Seine Survey”, NOAA, 2007, OMB Control #: 0648-0369, Gulf States Marine Fisheries Commission (GSMFC). NOAA, “2011 National Marine Recreational Fishing Expenditure Survey” 2011.

⁴ Dillman, D., J. Smyth and L. Christian. (2009) Internet, Mail and Mixed-Mode Surveys: The Tailored Design Method. New York: John Wiley & Sons.

⁵ <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> [Census Total Population figure, 2010]

⁶ <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> [Census Total Population figures for 5 counties, 2010]

Jurisdiction	Reporting units	Population
U.S. Virgin Islands	<ul style="list-style-type: none"> • St. Thomas • St. Croix 	106,405 ⁷
Guam	<ul style="list-style-type: none"> • 7 Municipalities 	159,358 ⁸
American Samoa	<ul style="list-style-type: none"> • Tutuila Island • Ofu County 	55,070 ⁹
Main Hawaiian Islands	<ul style="list-style-type: none"> • Hawaii County • Honolulu County 	1,360,211 ¹⁰
Commonwealth of the Northern Mariana Islands (CNMI)	<ul style="list-style-type: none"> • Rota Municipality • Tinian Municipality 	53,883 ¹¹
Total		11,244,759

2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.

For each of the jurisdictional populations, we intend to select a random sample of individuals over the age of eighteen stratified geographically as described in Table 6. The random sample will be obtained from the selected survey firm using standard sample selection tools. The sample frame will be developed from telephone directories, mailing lists obtained and maintained by the survey firms and other sources as needed, depending over the coverage of these sources. These strata have been designed to account for the differing sizes of the populations in the areas close to coral reefs. We have used the standard approach to estimating sample size for a stratified population:

$$[t^2 N p(1-p)] / [t^2 p(1-p) + a^2 (N-1)]$$

Where N is the size of the total number of cases, n is the sample size, a is the expected error, t is the value taken from the t distribution corresponding to a certain confidence interval, and p is the probability of an event. The final sampling size will be based on available resources.

⁷ http://2010.census.gov/news/xls/cb11cn180_vi.xls [Three islands only]

⁸ <http://2010.census.gov/news/releases/operations/cb11-cn179.html>

⁹ http://2010.census.gov/news/xls/cb11cn177_as.xls [Eastern & Western Districts; Ofu, Olosega, Tau Counties, 2010]

¹⁰ <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> [Census Total Population figures for Hawai'i, Honolulu, Kauai, and Maui Counties, 2010]

¹¹ http://2010.census.gov/news/xls/cb11cn178_cnmi.xls [Three municipalities]

Table 6: Sampling Requirements by Geographical Jurisdictions

Jurisdiction	Total Sample	Sample Size by Strata		
1. American Samoa	550	400	Tutuila	Island
		50	Ta'u	County
		50	Olosega	County
		50	Ofu	County
2. CNMI	500	400	Saipan	Municipality
		50	Tinian	Municipality
		50	Rota	Municipality
3. Guam	1,000	100	Agat	Municipality
		100	Piti	Municipality
		100	Asana	Municipality
		100	Talafolo	Municipality
		100	Merizo	Municipality
		250	Tamuning	Municipality
		250	Mangilao	Municipality
4. Hawaii	1,500	350	Hawaii	County
		750	Honolulu	County
		100	Honolulu	County
		300	Maui	County
5. Florida	4,000	250	Monroe	County
		1,250	Miami-Dade	County
		500	Martin	County
		1,000	Broward	County
		1,000	Palm Beach	County

6. Puerto Rico	2,500	1,000	South & West	PR
		1,000	North & East	PR
		250	Western Islands	PR
		250	Eastern Islands	PR
7. US Virgin Islands	750	350	St. Croix	Island
		350	St. Thomas	Island
		50	St. John	Island
Total	10,800			

In addition to asking the questions regarding the impact of the Coral Reef Conservation Programs, the surveys will collect information on socioeconomics and demographics. This additional information will be used to sort and categorize the survey results in order to control for as many variables as possible. This approach will ensure a large enough respondent pool (particularly in more populated jurisdictions) to make comparisons between strata where required.

In each of the jurisdictions, we intend to hire local surveying contractors with databases of contact information in order to allow for the greatest possible randomization of survey participants. NOAA will also work with these contractors to select the most cost-effective survey methodology which will resonate with the population measured. Survey participants will be selected in American Samoa for face-to-face interviews due to the very low incidence of either cellular phones or land lines; in other locations, local opinion poll contractors will select participants at random using a combination of internet and telephone polling. The methodology to be employed by jurisdiction can be found in Table 7.

Table 7: Survey Methodology by Geographical Jurisdictions

Jurisdiction	Geographic scope	Estimated Response Rate (based on previous NOAA surveys)
1. American Samoa	Face to Face (and mail as back-up)	50-80%
2. CNMI	Telephone	50-80%
3. Guam	Telephone	50-80%
4. Hawaii	Telephone or Internet	50-80%
5. Florida	Telephone or Internet	50-80%

Jurisdiction	Geographic scope	Estimated Response Rate (based on previous NOAA surveys)
6. Puerto Rico	Telephone or Internet	50-80%
7. US Virgin Islands	Telephone or Face to Face	50-80%

We do not intend to compare survey results between jurisdictions (though comparisons between the larger regional strata are possible), so there is no concern about comparability issues between methodologies.

Survey Specific Challenges

As can be seen from Table 7, we have selected a number of different methods to collect data from different jurisdictions. Table 8 highlights the percent of population classified as internet users for the seven jurisdictions. In general we will attempt to collect data using a mixture of internet and telephone methods. The one exception is American Samoa where an in-person household survey backed-up by mail surveys will be conducted due to the extremely low level of internet usage in this jurisdiction (i.e., approximately 6 percent). In addition, the average internet use in CNMI, Guam, Puerto Rico and the US Virgin Islands is 39 percent as compared to 79 percent for Hawaii and Florida. As a result we will support the internet survey in these jurisdictions with lower internet usage with a telephone survey, or in the case of USVI with face to face interviews, to capture non-internet users.

Table 8: Internet Usage in Survey Jurisdictions

Jurisdiction	Population	Percent of Population Classified as Internet Users
1. American Samoa	55,070	6%
2. CNMI	53,883	30%
3. Guam	159,358	56%
4. Hawaii	1,360,211	79%
5. Florida	5,784,043	80%
6. Puerto Rico	3,725,789	40%
7. US Virgin Islands	106,405	28%

Source: Data from Hawaii and Florida US Census 2010. Other data “Internet World Statistics”, American Samoa data March 2011, CNMI data from August 2010, Guam data from June 2010, Puerto Rico data from, June 2011, and US Virgin Islands from December 2002 (see <http://www.internetworldstats.com/>).

We expect that there will be some language issues. Table 9 shows there are several major languages spoken beyond English by the populations of each jurisdiction.

Table 9: Languages Spoken in Survey Jurisdictions

Jurisdiction	Major Languages Spoken
1. American Samoa	English, Samoan
2. CNMI	English, Chamorro, Carolinian, Tagalog, Chinese, Korean, Japanese
3. Guam	English, Chamorro, Tagalog, Chinese, Korean, Japanese
4. Hawaii	English, Hawaiian pigin
5. Florida	English, Spanish
6. Puerto Rico	English, Spanish
7. US Virgin Islands	English, Negerhollands, Virgin Islands Creole

This language issue will be ameliorated by the use of polling specialists who speak the local language. These contractors will also be used to ensure that the questions posed in the survey are translated into the proper cultural contexts. Responses will be tracked to see if there are statistically significant differences in the survey results between those who speak English at home and those who do not. In addition, mail and internet surveys will be translated into local languages.

We also expect that there is some risk of sample selection bias towards those of higher incomes, particularly for the telephone and internet surveys. In areas where access to phone and internet services are not widely available, this bias may be more than minimal. To the greatest extent possible, we hope that this can be corrected through the use of telephone surveys. If responses appear to favor high-income groups we will use various weighting procedures in the post-survey analysis to adjust for bias. Specifically, we will oversample underrepresented groups until sufficient responses are obtained.

Periodicity

This survey will be conducted every three to four years to minimize the cost burden.

3. Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses. For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.

While the surveys conducted in person are expected to yield standard rates of response (80% based on previous NOAA surveys of targeted population),¹² there is some concern about the potential for non-response in the telephone/internet surveys. While response rates for many surveys have been declining in the United States for years, previous studies have indicated that the low response rates commonly associated with internet polling can be somewhat improved

¹² See “Public Perception and Attitudes about the Hawaiian Monk Seal, Survey Results Report”, Sustainable Resources Group International, Inc., prepared for NOAA Fisheries Service Pacific Islands Regional Office, April 2011, “Washington-Oregon-California Purse Seine Survey”, NOAA, 2007, OMB Control #: 0648-0369, Gulf States Marine Fisheries Commission (GSMFC) and NOAA, “2011 National Marine Recreational Fishing Expenditure Survey” 2011.

with the use of pre-poll telephone calls. To accomplish this, polling representatives ask respondents whether they are willing to participate in the online study and then direct them via a secure link or email. In addition we will conduct extensive online advertising to encourage response. Research has shown that under these conditions internet and telephone surveys can reach similar response rates as those found in mail surveys.¹³

A variety of techniques have been incorporated into this study to maximize response rates. The surveys are user-friendly, with clear, easy to comprehend questions. Each questionnaire is short and can be completed in a short period of time (see Part A). The survey topic and related questions were developed to be interesting to respondents. Each survey makes use of listing options to allow the respondent to answer questions by checking appropriate boxes, which may aid in recall and analysis.

In person surveys will be conducted at respondent's homes and participants will be given the opportunity to receive and /or return the survey by mail if they are unable to complete the surveys at the time of interview. These individuals who complete the survey by mail will receive a pre-addressed stamped return envelope.

The implementation of the mail surveys is based on the Dillman Tailored Design Method.¹⁴ This approach includes multiple steps and points of contact. The initial mailing will include the questionnaire, a pre-addressed stamped envelope and a detailed cover letter. The cover letter will explain the project, why a response is important, a statement indicating that all personal information will be kept confidential, and instructions for completing and returning the completed survey (via mail/fax/email). Addresses on envelopes will be handwritten, and colored envelopes will be used to make them stand out. Surveys will be tracked using individual identification numbers. A follow-up thank you postcard will be sent seven to nine days after the questionnaire. The postcard will express appreciation for participating and will indicate that if the completed questionnaire has not yet been mailed, it is hoped that it will be returned soon. Three weeks after the initial mailing, a second mailing will be sent to all who have not returned the survey. This follow-up will consist of a different cover letter, another copy of the questionnaire, and another pre-addressed stamped envelope.

For internet surveys we will use a number of techniques¹⁵ to increase response including:

- Subject lines on contact emails will clearly indicate the purpose of the survey and will explicitly avoid SPAM language in the subject line or body of the message (I.e. title all caps)
- Information on how the respondents name was obtained, the survey intention, the use of the data, guarantees of anonymity
- Personalized messages
- Use of a .gov reply email address

¹³ See, 2000, "Complementary Methodologies: Internet versus Mail Surveys", DSS Research, Inc.

¹⁴ Dillman, D., J. Smyth and L. Christian. (2009) Internet, Mail and Mixed Mode Surveys: The Tailored Design Method. New York: John Wiley & Sons.

¹⁵ See Dillman, D. A. (2000). Mail and Internet surveys: The total design method (2nd ed.). New York: Wiley. Division of Instructional Innovation and Assessment, The University of Texas at Austin. "Guidelines for Maximizing Response Rates." Instructional Assessment Resources. 2007.

<http://www.utexas.edu/academic/diia/assessment/iar/teaching/gather/method/surveyResponse.php>

- Indication of how long the survey takes to complete and the cutoff date.
- Use of only clean and updated email lists
- Scheduled regular reminders and follow-ups.

