NOAA Technical Memorandum CRCP 58

National Coral Reef Monitoring Program Socioeconomic Monitoring Component

Summary Findings for the U.S. Virgin Islands, 2025



NOAA Coral Reef Conservation Program
Silver Spring, MD

September 2026

United States Department of Commerce	National Oceanic and Atmospheric Administration	National Ocean Service
Howard Lutnick Secretary	Dr. Neil Jacobs Under Secretary and Administrator	Nicole LeBoeuf Assistant Administrator

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M.E. Allen,[1] S. Siegel,[2] A.T. Alva,[2] A.C. Fobia,[2] E.K. Towle[3]

National Oceanic and Atmospheric Administration

[1] *Lynker, Inc. under contract to NOAA Office for Coastal Management, Coral Reef Conservation Program*

[2] *NOAA National Ocean Service, National Centers for Coastal Ocean Science*

[3] *NOAA National Ocean Service, Office for Coastal Management, Coral Reef Conservation Program*

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The mission of the National Oceanic and Atmospheric Administration (NOAA) is to understand and predict changes in the environment, weather, ocean, and coasts; to share that knowledge and information with others; and to conserve and manage coastal and marine ecosystems. As a line office of NOAA, the National Ocean Service (NOS) conducts and sponsors research and monitoring programs to improve the scientific basis for conservation and management decisions. The NOS strives to make information about the purpose, methods, and results of its scientific studies widely available. Coral Reef Conservation Program (CRCP) along with the National Centers for Coastal Ocean Science (NCCOS) use the NOAA Technical Memorandum NOS series to achieve timely dissemination of scientific and technical information.

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Field team preparing for survey data collection in St. Thomas. Photo credit: A. Bellew.

Executive Summary

The socioeconomic component of the National Coral Reef Monitoring Program tracks human dimensions indicators across U.S. coral reef jurisdictions, including coral reef use and residents' knowledge, attitudes, and perceptions of reefs and reef management. These data support NOAA's Coral Reef Conservation Program in monitoring social and economic trends, informing management and outreach efforts, and assessing changes in coral reef–dependent communities over time.

This report presents findings from the second socioeconomic monitoring cycle in the U.S. Virgin Islands (USVI) (the first monitoring cycle was completed in 2017). The household survey was conducted in person from February to April 2025. The second cycle results are representative of the USVI resident population as a whole and island strata of St. Croix, St. John, and St. Thomas.

Key findings and management implications:

1. **Residents of USVI recognize the value of coral reefs for community resilience and local economies.** In 2025, over 70% of residents believed that USVI's coral reefs were very important for supporting the local fishery-based economy and providing protection from natural disasters such as hurricanes. Over 60% of residents familiar with marine protected areas (MPAs) in the USVI believed that MPAs improved coral reef protection and the amount of fish locally.
   - ***Communication efforts could emphasize ecosystem services.*** Messaging that highlights how coral reefs contribute to fisheries, coastal protection, and community well-being may resonate with residents and reinforce support for conservation initiatives.

2. **Uncertainty in perceptions of coral health suggests a need for greater awareness.** While biological monitoring indicates low coral cover and ongoing impacts from coral disease and bleaching, approximately one-third of residents were unsure about the amount of live coral or health of coral reefs. Residents were generally pessimistic on how resource conditions would change over the next 10 years.
   - ***Outreach and education efforts could help improve public understanding of coral conditions and issues contributing to coral decline.*** Targeted information campaigns may be especially important given that relatively few residents participate in scuba diving or underwater activities that provide direct observation of reef conditions.

3. **Residents believe land-based pollution is a major threat to coral reefs.** In 2025, more than 50% of residents identified runoff pollution and marine litter as severe threats to coral reefs. This finding was consistent with strong support (at least 70%) for management strategies that help mitigate land-based pollution from construction and improve wastewater treatment.

- ***Land-based pollution reduction measures are likely to be socially acceptable.*** Strong support for improved wastewater treatment and construction runoff controls suggests that management action addressing sedimentation and water quality may encounter less public resistance. Linking watershed management and pollution reduction efforts to reef health and community benefits may further strengthen public support.

4. **Beach recreation and swimming/wading are the most common activities among residents.** Over 60% of respondents participated in beach recreation in both 2017 and 2025, and participation rates for all marine activities in 2025 were lower than in 2017. Less than 25% of respondents participated in any type of fishing or gathering of marine resources in both survey years. Recreation was the most common motivation for fishing and gathering in 2025.
   - ***Management actions that maintain or improve beach access, water quality, and overall coastal recreation experiences are more likely to be met with public support.***
   - Declining participation rates may reflect broader socioeconomic changes, such as longer-term impacts of rebuilding coastal infrastructure following recent hurricanes, or environmental factors, such as the influx of sargassum that may deter swimming and beach recreation.

