

**JUSTIFICATION FOR CHANGE**  
**U.S. Department of Commerce**  
**National Oceanic & Atmospheric Administration**  
**Socioeconomics of Coral Reef Conservation**  
**OMB Control No. 0648-0646**

This request is for approval of a survey under the information collection requirement currently approved under OMB Control Number 0648-0646 “Socioeconomics of Coral Reef Conservation”. The approved information collection is part of the National Coral Reef Monitoring Plan and relates to Social Science and Human Dimensions monitoring. 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 surveys to provide longitudinal data about the impact of the Coral Reef Conservation Program.

NOAA has developed a jurisdictional survey instrument to be implemented in **Hawai’i in 2019-20**. As per OMB guidelines for PRA clearance, NOAA is required to submit a justification statement of one page or less listing the questions selected from the full question bank for the jurisdictional survey instrument. This request also briefly describes the information collection venues and sampling methodology applicable to Hawai’i. Please note, this change justification is the eighth such request as per previous submissions for similar survey efforts in American Samoa, Florida (2), Hawai’i, Puerto Rico, Guam, the Commonwealth of the Northern Marianas, and the United States Virgin Islands.

This survey instrument has been developed for the purpose of collecting information that can be used to analyze frequency of coral reef and/or beach use and other activities, general knowledge, attitudes, and perceptions of coral reef ecosystems, as well as attitudes and opinions of natural resource management and protection activities including rules and regulations (See Hawai’i survey). Each survey has a core set of questions that will be the same for all jurisdictions (See CORE MODULE). Each jurisdictional survey instrument contains questions that are specific to the local management needs and to the population. General demographic information will also be collected from respondents. The questions that have been selected from the bank (See CORE MODULE) will allow NOAA to collect data for some of the socioeconomic indicators of interest to the Coral Reef Conservation Program as outlined in Table 1 of the original supporting statement.

As described in the original supporting statement (included here as a supplemental document), the information will be collected using the most efficient and effective means in the individual jurisdiction. For Hawai’i, an ABS drive to web or telephone approach will be used, supplemented by telephone calls made to ABS households that match both listed and cellular phone numbers from various commercial databases. The survey will be conducted in the following languages: English. More information for Hawai’i’s 2019 survey, sampling, and mode of survey implementation is provided below.

## Hawai'i

The information collection for this U.S. Coral Reef location is to be conducted by a contracted survey firm who will utilize an ABS drive to web sample with a mailing and follow-up telephone calls. This approach will utilize USPS Delivery Sequence file (DSF) mailing to request that respondents participate in a web or telephone based survey, with the inclusion of a reminder postcard. To allow for the inclusion of non-internet households, an in-bound 800 number will be provided for respondents to reach the vendor to participate. For the jurisdictional population, we intend to select a random sample of individuals over the age of eighteen, stratified geographically as described in Table 2 below. The random sample will be obtained from the selected survey firm using standard sample selection tools. 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 for estimating sample size for a stratified population:

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

Where  $n$  is the minimum sample size required for a desired precision level,  $N$  is the target population size,  $a$  is the margin of error (5%),  $t$  is the value taken from the  $t$  distribution corresponding to a 95% confidence interval, and  $p$  is the proportion of the target population with a characteristic of interest (here,  $p=0.5$  to provide the most conservative estimate).

Other details as per data collection and analysis are outlined in the Supporting Statement. See Table 3 for Estimates of Burden Hours. The sample (Table 2) and associated burden numbers (Table 3) presented in the Supporting Statement will be modified, as shown below, for Hawai'i. In the original Supporting Statement, a sample size of 1700 was requested and approved (Table 3), but the sampling design has since been modified. These changes reduce the minimum number of required respondents to 1600 (Table 2), and therefore reduce the total burden.

**Table 1: Estimates of Burden Hours (3.5-year time frame)**

Requirements	Minimum # of Respondents Required for Statistical Robustness	Responses Per Respondent	Total # of Responses	Response Time	Total Burden (in hours)	Labor Cost
Florida	2,000	1	2,000	20 min.	667	\$12,650
Guam	712	1	712	20 min.	237	\$3,294
Hawaii	1,700	1	1,700	20 min.	567	\$11,651
American Samoa	652	1	652	25 min.	272	\$4,527
Puerto Rico	3,500	1	3,500	20 min.	1,167	\$14,058
Commonwealth of Northern Marianas Islands	900	1	900	20 min.	300	\$6,249
U.S. Virgin Islands	1,125	1	1,125	20 min.	375	\$6,312

Total Responses	10,589					
Non response burden	19,665	1		1 min.	328	\$5,829
Total Public Burden					3,913	\$64,669
Annualized (3 years)	3,530				1,304*	\$21,556