Cross-cultural research faces additional methodological challenges that, if not properly addressed, may considerably increase the risk of inferential errors during the administration of surveys.¹⁶ Specifically, concepts may entail culture-specific attributes and meanings which need to be explicitly taken into account to ensure sound interpretation of cross-cultural data.¹⁷ As discussed above (see Question 2), we will address this cross cultural issue by using polling specialists who speak the local language to conduct in-person and phone surveys. These polling specialists' knowledge of local culture and idioms are anticipated to have a positive impact on survey response rates.

4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.

Contracted polling groups will be asked to demonstrate their survey administration techniques on nine participants prior to execution of the full survey. This will include participants interviewed by those speaking their languages. This sample test will allow for the refinement and correction of any methodological issues that are identified.

5. Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

Christy Loper, Ph.D.
Coral Reef Conservation Program
US National Oceanic and Atmospheric Administration

on detail to:

Office of the Assistant Secretary for Conservation and Management
1401 Constitution Avenue, Suite 6224
Washington, DC 20230
[202-482-5143](tel:202-482-5143) (office)
[240-429-7044](tel:240-429-7044) (cell)
christy.loper@noaa.gov

Individuals consulted on the statistical aspects of the design:

¹⁶ Singh, J. (1995). Measurement Issues in Cross-Cultural Research. *Journal of International Business Studies*, 26(3), 597-619.

¹⁷ Peng, T. K., Peterson, M. F., & Shyi, Y.-P. (1991). Quantitative Methods in Cross-National Management Research: Trends and Equivalence Issues. *Journal of Organizational Behavior*, 12(2), 87-107.

Victoria Adams, Ph.D.
Economist
Booz Allen Hamilton
8283 Greensboro Drive
McLean, VA, 22102
Telephone: (703)-377-4942

The individuals and firms that will collect and analyze the data have not yet been identified.

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Guam Resident Coral Reef Survey
September 27, 2011

Introduction: Hafa Adai- My name is _____. The National Oceanic and Atmospheric Administration is conducting a survey to find out how Guam residents feel about coral reefs. We expect that this will take approximately 20 minutes of your time. There is no right or wrong answers and you don't have to answer any questions you are not comfortable with. We'll also be asking some questions about you, just to be sure that we have a representative sample for our survey in terms of different age groups, ethnicities, and that kind of thing. However, we will not ask your name and all responses will be completely anonymous. Would you be willing to participate? We are happy to provide you with a copy of the results.

1. How often do you participate in each of the following activities?

	Never	Once a Year	A Few Times a Year	Once a Month	2 to 3 Times a Month	Once a Week	Several Times a Week	Every Day	No Answer
a. Swimming/wading									
b. Snorkeling									
c. Diving (SCUBA)									
d. Boarding (surfing, kitesurfing, standup paddleboarding)									
e. Jet-skiing									
f. Power boating/waterskiing/parasailing									
g. Paddling									
h. Kayaking									
i. Beach BBQ, picnic									
j. Beach clean up									
k. Fishing									
l. Gathering of marine resources (eg. sea cucumber, trochus)									
m. Hunting									
n. Other activities: Please list									

If yes to fishing or gathering of marine resources ask:

2. Why do you fish: [say yes to all that apply]
 - a. To feed myself and my family/ household
 - b. To sell to make a living
 - c. To sell to cover my fishing expenses
 - d. To give to extended family members and/or friends
 - e. For fun or recreation
 - f. For special occasions and cultural events, such as fiestas, lent, weddings, or baptisms

3. Who in Guam is responsible for managing coral reefs? I'm going to read a list, you can say all that apply.
 - a. Guam Environmental Protection Agency
 - b. Guam Bureau of Statistics and Plans, Guam Coastal Management Program
 - c. Guam Department of Agriculture, Division of Aquatic and Wildlife Resources
 - d. University of Guam Marine Lab
 - e. Federal Government
 - f. Community groups
 - g. Other

4. Please say whether you agree or disagree with each of the following statements.

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Sure
a. Coral reefs protect the island from erosion and natural disasters.						
b. Coral reefs are a critical ecosystem in Guam						
c. Coral reefs are only important if you fish or dive						
d. Healthy coral reefs attract tourists to Guam						
e. Coral reefs are important role to our culture						

5. What the three main threats to Guam's coral reefs? [*ask open ended; do not provide examples to respondents*]

6. How much of a threat are the following issues to Guam's coral reefs?

	Major threat	Minor threat	Threat at all	Not Sure
a. Climate change				
b. Increased construction for military buildup and private sector development				
c. Poor construction practices				
d. Pollution and sedimentation from upland				
e. Dredging				
f. Trash/littering				
g. Damage from ships and boats				
h. Irresponsible scuba diving				
i. Too many recreational users				
j. Irresponsible recreational use				
k. Illegal fishing and gathering				
l. Too much fishing and gathering				
m. Increasing population size				
n. Man-made fires				
o. Off-roading				
p. Invasive species				
q. Other: Please list				

What do you think are the 1st, 2nd, 3rd, and 4th most important causes of the change in the quality of the marine environment in Guam? (you may also check less than 4 boxes)

	1 st most important	2 nd most important	3 rd most important	4 th most important
Sedimentation due to intentionally set fires				
Sedimentation due to poor development practices				
Increased runoff and stormwater				
Increased pesticides/fertilizer from golf courses and hotels				
Leakage from broken sewage pipes				
Use of improper fishing techniques (gillnets, night scuba)				
Too many fishermen				
Too many jet skis, banana boats				
Too many divers and snorkelers				
Other (specify:)				
Don't know				

7. In your opinion, how are Guam's marine resources doing? Please rank these categories from very bad to very good.

	Very Bad	Bad	Neither Bad nor Good	Good	Very Good	Don't Know
Water Quality						
Corals						
Amount of reef fish to eat						
Size of reef fish to eat						
Sandy beaches						
Crowding (too many people)						

In your opinion, how has the quality of the following components of the marine environment in Guam changed during your lifetime?

	Increased significantly	Increased somewhat	Remained stable	Decreased somewhat	Decreased significantly	Don't know
Live coral abundance						
Fish abundance						
Fish size						
Fish species diversity						
Algae growth						
Sedimentation						
Water pollution						

8. In general, have marine resources in Guam gotten better or worse over the last 10 years?
- Significantly Worse
 - Worse
 - No Change
 - Better
 - Significantly Better
 - Not Sure
9. How do you expect the condition of marine resources in Guam to change in the next 10 years?
- Significantly Worse
 - Worse
 - No Change
 - Better
 - Significantly Better

- f. Not Sure
10. How familiar are you with marine preserves in Guam? Guam has five marine preserves which limit the types of fishing that can be done and are located at Tumon Bay, Sasa Bay, Piti Bay, Achang Reef, and Pati Point.
- Very Unfamiliar
 - Unfamiliar
 - Neither Familiar nor Unfamiliar
 - Familiar
 - Very Familiar
 - Not Sure
11. Do you support Guam's marine preserves?
12. Why or why not [open ended]?
13. Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
a. Marine preserves protect coral reefs						
b. There should be fewer marine preserves in Guam						
c. The number of fish inside the marine preserves has increased since the marine preserves were enforced in 2001.						
d. Marine preserves have increased conflicts between different user groups in Guam						
e. There has been a net economic benefit to the Guam's coastal economy from the establishment of the marine preserves						
f. Local fisherman's livelihoods have been negatively impacted from the establishment of marine preserves in Guam						
g. Marine preserves help increase tourism in Guam						
h. I would support adding new marine preserves in Guam if I knew that the ones we have are improving Guam's marine resources						

14. The Guam military buildup is expected to increase Guam's population by 30,000 people over the next 5 to 10 years. How concerned are you about the following issues?

	Very concerned	Moderately concerned	Not concerned at all
a. Increases in traffic			
b. Increases in construction and development			
c. Loss of coral reefs from Apra Harbor dredging			
d. Loss of cultural resources			
e. Loss of local cultural values			
f. More invasive species			
g. Damage to Guam's coral reefs from increased recreational use			
h. My favorite beach getting too crowded			
i. My favorite reef spot getting too crowded			
j. Fewer fish because more people are fishing			
k. Overload of sewage system			
l. Other:			

15. What do you think would be the best ways to protect coral reefs for the future?, Please remember that Guam's population is expected to increase. Which of the following changes would you support?

Rules/Regulations	Strongly Oppose	Oppose	Neither Support nor Oppose	Support	Strongly Support	Don't Know
Increase enforcement of existing rules/regulations						
Prohibiting driving on the beach						
Establish new marine preserves						
Have seasonal and openings and closures of certain fisheries						
Establish catch limits per person for certain fish species						
Establish size limits for certain fish species						
Establish licensing program for Guam's fishermen						
Ban gill nets in Guam's waters						
Opening marine preserves to hook and line fishing from shore and talazya- or throw net- fishing from shore						
Increase community participation in coral reef management						

Stricter controls on construction runoff from land to the ocean						
Require vessels to remove nonnative species from hulls before entering Guam's waters						
More stringent control of pollutants to preserve water quality						
More restrictions on development (permit requirements)						
Limits on recreational use						
Require vessels use mooring buoys near coral reefs						
Reduce the number of research permits allowed on coral reefs						
Other: Please list						

Next, we'd like to get your opinion on two specific laws that have been proposed.

16. Legislation has been proposed that would prohibit scuba spear fishing in Guam waters. The purpose of this legislation would be to help protect fish stocks in Guam. However, prohibiting scuba spear fishing would impact the income of some of Guam's fishermen. Spear fishing not using scuba gear would still be allowed. Would you support or oppose this legislation?
- a. Strongly oppose
 - b. Oppose
 - c. Neutral
 - d. Support
 - e. Strongly support
 - f. Don't know
17. Legislation called the Guam Coral Reef Protection Act has been proposed. This legislation would require boats that cause damage to coral reefs to pay a fine to pay for coral reef restoration. This legislation would provide funding for coral reef restoration in case of a damage event but could limit reef access by some boats. Would you support or oppose this legislation?
- a. Strongly oppose
 - b. Oppose
 - c. Neutral
 - d. Support
 - e. Strongly support
 - f. Don't know
18. In the past year, have you heard of or seen people doing the following things in Guam?

	Yes	No
--	-----	----

Littering on or near the beach		
Burning for hunting		
Illegally fishing in the marine protected areas		
Catching or eating sea turtles or sea turtle eggs		
Catching fish that are too small		
Breaking or standing on coral		
Off-roading		
Leaving gill nets on the reef		
Bringing non-native species to Guam		

Great; thanks. Now I just have a few questions about you.

19. Are you male or female?
 - a. Male
 - b. Female

20. May I ask your age?

21. How long have you lived in Guam?
 - a. 1 year or less
 - b. 2-5 years
 - c. 6-10 years
 - d. more than 10 years
 - e. all my life

22. What village do you live in?

23. Which language do you mainly speak at home? [check all that apply]
 - a. Chamorro
 - b. Carolinian
 - c. Other Micronesian
 - d. Japanese
 - e. English
 - f. Korean
 - g. Chinese
 - h. Russian
 - i. Tagalog
 - j. Other: _____

24. What race/ethnicity do you consider yourself?
Please select all that apply.

1. American Indian or Alaskan Native
 2. Asian
 3. Black or African American
 4. Japanese
 5. Carolinian
 6. Chamorro
 7. Chinese
 8. Filipino
 9. White
 10. Korean
 11. Native Hawaiian or other Pacific Islander
 12. Yapese
 13. Chuukese
 14. Pohnpeian
 15. Palauan
 16. White
 17. Hispanic or Latino
 18. Other/Mixed
 19. No response
25. What is the highest level of education you have completed?
- a. 8th Grade or Less
 - b. 9th to 11th Grade
 - c. 12th Grade, High School Grad, GED
 - d. Some community college or AA
 - e. College Graduate
 - f. Graduate School, Law School, Medical School
 - g. No Response
26. What is your occupation?
27. What is your annual household income?
1. Under \$10,000
 2. \$10,000 to \$19,999
 3. \$20,000 to \$29,999
 4. \$30,000 to \$39,999
 5. \$40,000 to \$49,999
 6. \$50,000 to \$59,999
 7. \$60,000 to \$74,999
 8. \$75,000 to \$99,999
 9. \$100,000 to \$149,999
 10. \$150,000 or More
 11. No Response

OPTIONAL

28. Is your occupation affiliated with the marine environment/industry in <location>?
1. Yes
 2. No
 3. Not sure
29. If YES, please circle the industry that best fits your primary profession.
1. Commercial fishing
 2. Charter fishing
 3. Dive/snorkel operation
 4. Marina/boat operation
 5. Other watersports
 6. Eco-tour operation
 7. Ecological research
 8. Ocean and coastal management and government
 9. Artisan
 10. Education
- Beach hotel
Other _____

How often does your family eat fish/seafood?