5. **A majority of residents believe that it is very important to engage in activities that help protect coral reefs.** Most residents believed it was unacceptable to leave trash on the beach or to anchor a boat on coral. Opinions were mixed about taking seashells or coral from the beach, harvesting resources in MPAs, and feeding marine animals, suggesting a potential need ***to publicize the existence and importance of relevant rules and regulations***.

Overall, the results indicate that USVI's residents have important connections with coral reefs and rely on coastal-marine ecosystems for a variety of social, economic, and cultural benefits. Results also show that residents are increasingly aware of coral reef issues, such as pollution and marine litter, and suggest that residents strongly support management strategies such as efforts to mitigate threats to coral reefs (e.g., restrict sources of pollution) and prevent resource conditions (e.g., ocean water quality) from becoming worse.

The findings on resident perceptions of resource conditions and threats to coral reefs can be used to inform 1) assessments of current management efforts, 2) the development of new management approaches that are readily understood and more likely to be accepted and followed by resource users, or 3) outreach and education strategies based on changing local perceptions of threats to the local marine environment.

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1. Introduction

Coral reefs are among the most valuable ecosystems on Earth, providing food, protection from storms, tourism, recreation, and other ecosystem services or benefits to adjacent coastal communities (Brander and van Beukering, 2013; Eastern Research Group, 2019). When coral reefs are threatened by changing ocean conditions, fishing impacts, and land-based sources of pollution, nearby human communities are also threatened. In 2013, the National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program (CRCP) created the National Coral Reef Monitoring Program (NCRMP) to establish an integrated and focused long-term monitoring program of biological, environmental, and socioeconomic indicators for all United States (U.S.) states and territories where coral reefs are present. The incorporation of a socioeconomic monitoring component to the NCRMP represents a holistic, interdisciplinary approach for NOAA CRCP. More information about all components of the NCRMP can be explored in the National Coral Reef Monitoring Plan (NOAA CRCP, 2021).[1]

1.1 Socioeconomic component of NCRMP

The socioeconomic component of the NCRMP collects and monitors socioeconomic information, including human use of coral reef resources, knowledge, attitudes, and perceptions of coral reefs and coral reef management, and demographics of the populations living in coral reef areas. The overall goal of the socioeconomic monitoring component is to track relevant information on each jurisdiction's population, social and economic structure, the benefits of coral reefs and related habitats, the perceived impacts of society on coral reefs, and the impacts of coral management on communities. NOAA CRCP uses the information to improve programs designed to protect coral reefs at local, regional, and national levels, as well as to inform continuing research and communication products.

The socioeconomic component uses a suite of 13 survey indicators to measure the relationship between coral reefs and their adjacent communities (Lovelace and Dillard, 2012).[2] Indicators enable researchers to track changes over time by simplifying intellectually complex concepts into smaller and more measurable parts (Schirnding, 2002). Primary and secondary data streams inform the indicators for each of the seven inhabited U.S. coral reef jurisdictions: South Florida, the U.S. Virgin Islands (USVI), Puerto Rico, Hawai'i, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands (Table 1). A detailed description of the 13 indicators can be found in the team's indicator development report (Abt Associates, 2019).[3]

[1] https://coralreef.noaa.gov/topics/national-coral-reef-monitoring-program
[2] https://coastalscience.noaa.gov/data_reports/developing-social-and-economic-indicators-for-monitoring-the-u-s-coral-reef-jurisdictions-report-from-a-scientific-workshop-to-support-the-national-coral-reef-monitoring-program-hollings-marine-lab/
[3] https://doi.org/10.25923/ww0p-q586

A socioeconomic survey is implemented in each inhabited jurisdiction once every 5–7 years to inform 7 of the 13 indicators:

- Participation in coral reef activities (including snorkeling, diving, fishing, harvesting)
- Cultural importance of coral reefs
- Perceived resource condition
- Awareness and knowledge of coral reefs
- Attitudes toward coral reef management strategies
- Awareness of coral reef rules and regulations
- Participation in behaviors that may improve coral health

The survey includes a standard set of questions for all jurisdictions as well as a subset of jurisdiction-specific questions relevant to local management needs. All survey questions are periodically approved for use by the Office of Management and Budget (OMB) under OMB #0648-0646. Surveys from the first socioeconomic monitoring cycle occurred from 2014 to 2018 (Gorstein et al., 2019a, 2019b, 2018a, 2018b, 2017, 2016; Levine et al., 2016), and the second monitoring cycle occurred from 2019 to 2025 (Allen et al., 2021, 2022, 2023, 2024a, 2024b, 2025). After each monitoring cycle, scores for all 13 socioeconomic indicators are calculated. More information on NCRMP's socioeconomic component can be found at the project website: https://coralreef.noaa.gov/topics/national-coral-reef-monitoring-program/socioeconomic-component.