*\*1,195 (Response) + 109 (Non response) burden hours*

**Table 2: Sampling Requirements by Geographical Jurisdictions**

Jurisdiction	Total Sample	Sample Size by Strata		
4. Hawaii	1,600	400	Hawaii	Island
		400	Oahu	Island
		400	Maui	Island
		400	Kauai	Island

The 2019 HAWAII SURVEY instrument includes script language for both telephone and online participation, and intended mailing materials are also provided. Each question in the 2019 HAWAII SURVEY corresponds with a previously cleared question within the CORE MODULE, Full Question Bank, and/or 2014 HAWAII SURVEY, and are denoted accordingly. Jurisdictionally relevant and required changes that are new from the 2014 HAWAII SURVEY are italicized. Other modified items are highlighted in yellow. These changes were made based on jurisdictional and expert opinion input to enhance understanding, response rate, sample weighting, and/or the type of data collected in the jurisdiction (Hawai‘i). A summary of those changes follows.

**INTRODUCTION AND SCREENING QUESTIONS**

- The survey introduction has been modified from its usual implementation method (telephone) to both telephone and online compatible. Each respondent will only see/hear one of the scripts offered, depending on the mode of survey participation.
- Script text was added to S1 to avoid a potential “rescreening loop” for respondents recording under age in telephone landline and online versions of the survey.
- S1A was added as a safety precaution for cellular telephone respondents.
- S3 is a new question needed for sample weighting (see Table 2 Sampling Requirements).

**PARTICIPATION IN REEF ACTIVITIES**

- Q1 has separated fishing/gathering activities from other activities per jurisdictional partner request to delineate purpose of activity.

**CORAL REEF RELIANCE / CULTURAL IMPORTANCE OF REEFS**

- At partner request, Q4 includes a definition of “family.”
- Q6 has been modified from originally asking respondents to select their top two sources (ranking) to now collect frequency (rating) for each source (mimicking the format of Q2, Q3, Q8, etc.). At partner request, this enhances quality of the data by providing relative differences in value between sources. Literature also shows mental effort and respondent burden is greater for ranking questions (i.e. reading choices and then contemplating

relative tradeoffs and rank for each) than for rating questions (i.e. responding to a frequency scale uniformly).<sup>1,2,3,4</sup>

#### AWARENESS AND KNOWLEDGE OF CORAL REEFS

- Q9 now uses an updated and widely accepted familiarity scale.<sup>5</sup> In previous iterations of the survey, the following scale was used: very unfamiliar, unfamiliar, neither familiar nor unfamiliar, familiar, very familiar. This update reflects the research team's efforts to implement best available scientific methods.

#### ATTITUDES TOWARD CORAL REEF MANAGEMENT STRATEGIES AND ENFORCEMENT

- Q13 and Q14 are reflective of a statewide effort to improve local waters in the jurisdiction, and were included at local partner request. Q13 is a modified jurisdictionally-specific version of Q12 in the CORE MODULE. Q14 is a follow up to Q13 to understand support for this effort, and is a modified version of Q15 in the CORE MODULE, Q105 in the Full Question Bank, and Q12 in the 2014 Survey.
- Q15 now uses the same updated familiarity scale described above.

#### PARTICIPATION IN BEHAVIORS THAT MAY IMPROVE CORAL HEALTH

- Q20 language was modified at local partner request to simplify and enhance understanding.

#### DEMOGRAPHICS

- At partner request, Q29 and Q30 have been modified to include current "or most recent" occupation information. This change intends to collect ocean-related occupations of respondents who are retired or unemployed.
- Q32 is a new question needed for sample weighting (See Table 2 Sample Requirements).

See attached, files relevant to this non-substantive change request:

CORE MODULE, NCRMP Hawaii Survey 2019, 2014 Hawaii Survey Instrument, NCRMP Hawaii Cover Letter & Postcard

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<sup>1</sup> Alwin, D.F. and J.A. Krosnick. 1985. "The measurement of values in surveys: A comparison of ratings and rankings." *The Public Opinion Quarterly* 49(4): 535-552.

<sup>2</sup> Krosnick, J.A., E.M. Schaeffer, and R.K. Thomas. 2003. "How does ranking rate?: A comparison of ranking and rating tasks." *The American Association for Public Opinion Research (AAPOR) 58<sup>th</sup> Annual Conference*.

<sup>3</sup> Maio, G.R., N.J. Roese, C. Seligman, A. Katz. 1996. "Rankings, ratings, and the measurement of values: Evidence for the superior validity of ratings." *Basic and Applied Social Psychology* 18(2): 171-181.

<sup>4</sup> Munson, J.M. and S.H. McIntyre. 1979. "Developing practical procedures for the measurement of personal values in cross-cultural marketing." *Journal of Marketing Research* 16: 48-52.

<sup>5</sup> Vagias, W.M. 2006. "Likert-type scale response anchors." *Clemson International Institute for Tourism & Research Development, Department of Parks, Recreation and Tourism Management. Clemson University*.