- a. Every day
- b. Every 2 days
- c. Twice a week
- d. Once a week
- e. Every 2 weeks
- f. Once a month
- g. Once in 2 months
- h. Never

Please indicate the main sources of the fish/seafood you consume (percentage-wise)

- a. Fish caught by myself or someone in my immediate family: _____ %
- b. Fish caught by an extended family member (eg. uncle) or friend: _____ %
- c. Purchase it from the road side : _____ %
- d. Purchase it at a flea market: _____ %
- e. Purchase it at a store/restaurant: _____ %
- f. Other, specify: _____ %

In general, where dose the fish/seafood you consume come from (where is it caught)?

- a. Reef fish and other species from inside Guam's reef: _____ %
- b. Fish caught outside Guam's reefs (e.g deepwater, pelagic) : _____ %
- c. Imported fish/seafood from the mainland (e.g. canned from US) : _____ %
- d. Imported fish/seafood from other Pacific islands (e.g. Chuuk) : _____ %
- e. Other [added] : _____ %

f. Not sure [added] : ____ %

Did you family’s fish/seafood diet change over the last 10 years? (check one only)

- a. Eat much less fish
- b. Eat somewhat less fish
- c. No change
- d. Eat somewhat more fish
- e. Eat much more fish
- f. Don’t know

Can you indicate the 1st most, 2nd, 3rd, and 4th most important reason why your family’s diet of fish seafood has changed? (unless answered “no change” above) you may also check less than 4 boxes

	1 st most important	2 nd most important	3 rd most important	4 th most important
We fish less/more				
We fish the same amount but catch less/more				
There is more/less sharing of fish between family, friends, etc				
Change to other food (eg. spam)				
The price of fish has increased/decreased				
Availability of certain local species changed				
Scared of ciguatera/polluted fish				
Preference for fish has changed (don’t like fish as much)				
Other: specify				
Don’t know				

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to (name), NOAA Line office, (address).

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National Coral Reef Monitoring Program Survey

Attitude Toward/Importance of Coral Reefs

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-
-

Q1. How important are the following aspects of coral reefs?

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
The reef is not too far from my access point						
The reef is near a breakwater						
Getting to reefs is safe						
Reefs are large						
The reef is in deep water						
The reef is in shallow water						
Reefs are of good quality						
Large amount of live coral at the reefs						
Low amount of algae cover at the reef						
Clear water is readily available (i.e., high visibility)						
Low level of pollution near the reefs						
Fish are abundant at the reefs						
Reef has a variety of types of fish (i.e., diversity)						
Reef has a variety of sizes of fish						
Invertebrates (e.g., lobster, conchs, sea cucumbers) are abundant						
Reef has a variety of invertebrates						
Other sea life (e.g., manatees, whales, dolphins, sea turtles) is abundant						
That reefs are in designated protected area						
It is safe to swim near reef						

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
The reef is not too overcrowded with people						
No boating restrictions at the reef						
Stringent fishing regulations at the reef						
Environmental protection of coral reefs						
Environmental protection of mangroves						
Environmental protection of seagrasses						
Protection of endangered species						
Other, not mentioned, specify:						

Q2. To what degree would you be willing to do to each of the following in order to protect and maintain the coral reefs in <location>?

	Would Not Do	Would Consider	Would Do	Not Sure
Pay more to participate in reef related activities like snorkeling and diving				
Donate money or items (e.g. used boat, computer) to an organization working to protect the reef				
Pay higher local <location> taxes				
Pay higher state taxes				
Pay higher federal taxes				
Volunteer with an organization once a year that is working to protect the reefs (e.g. participate in coastal clean up)				
Volunteer with an organization more than once a year that is working to protect the reefs				

Q3. Would you be willing to donate money in order to protect the reefs?

1. Yes
2. No

Q4. How much money would you be willing to donate at least once in order to protect the reefs?

1. Nothing

- 2. Less than \$50
- 3. \$50 – \$100
- 4. \$101 - \$250
- 5. \$251 - \$500
- 6. More than \$500
- 7. Not sure

Q5. How often would you be willing to donate in order to protect the reefs?

- 1. Once
- 2. Once a year
- 3. More than once a year

Q6. How much money would you be willing to donate annually in order to protect the reefs?

- 1. Nothing
- 2. Less than \$50
- 3. \$50 – \$100
- 4. \$101 - \$250
- 5. \$251 - \$500
- 6. More than \$500
- 7. Not sure

Q7. Please rate the extent to which you agree/disagree with each of the following statements.

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Sure
Coral reefs are important for protecting the coast from erosion and natural disasters.						
Coral reefs are critical components of our natural ecosystem						
Mangroves are not important for protecting the coast from erosion.						
Coral reefs are only important if you fish or dive.						
We should restrict fishing in certain areas to allow the fish and coral to grow.						
We should restrict development in certain areas to protect the natural environment.						
Establishing size restrictions to regulate fishing is a good management practice.						
There are no problems with water quality at coral reefs.						
Diving and snorkeling are not harmful to coral reefs.						

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Sure
Mooring buoys that reduce the use of anchors have a positive effect on the marine environment.						
Coral reefs provide coastal protection from storm surge associated with tropical hurricanes and typhoons.						
Large coral reef barrier systems can help reduce the impacts of tsunamis.						
Coral reefs cannot be restored once damage occurs						
Coral reefs provide sustainable resources that support the development of coastal communities						
Sediment runoff from land activities such as construction and development can harm coral reefs						
Pesticides and herbicides used in commercial and residential activities can be carried by runoff and affect coral reefs						
Coral reefs have an important role in our culture						
Effects from climate change can severely affect coral reefs						
Pathogens, like some type of fungus, can affect the health of coral reefs						
Eliminating some species, like sea urchins, can affect the ecological dynamics of coral reefs						
Oil spills can affect or destroy coral reefs						
Grounding of ships on coral reef can cause long term damage						
Offshore aquaculture farms located in coral reefs are harmful to the coral reefs						
Coral reefs can be a source of new substances that may be used to develop new medicines						

Q8. Please indicate how important each of the following factors is in terms of deciding whether or not you would choose to visit a specific coral reef.

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
Clear water (high visibility)						
Quality of the reef						
Abundance of fish at the reef						
Types of fish at the reef (i.e., diversity)						
Size of fish at the reef						
Amount of live coral at the reef						
Size of the reef						
Abundance of other sea life (e.g., manatees, whales, dolphins, sea turtles, invertebrates)						
Whether the reef is a specially protected area						
Amount of algae cover on the reef						
Difficulty of the conditions for participating in recreational activities on the coral reef						
Distance from my shore access point to the reef						
Ease of getting to the reef						
Adequacy of my boat to get to the reef						
Mooring buoys near coral reefs						
Level of crowding at the reef						
Seasonal or rotational closures at desirable reef locations						
Restrictions on fishing						
Presence of other groups that I don't like						
Amount of pollution near the reef						
Safety of swimming near reef						
Fish catch per trip to reef						
Whether or not a particular commercial charter boat goes to the reef						
Ease of finding a charter/ company to go to the reef						
Cost to get to the reef						
Opportunities to participate in coral reef activities at the reef						

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
The information available about the reef						
Availability of protected calm waters						
Availability of shore-side support facilities (e.g. dive shops, piers, hospitals, recompression chambers)						
Absence of dangerous animals (e.g., sharks, jellyfishes)						
Water at the reef is deep						
Occurrence of unusual features (e.g., underwater caves, ship wrecks)						
Opportunities to do other aquatic activities (e.g. surfing)						
Other: Please list						

Q9. How satisfied were you with the each of the following items on your last trip to <a coral reef>?

	Very Unsatisfied	Unsatisfied	Neither Satisfied nor Unsatisfied	Satisfied	Very Satisfied	Not Sure
Clear water (high visibility)						
Quality of the reef						
Abundance of fish at the reef						
Types of fish at the reef (i.e., diversity)						
Size of fish at the reef						
Amount of live coral at the reef						
Size of the reef						
Abundance of other sea life (e.g., manatees, whales, dolphins, sea turtles, invertebrates)						
Whether the reef is a specially protected area						
Amount of algae cover on the reef						

	Very Unsatisfied	Unsatisfied	Neither Satisfied nor Unsatisfied	Satisfied	Very Satisfied	Not Sure
Difficulty of the conditions for participating in recreational activities on the coral reef						
Distance from my shore access point to the reef						
Ease of getting to the reef						
Adequacy of my boat to get to the reef						
Mooring buoys near coral reefs						
Level of crowding at the reef						
Seasonal closures at desirable reef locations						
Presence of other groups that I don't like						
Amount of pollution near the reef						
Safety of swimming near reef						
Fish catch per trip to reef						
Whether or not a particular commercial charter boat goes to the reef						
Ease of finding a charter/ company to go to the reef						
Cost to get to the reef						
Opportunities to participate in coral reef activities at the reef						
The information available about the reef						
Availability of protected calm waters						
Availability of shore-side support facilities (e.g. dive shops, piers, hospitals, recompression chambers)						
Absence of dangerous animals (e.g., sharks, jellyfishes)						
Water at the reef is deep						
Occurrence of unusual features (e.g., underwater caves, ship wrecks, overhangs, walls)						
Opportunities to do other aquatic activities (e.g. surfing, windsurfing)						
Other: Please list						

Q10. Where was your last trip to <a coral reef>? [Open Ended]

Q11. In thinking about a trip to that same reef <# of years> years ago, how satisfied were you then with the same items.

	This was my First Trip	Very Unsatisfied	Unsatisfied	Neither Satisfied nor Unsatisfied	Satisfied	Very Satisfied	Not Sure
Clear water (high visibility)							
Quality of the reef							
Abundance of fish at the reef							
Types of fish at the reef (i.e., diversity)							
Size of fish at the reef							
Amount of live coral at the reef							
Size of the reef							
Abundance of other sea life (e.g., manatees, whales, dolphins, sea turtles)							
Whether the reef is a specially protected area							
Amount of algae cover on the reef							
Difficulty of the conditions for participating in recreational activities on the coral reef							
Distance from my shore access point to the reef							
Ease of getting to the reef							
Adequacy of my boat to get to the reef							
Mooring buoys near coral reefs							
Level of crowding at the reef							
Seasonal closures at desirable reef locations							
Presence of other groups that I don't like							
Amount of pollution near the reef							
Safety of swimming near reef							
Fish catch per trip to reef							
Whether or not a particular commercial charter boat goes to the reef							
Ease of finding a charter/ company to go to the reef							
Cost to get to the reef							

	This was my First Trip	Very Unsatisfied	Unsatisfied	Neither Satisfied nor Unsatisfied	Satisfied	Very Satisfied	Not Sure
Opportunities to participate in coral reef activities at the reef							
The information available about the reef							
Availability of protected calm waters							
Availability of shore-side support facilities (e.g. dive shops, piers, decompression chambers)							
Absence of dangerous animals (e.g., shark, jellyfishes)							
Water at the reef is deep							
Occurrence of unusual features (e.g., underwater caves, ship wrecks)							
Opportunities to do other aquatic activities (e.g. surfing)							
Other: Please list							

Q12. How important are coral reefs to your culture?

1. Very Unimportant
2. Unimportant
3. Neither Important nor Unimportant
4. Important
5. Very Important
6. Not Sure

Q12a. Please explain [Open Ended]

Q13. How important are coral reefs to your way of life?

1. Very Unimportant
2. Unimportant
3. Neither Important nor Unimportant
4. Important
5. Very Important
6. Not Sure

Participation in Coral Reef Activities



Q14. How often do you participate in each of the following activities?