Table 1. Geographic scope of current NCRMP socioeconomic monitoring.

Location	Inhabited Islands/Counties
American Samoa	Islands of Tutuila, Taʻū, Olosega, Ofu, Aunuʻu
South Florida	Martin, Palm Beach, Broward, Miami-Dade, and Monroe Counties
Hawaiʻi	Islands of Kauaʻi, Maui, Molokaʻi, Oʻahu, Hawaiʻi, and Lānaʻi
Puerto Rico	Islands of Puerto Rico, Vieques, and Culebra
Commonwealth of the Northern Mariana Islands	Islands of Saipan, Tinian, and Rota
Guam	Entire island of Guam
U.S. Virgin Islands	Islands of St. Croix, St. Thomas, and St. John

1.2 Purpose of this report

This technical memorandum presents the findings from the second USVI NCRMP socioeconomic data collection. The report is organized into six remaining sections. Section 2 provides an overview of USVI; section 3 details the methodology used in data collection and analysis; sections 4 through 5 provide descriptive statistics, advanced analysis, and trend analysis between the first (2017) and second (2025) cycles of monitoring; and section 6 delivers

discussion and conclusions. Appendix A includes the survey instrument, Appendix B includes information about weighting, Appendix C provides detailed tables for each question at the strata level, and finally, Appendix D includes additional figures. All data presented in this report support indicator development efforts accomplished at the completion of each monitoring cycle (Abt Associates, 2019). Discussions of secondary data are omitted from this report, but an overview of data sources and secondary data–derived indicators are provided in the first USVI data collection report (Gorstein et al., 2019a) and the first cycle's complete indicator report (Abt Associates, 2019).

2. Jurisdiction description

The USVI is a group of islands in the Caribbean that is an insular area of the U.S. located 40 miles east of Puerto Rico (Figure 1). The islands are geographically part of the Virgin Islands archipelago, consisting of the main islands of St. Thomas, St. John, and St. Croix, and additional surrounding minor islands, and are located in the Leeward Islands of the Lesser Antilles. The waters of USVI host approximately 134 km^2 of shallow coral reefs, including fringing, bank-barrier, and patch reefs; and 125 km^2 of mesophotic reefs (Smith et al., 2025). The territory's capital is Charlotte Amalie on the island of St. Thomas. Of the three main islands, St. Thomas and St. Croix have similar population sizes (approximately 40,000 residents), whereas St. John's population is much smaller (U.S. Census Bureau, 2020) and more rural, due to a large section of the island being managed by the Virgin Islands National Park. The USVI population declined 19% between the 2010 and 2020 U.S. Decennial Censuses.



Figure 1. Map of the U.S. Virgin Islands.

Tropical storms and hurricanes, coral disease, coral bleaching, and increasing sea surface temperatures continue to stress USVI coral reefs. In the past decade of monitoring, NCRMP has tracked a large decline in hard coral cover across the USVI as well as increases in coral bleaching and years of higher disease prevalence, especially from stony coral tissue loss disease (SCTLD). As shown in Figure 2, over the last decade, coral cover has declined 60%–68% across the USVI (Grove et al., in prep).