	Never	Once a Year or Less	A Few Times a Year	At Least Once a Month	2 to 3 Times a Month	Once a Week	Several Times a Week	Every Day	No Answer
Invertebrate harvesting									
Harvesting of mangrove resources									
Coral harvesting									
Seaweed harvesting									
Spear fishing									
Fish collecting									
Sport fishing									
Cast net-fishing									
Gillnet, surround net and drag net-fishing									
Trap fishing									
Pole/line fishing									
Other kind of fishing: Please list									
Interacting w dolphins									
Swimming/wading									
Snorkeling									
Outrigging									
Paddling									
Beach sports									
Diving (SCUBA)									
Boarding (surfing, kitesurfing, SUP, body-surfing, body-boarding)									
Jet-ski/thrill-craft									
Water sports/water skiing/wake boarding									
Pleasure boating									
Sailing									
Kayaking									
Canoe/wa'a									
Glass bottom boating									
Underwater photography									
Waterside camping									
Beach recreation, BBQ, picnic									
Walking/Hiking/Running around									

the reef									
Collecting herbal medicines									
Bird watching									
Beach clean up									
Hunting									
Mountain biking									
Other activities: Please list									

Q15. Which of the following activities did you participate in at <location>? (Please check all you have done)

- | | |
|---|------------------------------------|
| 1. Invertebrate harvesting | 17. Pleasure boating |
| 2. Harvesting of mangrove resources | 18. Sailing |
| 3. Spear fishing | 19. Kayaking |
| 4. Fish collecting | 20. Canoe/wa'a |
| 5. Sport fishing | 21. Glass bottom boating |
| 6. Net-fishing | 22. Underwater photography |
| 7. Trap fishing | 23. Waterside camping |
| 8. Other kind of fishing: Please list | 24. Beach recreation, BBQ, picnic |
| 9. Sand/coral extraction | 25. Walking/Hiking/Running |
| 10. Interacting w dolphins | 26. Collecting Herbal Medicines |
| 11. Swimming/wading | 27. Bird watching |
| 12. Snorkeling | 28. Beach Clean up |
| 13. Diving (SCUBA) | 29. Hunting |
| 14. Boarding (surfing, kitesurfing, SUP, body-surfing, body-boarding) | 30. Seaweed harvesting |
| 15. Jet-ski/thrill-craft | 31. Other activities: Please list. |
| 16. Water sports/water skiing | 32. None |

Q16. To what extent do you do these activities on natural and/or artificial reefs?

1. Always on natural reefs
2. Mostly natural reefs, but some on artificial reefs
3. Varies between both natural and artificial reefs
4. Mostly on artificial reefs, but some on natural reefs
5. Always on artificial reefs
6. Not sure

Q17. How many other people participated in <activity> with you? ____ #

Q18. In which of the coral reefs in the area did you do these activities?

List reef options for the specific location

Q19. Which coral reefs do you visit most often to participate in each of activities selected?

List reef options for the specific location

Q20. Please select which (if any) activity was the main reason for your visit to <location>. (Please select no more than 2).

- | | |
|---|------------------------------------|
| 1. Invertebrate harvesting | 17. Pleasure Boating |
| 2. Harvesting of Mangrove resources | 18. Sailing |
| 3. Spear fishing | 19. Kayaking |
| 4. Fish collecting | 20. Canoe/wa'a |
| 5. Sport fishing | 21. Glass bottom boating |
| 6. Net-fishing | 22. Underwater photography |
| 7. Trap fishing | 23. Waterside camping |
| 8. Other kind of fishing: Please list | 24. Beach recreation, BBQ, picnic |
| 9. Sand/coral extraction | 25. Walking/Hiking/Running |
| 10. Interacting w dolphins | 26. Collecting Herbal Medicines |
| 11. Swimming/wading | 27. Bird watching |
| 12. Snorkeling | 28. Beach Clean up |
| 13. Diving (SCUBA) | 29. Hunting |
| 14. Boarding (surfing, kitesurfing, SUP, body-surfing, body-boarding) | 30. Seaweed harvesting |
| 15. Jet-ski/thrill-craft | 31. Other activities: Please list. |
| 16. Water sports/water skiing | 32. None |

Q21. To what extent do you think your coral reef related activities affect the coral reefs?

1. No impact on the reefs
2. Significantly helps the reefs
3. Helps the reef somewhat
4. Both helps and hurts the reefs
5. Hurts the reef somewhat
6. Significantly hurts the reefs
7. Not sure

Q22. Please explain why you think your activities help/hurt the coral reefs? [Open Ended]

Q23. How do you participate in <activities>?

1. Use my own boat and equipment (or that of a member of my group)
2. Rent a boat that my group uses, but use our own equipment
3. Rent a boat and equipment that my group uses
4. Use a service that provides transportation and all equipment for the activity
5. Other: Please list
6. I do not participate in any activities that require a boat
7. Not Sure

Q24. Please indicate how important each of the following factors is in terms of deciding where you would like to participate in coral reef related activities at <location>.

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
Clear water (high visibility)						
Quality of the reef						
Abundance of fish at the reef						
Types of fish at the reef (i.e., diversity)						
Size of fish at the reef						
Amount of live coral at the reef						
Size of the reef						
Abundance of other sea life (e.g., manatees, whales, dolphins, sea turtles)						
Whether the reef is a specially protected area						
Amount of algae cover on the reef						
Difficulty of the conditions for participating in recreational activities on the coral reef						
Distance from my shore access point to the reef						
Ease of getting to the reef						
Adequacy of my boat to get to the reef						
Mooring buoys near coral reefs						
Level of crowding at the reef						
Seasonal closures at desirable reef locations						
Presence of other groups that I don't like						
Amount of pollution near the reef						
Safety of swimming near reef						
Fish catch per trip to reef						
Whether or not a particular commercial charter boat goes to the reef						
Ease of finding a charter/ company to go to the reef						
Cost to get to the reef						
Opportunities to participate in coral reef activities at the reef						
The information available about the reef						

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
Availability of protected calm waters						
Availability of shore-side support facilities (e.g. dive shops, piers, recompression chambers)						
Absence of dangerous animals (e.g., sharks, jellyfishes)						
Water at the reef is deep						
Occurrence of unusual features (e.g., underwater caves, ship wrecks)						
Opportunities to do other aquatic activities (e.g. surfing)						
Other: Please list						

Q25. Please indicate how important each of the following factors is in terms of deciding whether or not you would choose to do coral reef related activities at a reef other than the one you visit most often.

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
Clear water (high visibility)						
Quality of the reefs						
Abundance of fish at the reefs						
Types of fish at the reefs (i.e., diversity)						
Size of fish at the reefs						
Amount of live coral at the reefs						
Size of the reefs						
Abundance of other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Whether reefs are in specially protected area						
Difficulty of the conditions on coral reef						
Distance to coral reefs						
Mooring buoys near coral reefs						
Level of crowding						
Area closures at desirable reef locations						

Presence of other groups that I don't like						
Amount of pollution near the reefs						
Safety of swimming near reefs						
Fish catch per trip to reefs						
Whether or not a particular outfit goes to the reef						
Ease of finding a charter/ company to go to the reefs						
Cost to get to the reefs						
Quality of the beaches						
Availability of parking						
Presence of active conservation/management						
Presence of surfing contests						
Maps, brochures and other tourist information						
Customer service and friendliness of people						
Value for the price						
Safety of the location/Amount of crime						
Ease of getting to location						
Number of activities to do at the locations						
Quality of accommodations						
Ease of finding a company that provides the activity						
Price companies charge to do the activity						
Level of crowding at the reefs						
Other: Please list						

Q26. Assuming each of the following conditions, how would that affect the amount of time you would spend on outdoor recreation activities in <location> during a 12-month period?

	Same Amount of Time	Slightly Less Often	About Half as Often	Much Less Often	Almost Never	Not Sure
Less living coral cover than it currently has						
Very little living coral cover						
No living coral cover						

Q27. How would the disappearance of live coral cover in <location> affect the amount of time you would spend on outdoor recreation activities outside <location>?

1. No change in the amount of time I spend in <location>
2. I would visit other locations slightly more often
3. I would visit other locations about half the time
4. I would visit other locations much more often
5. I would visit other locations almost exclusively (and would rarely if ever return to [location])
6. Not Sure

Q28. How many times have you participated in a coral reef related activity in [location] in the last 12 months, that is, since (date last year)?

1. None

2. 1

3. 2

4. 3-5

5. 6-8

6. 8-12

7. More than 12

8. No Response

Perceived threats to coral reefs



- Q29. To what degree do you think any problems or threats exist to the coral reefs in <location>?
1. None
 2. Minimal
 3. Moderate
 4. Large
 5. Extreme
 6. Not sure
- Q30. What do you see as the greatest threats to the reefs in <location>? [Open Ended]
- Q31. How familiar are you with each of the following potential threats facing the coral reefs in <location>?

	Very Unfamiliar	Unfamiliar	Neither Familiar nor Unfamiliar	Familiar	Very Familiar	Not Sure
Climate change						
Coral bleaching						
Ocean acidification						
Sand Extraction/Mining						
Erosion						
Increased coastal/urban development						
Stormwater and wastewater runoff						
Chemical runoff (pesticides, herbicides, fertilizers, detergents, phosphates)						
Dredging						
Taking coral or live rock from beaches						
Taking coral or live rock from the sea						
Coral bashing (damaging the reef)						
Trash/littering						
Marine pollution (e.g. sewage/ dumping/ trash/ sedimentation)						
Poor water quality						
Cruise ship traffic						
Ships and boats grounding on reefs						
Scuba divers						
Irresponsible diving						
Too many divers						
Number of tourists						
Overuse for recreation						
Illegal fishing						
Illegal harvesting						
Harmful Fishing practices						
Overfishing						
Other illegal activities						
Invasive species, e.g. lion fish						
Introduced species						
Increasing Population size						
Hurricanes						
Natural disasters						
Other: Please list						

Q32. How important do you consider the following potential threats facing the coral reefs in <location>?

	Very Unimportant	Unimportant	Neither Important nor Unimportant	Important	Very Important	Not Sure
Climate change						
Coral bleaching						
Ocean acidification						
Sand Extraction/Mining						
Erosion						
Increased coastal/urban development						
Stormwater and wastewater runoff						
Chemical runoff (pesticides, herbicides, fertilizers)						
Sedimentation						
Dredging						
Taking coral and live rock from beaches						
Taking coral and live rock from the sea						
Coral bashing						
Trash/littering						
Pollution (e.g. sewage/ dumping/ trash/ sedimentation)						
Poor water quality						
Cruise ship traffic						
Ships and boats grounding on reefs						
Scuba divers						
Irresponsible diving						
Too many divers						
Too many divers						
Number of tourists						
Overuse for recreation						
Illegal fishing						
Illegal harvesting						
Harmful Fishing practices						
Overfishing						
Other illegal activities						
Invasive species, e.g. lion fish, Roi, Taape, etc.						
Introduced species						
Increasing Population size						
Hurricanes						
Other natural disaster						
Other: Please list						

Q33. Of the following list, what do you think are the greatest threats to the reefs in <location>?
(Please check up to 4)

1. Climate change
2. Coral bleaching
3. Ocean acidification
4. Sand Extraction/Mining
5. Erosion
6. Increased coastal/urban development
7. Stormwater and wastewater runoff
8. Chemical runoff (pesticides, herbicides, fertilizers)
9. Sedimentation
10. Dredging
11. Taking coral and live rock from beaches
12. Taking coral and live rock from the sea
13. Coral bashing
14. Trash/littering
15. Pollution (e.g. sewage/ dumping/ trash/ sedimentation)
16. Poor water quality
17. Cruise ship traffic
18. Ships and boats grounding on reefs
19. Scuba divers
20. Irresponsible diving
21. Too many divers
22. Number of tourists
23. Overuse for recreation
24. Illegal fishing
25. Illegal harvesting
26. Harmful Fishing practices
27. Destructive fishing
28. Overfishing
29. Spear fishing
30. Other illegal activities
31. Invasive species, e.g. lion fish
32. Introduced species
33. Increasing Population size
34. Hurricanes
35. Other Natural Disasters
36. Other: Please list
37. Not sure

Q34. How familiar are you with coral bleaching?

1. Very Unfamiliar
2. Unfamiliar
3. Neither Familiar nor Unfamiliar
4. Familiar
5. Very Familiar
6. Not Sure

Q35. In your opinion, what is the primary cause of coral bleaching? *Ask only if they are at least moderately familiar with coral bleaching (per Q36)*

1. Local factors exclusively
2. Non-local factors such as climate change, exclusively
3. Non-local factors aggravated by local factors
4. Local factors aggravated by non-local factors
5. I don't know

Marine Protected Areas



Q36. How familiar are you with Marine Protected Areas (MPAs)? A Marine Protected Area is a an area whose boundaries include some area of ocean and typically restricts human activity for the purpose of protecting living, non-living, cultural, and/or historic resources.

1. Very Unfamiliar
2. Unfamiliar
3. Neither Familiar nor Unfamiliar
4. Familiar
5. Very Familiar
6. Not Sure

Q37. Please indicate which each of the following statements are true for <Name> MPA.

	True	False
<Name> MPA is closed to all human activities		
<Name> MPA exists for conservation		
<Name> MPA exists for cultural use		
<Name> MPA exists for subsistence use		
<Name> MPA allows specific recreation and commercial uses		
<Name> MPA encompasses a variety of conservation and management methods		
<Name> MPA enables research and education on coral reefs and the environment		
<Name> MPA restricts fishing practices within its boundaries		
<Name> MPA has routine closings		
<Name> MPA has boating restrictions		
<Name> MPA restricts the use of the coral reef for certain recreational activities		

Q38. Which of the following are considered Marine Protected Areas (MPA)? (please check all that apply)

1. Marine Sanctuary
2. National Monument
3. Marine Reserve
4. Commercial Port
5. National Park

6. None
7. Not Sure

Q39. Which of the following do you believe represents the primary purpose(s) of MPAs? (Please check all that apply)

1. Increasing overall fish stocks and biomass within the zones
2. Increasing overall fish stocks and biomass outside the zones
3. Conserving and protecting corals, fish, and other marine life inside the zones
4. Resolving user group conflicts
5. Supporting scientific research
6. Food security
7. Protecting a sacred place
8. Cultural heritage
9. Educating the public
10. Recreational use
11. Building resiliency for future natural disasters,
12. Shoreline protection
13. Other: Please list

Q40. How knowledgeable are you with the rules and regulations governing [name] MPA?

1. Not at all knowledgeable
2. Somewhat knowledgeable
3. Moderately knowledgeable
4. Knowledgeable
5. Extremely knowledgeable
6. Not Sure

Q41. How has <Name> MPA impacted your livelihood?

1. Very positive impact
2. Somewhat positive impact
3. Both positive and negative impacts
4. Somewhat negative impact
5. Very negative impact
6. No impact
7. Not sure

Q42. How have MPAs impacted the livelihoods of people from your community that you are aware of?

1. Very positive impact
2. Somewhat positive impact
3. Both positive and negative impacts
4. Somewhat negative impact
5. Very negative impact
6. No impact
7. Not sure

Q43. In your opinion, which groups have most benefited from <Name> MPAs? (Please select no more than 3)

1. Commercial fishers
2. Local subsistence fishers
3. Recreational/sport fishers
4. Commercial fish and dive operators
5. Local dive operators
6. Recreational (local and tourist) divers
7. Conservation groups
8. Local communities
9. Local government
10. Other: Please list

Q44. Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
MPAs protect the ocean environments						
MPAs protect coral reefs						
MPAs improve the environment						
MPAs have been effective in restoring coral reefs in <location>						
There should be more MPAs zones in <location>						
MPAs increase the number of fish within their boundaries						
MPAs increase the number of fish outside of their boundaries						
MPAs have reduced conflicts between different user groups in <location>						
MPAs have increased conflicts between different user groups in <location>						
I support the establishment of MPAs as they are currently established						
I support the establishment of MPAs in <location>						
I generally support the establishment of MPAs						
I support the establishment of a research only area in <location>						
A research only area in the <name>						

MPA would have a positive impact on the marine environment						
Research only areas protect and improve coral reefs						
I support boundary expansion of the <name> MPA						
Boundary expansion of the <name> MPA would have a positive impact on the marine environment						
<location> has benefited environmentally from establishment of the <name> MPA						
There has been a net economic benefit to the <location> coastal economy from the establishment of the <name> MPA						
There should be more than one reef location set aside as a research only area in the <name> MPA						
Commercial fisheries have benefited from the establishment of the <name> MPA						
Local fisherman have benefited from the establishment of the <name> MPA						
Recreational/sport fisherman have benefited from the establishment of the <name> MPA						
<Name> MPA regulations have had no effect on my business						
The establishment of MPAs in <location> will increase the likelihood that I will vacation there						
I have visited <location> because of the establishment of MPAs						
MPAs help increase tourism						
Having all the waters surrounding <location> in an MPA makes the area a more attractive destination						
Boating regulations should exist to protect coral reef systems						

- Q45. How has the <name> MPA been most successful? (Please check all that apply)
1. Protecting specific species of concern or of commercial value
 2. Protecting the whole coral reef ecosystem
 3. Protecting the environment of the entire region, not only the coral reef system

4. Increasing the public environmental awareness
5. Increasing the opportunities to use the resources
6. Increasing tourism
7. Increasing security (i.e., reduction in criminal activity)
8. Increasing scientific research
9. Improving the water quality of the area/reducing contamination
10. Reducing user conflicts
11. Protecting cultural artifacts or traditions
12. Other: Please list
13. None

Q46. Least successful?

1. Protecting specific species of concern or of commercial value
2. Protecting the whole coral reef ecosystem
3. Protecting the environment of the entire region, not only the coral reef system
4. Increasing the public environmental awareness
5. Increasing the opportunities to use the resources
6. Increasing tourism
7. Increasing security (i.e., reduction in criminal activity)
8. Increasing scientific research
9. Improving the water quality of the area/reducing contamination
10. Reducing user conflicts
11. Protecting cultural artifacts or traditions
12. Other: Please list
13. None

Q47. Has your use of < Name> MPA increased, decreased, or stayed the same since its establishment?

1. Increased significantly
2. Increased a little
3. Stayed the same
4. Decreased a little
5. Decreased significantly

Q48. Why has your use changed? (Please check all that apply)

1. Doing activities other places by choice
2. New regulations prevent doing former activities
3. Crowding has become a problem
4. Doing the activities less
5. The activities are less enjoyable since the implementation of the regulations
6. Other: Please list
7. Has not changed

Resource Conditions of Coral Reefs



Q49. What is the current condition of each of the following at <Location>?

	Very Bad	Bad	Neither Bad nor Good	Good	Very Good	Don't Know
Fish on the Reef Flat						
Fish on the Reef Slope						
Pelagic Fish						
Invertebrates on the Reef Flat						
Invertebrates on the Reef Slope						
Spawning Stocks						
Reef Flat Habitat						
Reef Slope Habitat						
Water Quality						
Mangrove Crab						
Mangrove Trees						
Sea Shells						
Corals						
Seagrasses						
Abundance of fish						
Size of fish						
Types of fish (i.e., diversity)						
Abundance of Invertebrates						
Diversity of Invertebrates						
Number of sea urchins and sea cucumbers						
Number of Lobsters						
Number Octopus						
Abundance of Living Coral						
Diversity of Living Coral						
Turtle Nesting Sites						
Presence of other sea life (manatees, whales, dolphins, sea turtles, sharks, etc.)						
Abundance of other sea life (manatees, whales, dolphins, sea turtles, sharks, etc.)						
Land-based pollution/sewage						
Sea-based pollution/marine debris						
Fisheries						

Sandy beaches						
Mooring buoys						
Fewer vessel groundings						
Other bottom habitat						
Overgrowth of algae						
Sedimentation of reefs						
Crowding (too many people)						

Q50. How are the current conditions of the marine resources in <location>?

1. Very Bad
2. Bad
3. Neither Good nor Bad
4. Good
5. Very Good
6. Not Sure

Q51. Has the condition of marine resources in <location> gotten better or worse over the last 5 years?

1. Significantly Worse
2. Worse
3. No Change
4. Better
5. Significantly Better
6. Not Sure

Q52. Has the condition of marine resources in <location> gotten better or worse over the last 20 years?

1. Significantly Worse
2. Worse
3. No Change
4. Better
5. Significantly Better
6. Not Sure

Q53. How has the condition of each of the following in <location> changed over the last XX years? (*Years to vary depending on location*)

	Significantly Worse	Worse	No Change	Better	Significantly Better	Not Sure
Fish on the Reef Flat						
Fish on the Reef Slope						
Pelagic Fish						

Invertebrates on the Reef Flat						
Invertebrates on the Reef Slope						
Spawning Stocks						
Reef Flat Habitat						
Reef Slope Habitat						
Water Quality						
Mangrove Crab						
Mangrove Trees						
Sea Shells						
Corals						
Seagrasses						
Abundance of fish						
Size of fish						
Types of fish (i.e., diversity)						
Abundance of Invertebrates						
Size of Invertebrates						
Number of sea urchins and sea cucumbers						
Number of Lobsters						
Number Octopus						
Abundance of Living Coral						
Turtle Nesting Sites						
Other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Abundance of other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Any other large scale changes over time like changes in weather patterns, water temperature, or fishing seasons						
Large scale changes due to natural disasters						
Overgrowth of algae						
Sedimentation of reefs						
Other bottom habitat						

Q54. Please describe any changes you have observed in the questions above. [Open Ended]

Q55. To what degree have the changes you have observed affected your <activity> practices?

1. Not At All
2. Very Little
3. A Moderate Amount
4. Large
5. Significant
6. Not Sure

Q56. Which of these change have affected your <activity> practices and how? [Open Ended]

Q57. To what degree have you noticed any other large scale changes over time like changes in fish populations, weather patterns, water temperature, or fishing seasons?

1. Not At All
2. Very Little
3. A Moderate Amount
4. Large
5. Significant
6. Not Sure

Q58. Please describe those changes. [Open Ended]

Q59. To what extent would you be willing to accept more limited access to <Name> MPA to have...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
More fish in reef						
More living coral						
More invertebrates						
More turtle nesting grounds						
More seagrass						
More mangroves						
More other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Cleaner water						
Less algae overgrowth						
Other: Please list						

Q60. To what extent would you be willing to accept increased fishing regulations in <Name> MPA to have...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
More fish in reef						
More living coral						

More invertebrates						
More turtle nesting grounds						
More seagrass						
More mangroves						
More other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Cleaner water						
Less algae overgrowth						
Other: Please list						

Q61. To what extent would you be willing to accept increased restrictions on invertebrate harvesting to have...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
More fish in reef						
More living coral						
More invertebrates						
More turtle nesting grounds						
More seagrass						
More mangroves						
More other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Cleaner water						
Less algae overgrowth						
Other: Please list						

Q62. To what extent would you be willing to accept increased pollution regulations to have...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
More fish in reef						
More living coral						
More invertebrates						
More turtle nesting grounds						
More seagrass						
More mangroves						

More other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Better water transparency						
Less algae overgrowth						
Other: Please list						

Q63. To what extent would you be willing to accept more limited construction and development, particularly near the seashore, to have...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
More fish in reef						
More living coral						
More invertebrates						
More turtle nesting grounds						
More seagrass						
More mangroves						
More other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Better water transparency						
Less algae overgrowth						
Less sediment on reef						
Other: Please list						

Q64. To what extent would you be willing to accept increased regulation of coral reef activities to have...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
More fish in reef						
More living coral						
More invertebrates						
More turtle nesting grounds						
More seagrass						
More mangroves						
More other sea life (manatees,						

whales, dolphins, sea turtles, etc.)						
Better water transparency						
Less algae overgrowth						
Other: Please list						

Q65. To what extent would you be willing to accept increased boating restrictions in <Name> MPA to have...