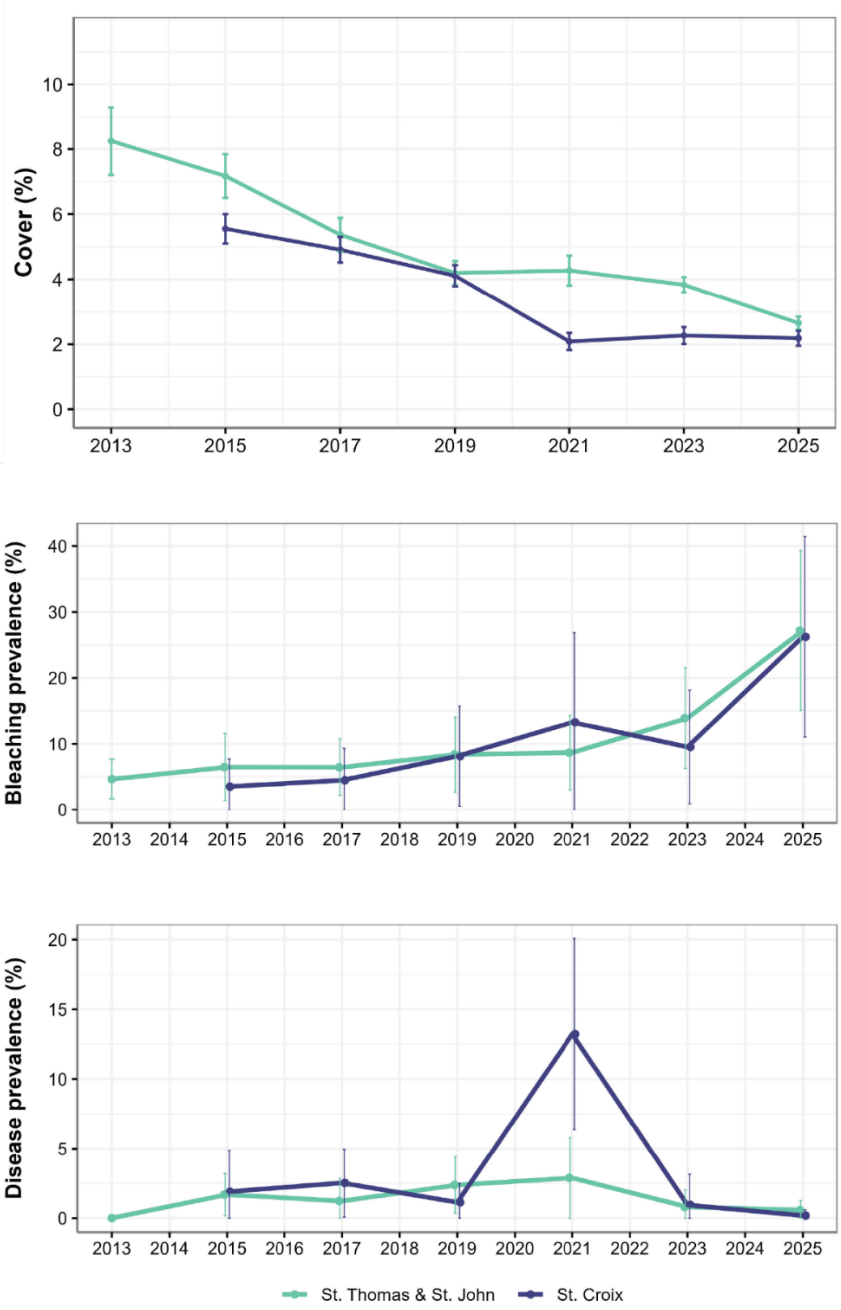


Figure 2. Percent of hard coral cover, coral bleaching prevalence, and coral disease prevalence from NCRMP benthic data in the U.S. Virgin Islands 2013–2025 (adapted from Grove et al., in prep.).

USVI's climate is classified as equatorial (Kottek et al., 2006), with little seasonal change throughout the year. Temperatures are moderate to hot year-round, with Charlotte Amalie's annual average maximum temperature being 87.4°F (minimum = 75.3°F). USVI has a defined rainy season that lasts from April to November (concentrated between May and October), with an annual average precipitation of 40.01 inches (Southeast Regional Climate Center, 2012). In the winter, the northeast trade winds prevail. USVI is also prone to hurricanes, and in 2017, Hurricanes Irma and Maria caused catastrophic damage to the islands, communities, and coral reefs (NOAA CRCP, 2021).

The ocean economy is an important part of USVI's economy, contributing an estimated 12% of total gross domestic product in 2022 (562.5 million out of 4.67 billion dollars) (NOAA OCM, 2024). Tourism and recreation as an industry represented 336 million dollars' worth of value-adding economic activity and provided almost 5,500 jobs (NOAA OCM, 2024). Due to its island status and favorable Caribbean climate, USVI is a frequently visited tourist destination for U.S. and foreign travelers alike both via plane travel and cruise ship stops (VIBER, 2025). These high rates of tourism, coupled with relatively higher population density near the coast, bring even more humans into contact with coral reef ecosystems in the region, thereby creating more opportunities for humans to derive ecosystem services from reefs but also more opportunities for human-induced stressors to impact reefs.