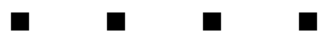
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
More fish in reef						
More living coral						
More invertebrates						
More turtle nesting grounds						
More seagrass						
More mangroves						
More other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Better water transparency						
Less algae overgrowth						
Less anchor damage to reefs						
Less marine-based pollution						
Other: Please list						

Q66. How familiar are you with each of the following conservation local, national, and international coral reef conservation programs?

	Very Unfamiliar	Unfamiliar	Neither Familiar nor Unfamiliar	Familiar	Very Familiar	Not Sure
<Program name> jurisdictional coral reef program						
NOAA/National Coral Reef Conservation Program						
Micronesia Challenge						
International Coral Reef						

Initiative						
Caribbean Challenge						

Coral Reefs Changes Since Establishment of MPAs



Q67. To what degree have you seen changes in the following within the <name> MPA since it was established?

	Significantly Fewer	Fewer	No Change	More	Significantly More	Not Sure
Fish (used for food)						
Mangrove crab						
Mangrove trees						
Round clam (popol)						
Conch and other sea shells						
Corals						
Seagrasses						
Invertebrates						
Turtle nesting grounds						
Sandy beaches						
Sea urchins						
Octopus						
Lobsters						
Sea birds						
Other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Other bottom habitat						
<i>Specific species to be added as determined by location</i>						

Q68. To what degree have you seen changes in the abundance/condition of each of the following since <name> MPA was established?

	Significantly Worse	Worse	No Change	Better	Significantly Better	Not Sure
Fish on the Reef Flat						
Fish on the Reef Slope						

Pelagic Fish						
Invertebrates on the Reef Flat						
Invertebrates on the Reef Slope						
Spawning Stocks						
Reef Flat Habitat						
Reef Slope Habitat						
Water Quality						
Mangrove Crab						
Mangrove Trees						
Sea Shells						
Corals						
Seagrasses						
Number of fish						
Size of fish						
Types of fish (i.e., diversity)						
Abundance of Invertebrates						
Abundance of Living Coral						
Turtle Nesting Sites						
Other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Abundance of other sea life (manatees, whales, dolphins, sea turtles, sharks etc.)						
Any other large scale changes over time like changes in weather patterns, water temperature, or fishing seasons						
Other bottom habitat						

Q69. To what degree have you seen a change in the amount of each of the following directly outside the <name> MPA now versus XX years ago? (*Years to vary depending on location*)

	Significantly Fewer	Fewer	No Change	More	Significantly More	Not Sure
Food fish						
Aquarium fish						
Mangrove crab						
Mangrove trees						
Round clam (popol)						
Conch and other sea shells						
Corals						
Seagrasses						
Invertebrates						

Turtle nesting grounds						
Sea urchins						
Octopus						
Lobsters						
Sea birds						
Other sea life (manatees, whales, dolphins, sea turtles, sharks etc.)						
Other bottom habitat						

Q70. To what degree have you seen changes in abundance/condition in each of the following directly outside the <name> MPA now versus 5 years ago?

	Significantly Worse	Worse	No Change	Better	Significantly Better	Not Sure
Fish on the Reef Flat						
Fish on the Reef Slope						
Pelagic Fish						
Invertebrates on the Reef Flat						
Invertebrates on the Reef Slope						
Spawning Stocks						
Reef Flat Habitat						
Reef Slope Habitat						
Water Quality						
Mangrove Crab						
Mangrove Trees						
Sea Shells						
Corals						
Seagrasses						
Number of fish						
Size of fish						
Types of fish (i.e., diversity)						
Abundance of Invertebrates						
Abundance of Living Coral						
Turtle Nesting Sites						
Other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Abundance of other sea life (manatees, whales, dolphins, sea turtles, etc.)						
Any other large scale changes over time like changes in weather patterns, water temperature, or fishing seasons						

Other bottom habitat						
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Q71. Please rate the change in status/condition of the following since the implementation of the <name> MPA.

	Significantly Worse	Worse	No Change	Better	Significantly Better	Not Sure
Land-based pollution/sewage						
Sediment runoff in the reef area						
Sea-based pollution/marine debris						
Sea water quality						
Coral reef fisheries						
Pelagic fisheries						
Mooring buoys						
Fewer vessel groundings						
Crowding (too many people)						
Incidence of harmful algal blooms (e.g., red tides)						
Number of shark sightings						
Improvement in reef-related livelihoods						
Access to reefs						

Q72. To what degree do you feel the <name> MPA is responsible for the status/condition of these resources?

	Not At All	Slightly	Somewhat	To A Large Degree	Completely	Not Sure
Land-based pollution/sewage						
Sediment runoff in the reef area						
Sea-based pollution/marine debris						
Sea water quality						
Coral reef fisheries						
Pelagic fisheries						
Mooring buoys						
Fewer vessel groundings						
Crowding (too many people)						
Incidence of harmful algal blooms (e.g.,						

red tides)						
Number of shark sightings						

- Q73. To what degree has your use of <name> MPA changed since the zone was established?
1. Rarely or never used and still do not
 2. Decreased significantly
 3. Decreased some
 4. Has not changed
 5. Increased some
 6. Increased Significantly
 7. Not sure

Knowledge of Rules/Regulations



Q74. Here in [jurisdiction], do regulations exist for participating in each of the following activities in or near a coral reef in <location>/<Name> MPA?

	Yes	No	Don't know
Coral Harvesting			
Invertebrate Harvesting			
Harvesting of Mangroves			
Harvesting of mangrove species			
Fishing with Rod & Reel			
Sport / Recreational fishing			
Net-fishing			
Trap fishing			
Talakhaya (Throw Net) Fishing			
SCUBA Spearfishing			
Freedive Spearfishing			
Gillnet Fishing			
Spear Fishing			
Live Fish Collecting			
Commercial Fishing			
Subsistence Fishing			
Collecting Trochus			
Collecting Sea Cucumbers			
Size of fish that can be removed			
Number of fish catch per trip			
Driving on Beach			
Burning			
Trash Dumping			
SCUBA diving			
Snorkeling/swimming			
Boating			
Water sports			
Sea Turtle Harvesting			
Taking Sea Turtle Eggs			
Taking Bird Eggs			
Residential / Commercial Development			
Sand Extraction			
Anchoring			
Using chemicals for fishing			

Using explosives for fishing			
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- Q75. When you were planning your recent trip to <location>, were you aware that there were special zones where certain activities are restricted or not allowed?
1. Yes
 2. No
 3. Not Sure
- Q76. Did you know before your recent visit to <location> that all <name/region> is a Marine Protected Area?
1. Yes
 2. No
 3. Not Sure
- Q77. Which of the following restrictions exist in <name> MPA? (Please check all that apply)
1. No fishing
 2. Designated no take areas
 3. Seasonal fishing restrictions
 4. Species restrictions
 5. Fish size restrictions
 6. No anchoring
 7. Prohibited discharge of sewage or graywater from vessels
 8. Restrictions on coastal construction/development
 9. Vessel transit restrictions (e.g., no transit of oil tankers)
 10. Restrictions on types of fishing gear used
 11. Diving restrictions
 12. Restrictions on tourist activities
 13. Permits required for use
 14. Cultural use only
 15. Bag limits
 16. Limits on gear types
 14. Other: Please list
- Q78. How familiar are you with more traditional or cultural methods for managing marine resources and coral reefs in [Location]?
1. Very unfamiliar
 2. Unfamiliar
 3. Neither familiar nor unfamiliar
 4. Familiar
 5. Very Familiar
 6. Not Sure
- Q79. Does your village have a local, traditional, or cultural method for managing marine resources and coral reefs?
1. Yes
 2. No

3. Not Sure

Q79a. Please describe. [Open Ended]

Q80. How effective are the more traditional or cultural methods for managing marine resources and coral reefs?

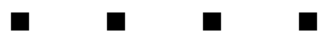
1. Very ineffective
2. Ineffective
3. Neither effective nor ineffective
4. Effective
5. Very effective
6. Not Sure

Q80a. Please explain [Open Ended]

Q81. How effective are the more traditional or cultural methods for managing marine resources and coral reefs as compared to more “modern” rules and regulations for governing marine resources and coral reefs?

1. Traditional methods are much less effective
2. Traditional methods are less effective
3. No difference between the traditional and modern methods
4. Traditional methods are more effective
5. Traditional methods are much more effective
6. Not Sure

Compliance with Rules/Regulations



Q82. Please rate the extent to which you believe each of the following occur.

	Never	1-25% Rarely	26-50% Sometimes	51-75% About Half of the Time	76-99% Most of the Time	Always	Not Sure
How often do you believe fishers do not comply with regulations?							
How often do you believe that a fisher who is not complying with fisheries regulations would be seen or detected by enforcement agents?							
How often do you believe that fishers who do not comply with fisheries regulations are caught and penalized?							
How often do you believe that people fish inside the <name> MPA no-take zones?							
Based on your observations, how often would you say that commercial fishers do not comply with fisheries regulations?							
Based on your observations, how often would you say that non-commercial fishers do not comply with fisheries regulations?							
How often do people from <location> not comply with MPA regulations?							
How often do people from outside <location> not comply with MPA regulations?							
How often do you believe commercial or recreational divers do not comply with regulations?							
How often do you believe that a commercial or recreational diver who is not complying with regulations would be seen or detected by the enforcement agencies?							
How often do you believe commercial or recreational divers who do not comply with regulations are caught and penalized?							

Based on your observations, how often would you say that commercial dive operators do not comply with regulations?							
Based on your observations, how often would you say that recreational divers do not comply with regulations?							

Q83. Please rate the extent to which you agree/disagree with each of the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
People from <location> respect the MPA regulations.						
People from outside <location> respect the MPA regulations.						
Commercial diving operations respect MPA regulations.						
Local diving operations respect MPA regulations.						
Commercial fishing operations respect MPA regulations.						
Local fishing operations respect MPA regulations.						
Tourists respect MPA regulations.						
Tourists are knowledgeable of MPA regulations.						
Local people are knowledgeable about MPA regulations						
Commercial and local fisheries are treated differently by authorities for violating regulations.						
Commercial and local diving operations are treated differently by authorities for not complying with regulations.						
Enforcement of regulations is fairly carried out.						
Enforcement of regulations is adequate.						
Penalties are fair and in line with the violation.						
No specific groups are singled out in enforcement of regulations.						
No specific groups are singled out in allocating penalties.						

Q84. Why do you think some people do not follow the regulations?

	Strong Reason	Sort of a reason	Not a reason	Not Sure
It is easy to do- not likely to get caught				
They don't know it's illegal				
They don't know it can harm the environment				
They don't know it can harm wildlife and the coral reef ecosystem				
They need to earn a living and feel they have no other option				
They don't care				
People are lazy				
They think it's fun				
They want to fish/dive in a less populated area				
MPAs have more fish/coral to see/catch				
People do not appreciate how much of an impact violating regulations has on the environment/coral reef ecosystem				
The MPA is easier to get to (or safer) than other fishing areas				
There is not enough enforcement				
Other, please specify				

Q85. Please rate your confidence level that each of the following is accurately and fairly enforcing coral reef related rules and regulations.

	Not at all Confident	Slightly Confident	Moderately Confident	Confident	Very Confident	Not Sure
Enforcement officers						
Administrative hearings						
Legal and trial process						

Coral Reef Management Processes



- Q86. Have you donated any money or time towards an environmental cause in the last 12 month?
1. Time
 2. Money
 3. Both
 4. Neither
- Q87. How much time did you donate over the last 12 months? *(if yes to previous question)*
1. Less than 5 hours
 2. 5-25 hours
 3. 25-50 hours
 4. 50-75 hours
 5. More than 100 hours
 6. No response
- Q88. How much money did you donate over the last 12 months? *(if yes to prior question)*
1. Less than \$20
 2. \$20 - \$50
 3. \$50 - \$100
 4. \$100 - \$200
 5. More than \$200
 6. No response
- Q89. To what extent do you participate in any of the following activities to help protect the environment?

	Not At All	Once a year or Less	Several times a year	At least once a month	Several Times a Month	At Least Once a Week	Several Times a Week	Every Day	Not Sure
Coastal Cleanup (beach clean up)									
Community watch									
Volunteer as a docent (school, visitor center, etc)									
Volunteer with a non-governmental organization									
Develop or maintain a coral reef blog, web site, or other Internet presence									

Fish monitoring/fish counts									
Community-based creel survey									
Local education/awareness initiatives									
Other: Please list									

Q90. To what degree are you involved in making decisions related to the management of coral reefs in <location>?

1. Not at all involved
2. Slightly involved
3. Moderately involved
4. Involved
5. Very involved

Q91. How satisfied are you with the current management strategies for coral reefs in <location>?

1. Very unsatisfied
2. Unsatisfied
3. Neither
4. Satisfied
5. Very Satisfied
6. Not sure

Q92. How effective are each of the following management strategies or regulations in the <name> MPA/Jurisdiction?

	Very Ineffective	Ineffective	Neither Effective Nor Ineffective	Effective	Very Effective	Not Sure
Restricting use of anchors and or designate mooring areas						
Limiting shoreside/streamside activities (e.g., agriculture or construction) to reduce pollution						
Fishing restrictions (e.g., fish size class, number of fish, fishing seasons, locations)						
Species restrictions						
Catch shares						
Traditional management methods						
Controlling access to coral reefs						

Limiting construction maritime facilities (piers, waterfronts, boat ramps)						
Dive tourism restrictions						
Seasonal/rotational closures						
Distributing coral reef educational materials to visitor						
Conducting outreach activities to educate public						
Marine zoning						
Other: Please list						

Q93. What, if any, management strategies or regulations do you think should be changed in the <name> MPA?

1. Restricting use of anchors and or designate mooring areas
2. Limiting shoreside/streamside activities (e.g., agriculture or construction) to reduce pollution
3. Fishing restrictions (e.g., fish size class, number of fish, fishing seasons, locations)
4. Controlling access to coral reefs
5. Limiting construction maritime facilities (piers, waterfronts, boat ramps)
6. Dive tourism restrictions
7. Seasonal/rotational closures
8. Distributing coral reef educational materials to visitor
9. Conducting outreach activities to educate public
10. Marine zoning
11. Other: Please list

Q94. How effective do you think [regulation] of each of the following are at [location]?

Management of:	Very Ineffective	Ineffective	Neither Effective nor Ineffective	Effective	Very Effective	Don't Know
Fishing						
Beach Use						
Littering or dumping						
Illegal burning						
Road Maintenance						
Watershed issues (e.g. pollution, nutrient runoff, sediment, coastal development)						
No-take MPAs						
Restricted use MPAs						
Gear restrictions						

Size restrictions on fishing						
Species restrictions on fishing						
Seasonal and/or rotational closures						
Dive tourism						
Other tourist activities						
Sand mining						
Other: Please list						

- Q95. How successful is the Federal government in protecting coral reefs?
1. Not at all successful
 2. Somewhat successful
 3. Moderately successful
 4. Successful
 5. Extremely successful
 6. Not sure
- Q96. How successful is the local government in protecting coral reefs?
1. Not at all successful
 2. Somewhat successful
 3. Moderately successful
 4. Successful
 5. Extremely successful
 6. Not sure
- Q97. How involved is the local community in protecting and managing coral reefs?
1. Not at all involved
 2. Somewhat involved
 3. Moderately involved
 4. Involved
 5. Very involved
 6. Not sure
- Q98. How effective is the local community in protecting and managing coral reefs?
1. Not at all effective
 2. Somewhat effective
 3. Moderately effective
 4. Effective
 5. Very effective
 6. Not sure
- Q99. In your opinion, who has primary decision making authority over the coral reefs (and associated species)?
1. Residents of <location>
 2. A particular family
 3. Village leadership

4. Village residents
5. Community group
6. No one
7. Residents of [territory]
8. The local government
9. The federal government
10. Other: Please list

Q100. In your opinion, who is primarily responsible for management activities to protect coral reefs (and associated species)?

1. Residents of <location>
2. A particular family
3. Village leadership
4. Village residents
5. Community group: _____
6. No one
7. Residents of <territory>
8. The local government
9. The federal government
10. Other: Please list

Support for Management Processes and Regulations



Q101. Please rate the extent to which you agree or disagree with each of the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
The process that the government has used to develop rules and regulations for <Name> MPA was open and fair to all groups						
It has not mattered whether the average person participated in the workshops and meeting on the <Name> MPA because the average person could not influence the final decisions						
The government agency responsible for designating the <Name> MPA has not addressed the concerns of local and state (or other federal) governments in developing rules and regulations for the MPA						
The government has not addressed the concerns of individual citizens in developing rules and regulations for <Name> MPA						
Once <Name> MPA regulations have been in effect, there has been no way that the average person to voice his/her opinion on the usefulness of the regulations						
The procedures that the government has established to deal with violations of <Name> MPA regulations have been fair and just						
<Location> has benefited environmentally from <Name> MPA						
<Location> has benefited socially from <Name> MPA						
<Location> has benefited culturally from <Name> MPA						
<Location> has benefited financially from <Name> MPA						
Sufficient resources and staff are available to enforce current regulations						
I know where to go to find information about regulations						
When developing regulations, the government takes the needs of the local community affected by the regulations into consideration						

Boating regulations are too stringent							
Fishing regulations are too stringent							
Construction regulations are too stringent							
Recreational activity regulations are too stringent							
Pollution regulations are too stringent							
Harvesting regulations are too stringent							
Access regulations are too stringent							
Boating regulations hurt the local economy							
Fishing regulations hurt the local economy							
Construction regulations hurt the local economy							
Recreational activity regulations hurt the local economy							
Pollution regulations hurt the local economy							
Harvesting regulations hurt the local economy							
Access regulations hurt the local economy							

Q102. To sufficiently protect the coral reefs, do you believe stronger, weaker, or no change to the existing regulations in <location> is warranted?

1. Significantly weaker regulations
2. Weaker regulations
3. No change
4. Stronger regulations
5. Significantly stronger regulations
6. Not Sure

Q103. To what extent would you support each of the following possible changes to existing rules and regulations or to existing management processes to improve the protection of the coral reefs in <location>?

	Strongly Oppose	Oppose	Neither Support nor Oppose	Support	Strongly Support	Don't Know
Fishing and Harvesting Practices						
Ban commercial harvesting						
Ban commercial fishing						
Create area for traditional fishing						
Allow more types of resource use in reserve						
Prohibit Scuba-spear fishing						
Prohibit destructive gear-types						
Prohibit [specific gear types]						
Create more no-catch (no-take) fishing zones						
Create more restricted use zones						
Bag limits						
Minimum size limits on fish that can						

be taken						
Maximum size limits on fish that can be taken						
Species restrictions						
Slot limits (fish take is allowed above or below a certain size)						
Seasonal/spawning periods						
Fishing activities must be approved by the existing reef boards						
Catch shares						
No harvesting of bottom formations inside <Name> MPA						
No taking of invertebrates inside <Name> MPA						
The hook-and-line only fishing regulation in <Name> MPA						

Other Rules/Regulations	Strongly Oppose	Oppose	Neither Support nor Oppose	Support	Strongly Support	Don't Know
Increase enforcement of existing rules/regulations						
Expand boundaries of MPA						
Expand no-take area						
Decrease size no-take area						
Seasonal and/or rotational openings/closures						
Increase community participation in reserve management						
Stricter controls on sediment and nutrient runoff from land to the ocean						
More stringent control of pollutants to preserve water quality						
Stricter regulations on discharging of pollutants in <Name> MPA						
Restrictions on coastal development						
Banning commercial/recreational activities						
Limiting dive tourism						
Limiting other tourist activities						
Enforced training/certification of scuba divers and snorkelers						

Dive/snorkel operations should have limited entry in <location>						
Implement/enforce monetary fines for violation						
Stronger shipping regulations						
Ban anchoring in MPA						
Limit vessel size for mooring use in the MPA						
Require vessels use mooring buoys within the MPA						
Regulations on minimum distance and speed from vessels flying a dive flag						
The requirement that all dive vessels fly a dive flag						
Other: Please list						

Q104. Please rate the extent to which you agree or disagree with each of the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Sure
I support the <Name> MPA as it is currently established						
I support the no anchoring regulation in the MPA						
I support the prohibition on disturbing the sea bed including all mining and oil & gas activities						
I support the prohibition of commercial fishing use of wire fishing traps						
I support the prohibition commercial fishing using bottom trawls						
I support the prohibition on the damage or removal of bottom formations (e.g. corals and rock)						
I support the prohibition on the use of explosives for fishing						
I support the prohibition on the discharge of pollutants in <Name> MPA waters						
I support the prohibition on spear fishing in the MPA						
The process that <name> MPA used to develop its rules and regulations was open and fair to all groups						
It has not mattered whether the average person participated in the workshops and meeting of the <Name> MPA because the average person could not influence the final decisions						

<Name> MPA has not addressed the concerns of other federal and state governments in developing its rules and Regulations						
<Name> MPA has not addressed the concerns of individual citizens in developing its rules and regulations						
Once the <Name> MPA regulations have been in effect, there has been no way that the average person to voice his/her opinion on the usefulness of the regulations						
The procedures that <Name> MPA has established to deal with violations of its regulations has been fair and just						
<Name> MPA does a good job of enforcing its regulations						
<Name> MPA does a good job of educating the public about its rules and regulations						

Sources of Information Available



Q105. Which of the following sources would you consider to be your primary sources of information about coral reefs in <location>? (Please check up to 5). *List region specific sources as well*

- | | |
|---------------------------|---|
| 1. Newspaper | 15. [] Website |
| 2. Radio | 16. [] Staff |
| 3. Television | 17. Sanctuary Advisory Council |
| 4. Brochures | 18. People who participate in coral reef related activities |
| 5. Informational Signs | 19. Magazines |
| 6. Community Members | 20. Government agency publications |
| 7. Community/club Meeting | 21. Conservation organization publications |
| 8. Work | 22. NOAA sponsored Publications or websites |
| 9. Friends | 23. Other: Please list |
| 10. Family | 24. None |
| 11. Teachers | |
| 12. Religious Leaders | |
| 13. Workshop | |
| 14. Word of mouth | |

Q106. Which of the following sources would you consider to be your primary sources of information on participating in coral reef related activities you enjoy and its impact on coral reefs? (Please check up to 5). *List region specific sources as well*

- | | |
|---------------------------|---|
| 1. Newspaper | 15. [] Website |
| 2. Radio | 16. [] Staff |
| 3. Television | 17. Sanctuary Advisory Council |
| 4. Brochures | 18. People who participate in coral reef related activities |
| 5. Informational Signs | 19. Magazines |
| 6. Community Members | 20. Government agency publications |
| 7. Community/club Meeting | 21. Conservation organization publications |
| 8. Work | 22. NOAA sponsored Publications or websites |
| 9. Friends | 23. Other: Please list |
| 10. Family | 24. None |
| 11. Teachers | |
| 12. Religious Leaders | |
| 13. Workshop | |
| 14. Word of mouth | |

Q107. Which of the following sources would you consider to be your primary sources of information on government rules and regulations of coral reefs in <location>? (Please check up to 5). *List region specific sources as well*

- | | |
|--------------|---------------|
| 1. Newspaper | 3. Television |
| 2. Radio | 4. Brochures |

- 5. Informational Signs
- 6. Community Members
- 7. Community/club Meeting
- 8. Work
- 9. Friends
- 10. Family
- 11. Teachers
- 12. Religious Leaders
- 13. Workshop
- 14. Word of mouth
- 15. [] Website
- 16. [] Staff

- 17. Sanctuary Advisory Council
- 18. People who participate in coral reef related activities
- 19. Magazines
- 20. Government agency publications
- 21. Conservation organization publications
- 22. NOAA sponsored Publications or websites
- 23. Other: Please list
- 24. None

Q108. Which of the following sources would you consider to be your primary sources of information about coral reefs management processes in <location>? (Please check up to 5). *List region specific sources as well*

- 1. Newspaper
- 2. Radio
- 3. Television
- 4. Brochures
- 5. Informational Signs
- 6. Community Members
- 7. Community/club Meeting
- 8. Work
- 9. Friends
- 10. Family
- 11. Teachers
- 12. Religious Leaders
- 13. Workshop
- 14. Word of mouth

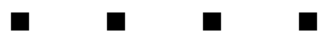
- 15. [] Website
- 16. [] Staff
- 17. Sanctuary Advisory Council
- 18. People who participate in coral reef related activities
- 19. Magazines
- 20. Government agency publications
- 21. Conservation organization publications
- 22. NOAA sponsored Publications or websites
- 23. Other: Please list
- 24. None

Q109. To what degree do you trust each of the following sources of information to provide you the most accurate information on coral reefs and coral reef related topics in <location>? *List region specific sources as well*

	Very Untrustworthy	Untrustworthy	Neither Trustworthy nor Untrustworthy	Trustworthy	Very Trustworthy	Not Sure
Newspaper						
Radio						
Television						

Brochures						
Informational Signs						
Community Members						
Community/club Meeting						
Village leaders						
Village council						
Work						
Friends						
Family						
Teacher						
Religious Leaders						
Workshop						
Word of mouth						
[] Website						
[] Staff						
Sanctuary Advisory Council						
People who participate in coral reef related activities						
Magazines						
Government agency publications						
Conservation organization publications						
Government sponsored publications or websites						
Other: Please list						

Coral Reef Financial Reliance



Q110. To what degree do you rely on coral reefs as a source of food for yourself and your family?

1. Not at all
2. For a small part of the food we consume
3. For about half of my food we consume
4. For the majority, but not all of my food we consume
5. For my all of my food we consume
6. Not sure

Q111. To what degree do you rely on coral reefs for a source of income?

1. Not at all
2. For a small part of my income
3. For about half of my income
4. For the majority, but not all of my income
5. For my all of my income
6. Not sure

Q112. How often do you fish or harvest marine resources for each of the following reasons?

	Never	Rarely	Sometimes	Often	Frequently	No Response
To feed myself and my family/ household						
To sell for profit						
To give to extended family members and/or friends						
For fun						
For special occasions and cultural events						
To donate to charities						
Other: Please list						

Q113. Is your occupation affiliated with the marine environment/industry in <location>?

1. Yes
2. No
3. Not sure

Q114. If YES, please circle the industry that best fits your primary profession.

1. Commercial fishing
 2. Charter fishing
 3. Dive/snorkel operation
 4. Marina/boat operation
 5. Other watersports
 6. Eco-tour operation
 7. Ecological research
 8. Ocean/coastal management
 9. Artisan
 10. Education
- Other _____

Q115. Do you belong to a fishery cooperative?

1. Yes
2. No
3. No Response

Q116. If yes, which one?

List fish house options for specific location

Q117. What approximate percentage of your TOTAL household income is derived from fishing?

1. Less than 10%
2. 10 – 25%
3. 26 – 50%
4. 51 – 80%
5. 80 – 100%

Q118. What is your primary launch location or access point to the water?

List options specific to <location>

Q119. Do you have a secondary launch location or access point to the water, from which you port part of the year? If so, please check.

1. I do not have a launch location or access point to the water

List options specific to <location>

Demographic Questions



Q120. How many family members do you support (including yourself)?

1. Myself Only
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. Greater than 7
9. No Response

Q121. What is your age? [Open Ended]

Q122. What is your sex?

1. Male
2. Female
3. No Response

Q123. What is the highest level of education you have completed?

1. 8th Grade or Less
2. 9th to 11th Grade
3. 12th Grade, High School Grad, GED
4. 13 to 15 Years (some community college or vocational training)
5. College Graduate
6. Graduate School, Law School, Medical School
7. No Response

Q124. What is your current employment status?

1. Unemployed
2. Student
3. Employed full-time
4. Homemaker
5. Employed part-time
6. Retired
7. None of the above (Please specify)
8. No Response

Q125. What is your occupation? [Open Ended]

Q126. In which sector are you employed? (Ask only for those who check employed full or part time) (check all that apply)

1. Management, professional etc.
2. Service & Tourism

3. Retail Sales
4. Fishing/ Aquaculture
5. Fish Processing/Cannery
6. Construction & Maintenance
7. Transportation
8. Government (Federal)
9. Government (Local)
10. Agriculture

11. Education
12. Manufacturing /Oil Refinery
13. Law Enforcement
14. Health / Medical
15. Communications
16. Textiles
17. Other: Please list
18. No Response

Q127. What is your annual household income?

- | | |
|-------------------------|---------------------------|
| 1. Under \$10,000 | 7. \$60,000 to \$74,999 |
| 2. \$10,000 to \$19,999 | 8. \$75,000 to \$99,999 |
| 3. \$20,000 to \$29,999 | 9. \$100,000 to \$149,999 |
| 4. \$30,000 to \$39,999 | 10. \$150,000 or More |
| 5. \$40,000 to \$49,999 | 11. No Response |
| 6. \$50,000 to \$59,999 | |

Q128. Please list the city, state, and postal code of your primary residence [Open end]

Q129. For how many years have you lived at this location?

1. Less than 1 year
2. 1 – 5 years
3. 5 – 10 years
4. 10 – 20 years
5. 20 – 30 years
6. More than 30 years

Q130. Do you have direct access to the water from your residence?

1. I can get to the water from my property
2. My residence is a short walk to the water
3. My residence is a short drive to the water
4. My residence does not have direct access to the water
5. No Response

Q131. What race/ethnicity do you consider yourself?

Please select all that apply

- | | |
|--------------------------------------|---|
| 1. American Indian or Alaskan Native | 10. Japanese |
| 2. Asian | 11. White |
| 3. Black or African American | 12. Korean |
| 4. Puerto Rican | 13. Mexican |
| 5. Carolinian | 14. Native Hawaiian or other Pacific Islander |
| 6. Chamorro | 15. Samoan |
| 7. Chinese | 16. Taino |
| 8. Cuban | 17. Thai |
| 9. Filipino | 18. Tongan |

- 19. Vietnamese
- 20. White
- 21. Other/Mixed

- 22. No response
- 23. Hispanic or Latino

Q132. How proficient are you in English?

- 1. I speak no English
- 2. I speak very little English
- 3. Conversational
- 4. Completely Fluent
- 5. Not sure

Q133. What language(s) do you speak, including your primary language? (Please check each language you speak).

- | | |
|---------------|---------------------------|
| 1. English | 13. Hawaiian |
| 2. Spanish | 14. Hawaii Pidgin English |
| 3. French | 15. Sāmoan |
| 4. German | 16. Chamorro |
| 5. Italian | 17. Carolinian |
| 6. Portuguese | 18. Creole |
| 7. Arabic | 19. Crucian |
| 8. Chinese | 20. Tongan |
| 9. Japanese | 21. Other: Please list |
| 10. Korean | 22. No Response |
| 11. Tagalog | |
| 12. Hindi | |

Q134. What religion do you consider yourself?

- | | |
|---|------------------------|
| 1. Episcopal | 11. Mormon (LDS) |
| 2. Presbyterian | 12. Catholic |
| 3. Baptist | 13. Jewish |
| 4. Methodist | 14. Muslim |
| 5. Lutheran | 15. Hindu |
| 6. Christian Congregational | 16. Bhuddist |
| 7. Assembly of God | 17. Bahai |
| 8. Pentecostal | 18. Atheist/Humanist |
| 9. Seventh Day Adventist | 19. Other: Please list |
| 10. Other Protestant/Non-denominational Christian | 20. None |
| | 21. No Response |

Q135. Do you have a particular title, leadership, or cultural status in your community? If so, please list. [Open Ended]

Q136. Do you hold the Samoan title of matai?

Q137. Please check each group of which you a member?

- 1. Chamber of Commerce

2. Environmental Group
3. Conch Coalition
4. MCCF
5. OFF
6. NAUI
7. PADI
8. KADO
9. FADO
10. SSI
11. Last Stand
12. Reef Relief
13. Sanctuary Friends of the Florida Keys
14. Local religious or community organization

Which one? _____

15. Other, please specify
16. No response

Include other groups in list relevant to location.

Q138. Do you own a boat?

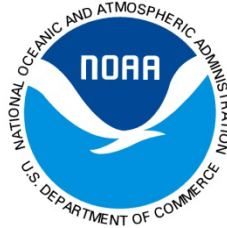
1. Yes
2. No
3. No response

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to (name), NOAA Line office, (address).

As stated on the questionnaires, identifying information (name, address, telephone number, email address) will be used only to administer the survey. This information will be viewed only by the contractor compiling the data, and will be destroyed at the end of the information collection. This process will maintain the anonymity of the responses received.

Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Initial Cover Letter for Mail Survey



National Oceanic and Atmospheric Administration Coral Reef Conservation Program

Date

Dear Participant:

Purpose of Study: The National Oceanic and Atmospheric Administration (NOAA) created the Coral Reef Conservation Program (CRCP) to safeguard and ensure the welfare of the coral reef ecosystems along the coastlines of America's States and Territories. CRCP is embarking on a new National Coral Reef Monitoring Program (NCRMP), intended to enhance the conservation of coral reefs. The purpose of this survey is to better understand your attitudes and behaviors related to coral reefs in order to ensure this new program is designed appropriately from the start.

Description of survey procedures and approximate duration: We would greatly appreciate you completing the attached survey and returning it either in the pre-addressed stamped envelope, email it to Christy.Loper@noaa.gov.

Your participation is crucial to the success of this study. The survey should take approximately 30 minutes to complete.

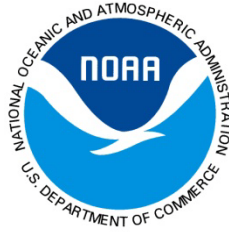
Confidentiality: Your specific responses will not be disseminated to the public in a way which could potentially reveal personally identifiable information (PII). Aggregate and summary statistics will only be publicly available for the data which will allow the identities of survey respondents to remain confidential. CRCP will maintain the data in accordance with the highest standards of information security and will keep PII data only as long as is absolutely necessary to complete the survey.

Thank you very much for your participation.

Sincerely,

Christy Loper, Ph.D.
Coral Reef Conservation Program
US National Oceanic and Atmospheric Administration

Follow Up Cover Letter for Mail Survey



**National Oceanic and Atmospheric Administration
Coral Reef Conservation Program**

Date

Dear Participant:

Three weeks ago the attached questionnaire was sent to you seeking your views on coral reef conservation. The National Oceanic and Atmospheric Administration is embarking on a new National Coral Reef Monitoring Program (NCRMP), intended to enhance the conservation of coral reefs. The purpose of this survey is to better understand your attitudes and behaviors related to coral reefs in order to ensure this new program is designed appropriately from the start.

If you have already submitted your response, we greatly appreciate your contribution. If not, please do so at your earliest convenience and return it in the pre-addressed stamped envelope, or by email to Christy.Loper@noaa.gov.

Your specific responses will not be disseminated to the public in a way which could potentially reveal personally identifiable information (PII). Aggregate and summary statistics will only be publicly available for the data which will allow the identities of survey respondents to remain confidential. CRCP will maintain the data in accordance with the highest standards of information security and will keep PII data only as long as is absolutely necessary to complete the survey.

Thank you very much for your participation.

Sincerely,

Christy Loper, Ph.D.
Coral Reef Conservation Program
US National Oceanic and Atmospheric Administration

Thank You Letter



**National Oceanic and Atmospheric Administration
Coral Reef Conservation Program**

Date

Dear Participant:

Thank you very much for participating in the National Oceanic and Atmospheric Administration Coral Reef Conservation Program survey. Your responses will be reviewed and analyzed as we move forward in creating our new National Coral Reef Monitoring Program.

If you have not yet had the chance to complete the survey, please do so at your earliest convenience as your participation is crucial to the success of this program.

Sincerely,

Christy Loper, Ph.D.
Coral Reef Conservation Program
US National Oceanic and Atmospheric Administration