3. Methods

An in-person survey of household residents (ages 18 years and older) who live in USVI at least three months per year was conducted from February to April 2025 in English and Spanish.[4] Appendix A includes the survey instrument. A three-stage stratified cluster sampling design was implemented in three island strata (St. Croix, St. John, and St. Thomas) (Figure 1). For the more populated islands of St. Croix and St. Thomas, the first stage of sampling randomly selected 18 primary clusters for each island. Given the small number of households in St. John, surveyors attempted to visit every household.[5] Second, after randomly selecting a starting point within a cluster, interviewers followed walking rules to selected households from within each of the selected clusters. For the third stage, one adult from within each selected household was randomly selected following the last-birthday method (see Appendix A). Local field surveyors visited each of the selected resident households up to two times to invite them to participate in the survey, and left behind a postcard if they were not home or preferred to take the survey online.

[4] All data are publicly archived with the National Center for Environmental Information (NCEI Accession 0307287) at https://www.ncei.noaa.gov/archive/accession/0307287.

[5] The 2020 Census showed there were 1,854 households on St. John. The team only skipped households that were clearly unoccupied or exhibited safety concerns (U.S. Census Bureau, 2020).

A total of 624 surveys were completed and deemed sufficient, yielding an overall response rate of 16.1%.[6] Ninety-six percent of surveys were completed in English, and the remainder were completed in Spanish. Survey results were weighted to be representative of the territory as a whole as well as for each of the three islands, effectively adjusting for the sample design and to address potential nonresponse bias. Please see Appendix B.1 for more information on data collection procedures and Appendix B.2 for data weighting and trimming protocols.

4. Results: Summary findings

The following summary findings show results of the 2025 survey. All estimates shown are weighted and account for the complex survey sampling design (details on weighting can be found in Appendix B). Comparative statements have been statistically tested and are significant at the 95% confidence level.

Most of the jurisdiction's population resided on St. Thomas and St. Croix, and 85% reported living at least 10 years in the territory (Table 2). Almost 14% reported employment (either their current job or the last job held) in a "marine occupation," which is defined as related to tourism, outdoor recreation, or commercial fishing.

Table 2. Weighted estimates of key demographics for USVI residents for the 2025 survey (n = 624).

Demographic Variables		Percent
Island Strata of Residence	St. Thomas	48.0%
	St. Croix	46.6%
	St. John	5.4%
Sex	Female	54.0%
	Male	42.7%
Race/Ethnicity*	Black	65.2%
	White	13.9%
	Other races (including Hispanic ethnicity)	20.9%
Age	18–34	17.9%
	35–44	11.2%
	45–54	12.5%
	55–64	17.3%
	65-74	13.2%
	75+	12.1%
Education	Less than high school	19.5%
	High school degree or GED	37.1%
	Technical/trade school certification	3.4%

[6] The response rate was calculated based on the total number of sufficient surveys divided by the total number of households visited (624/3874 = 16.1%), excluding ineligible households where an interview attempt could not be made (abandoned building, demolished building, or household skipped for safety reasons). This is the equivalent of American Association for Public Opinion Research (AAPOR) Response Rate Methodology 6 with the assumption that there are no eligible cases among the cases of unknown eligibility (AAPOR, 2023). This assumption is a limitation in the response rate calculation.

	Some college	9.8%
	College degree or higher	25.2%
Household Income	Under $25,000	20.4%
	$25,000–$49,999	18.7%
	$50,000–$99,999	20.3%
	$100,000 or higher	8.3%
	Opted to skip	32.3%
Residential Tenure	1 year or less	1.6%
	2–5 years	4.1%
	6–10 years	4.7%
	More than 10 years	74.0%
Native Born	Yes	45.1%
	No	50.9%
Employment Status*	Employed full-time	31.6%
	Employed part-time	22.7%
	Unemployed	5.8%
	Retired	36.2%
Employment in Marine Occupation	Yes	13.7%
	No	80.8%

**Percentages may not add up to 100% as some respondents skipped certain questions.*
***These questions requested "select all that apply" and may not add up to 100%*

4.1 Participation in coral reef activities

The survey asked residents how often they participated in different marine activities over the past 12 months (i.e., Winter 2024 to Winter 2025). Swimming/wading was the most commonly reported activity (67% participated at least once in the past 12 months), followed by beach recreation (48%) (Figure 3). Paddling activities were least commonly reported. Across the three islands, St. John generally had higher participation rates in activities; however, very few of the differences were statistically significant (see Table C1 for strata comparisons).



View of St. Thomas, USVI. Photo credit: M.E. Allen (Lynker, Inc./NOAA CRCP).

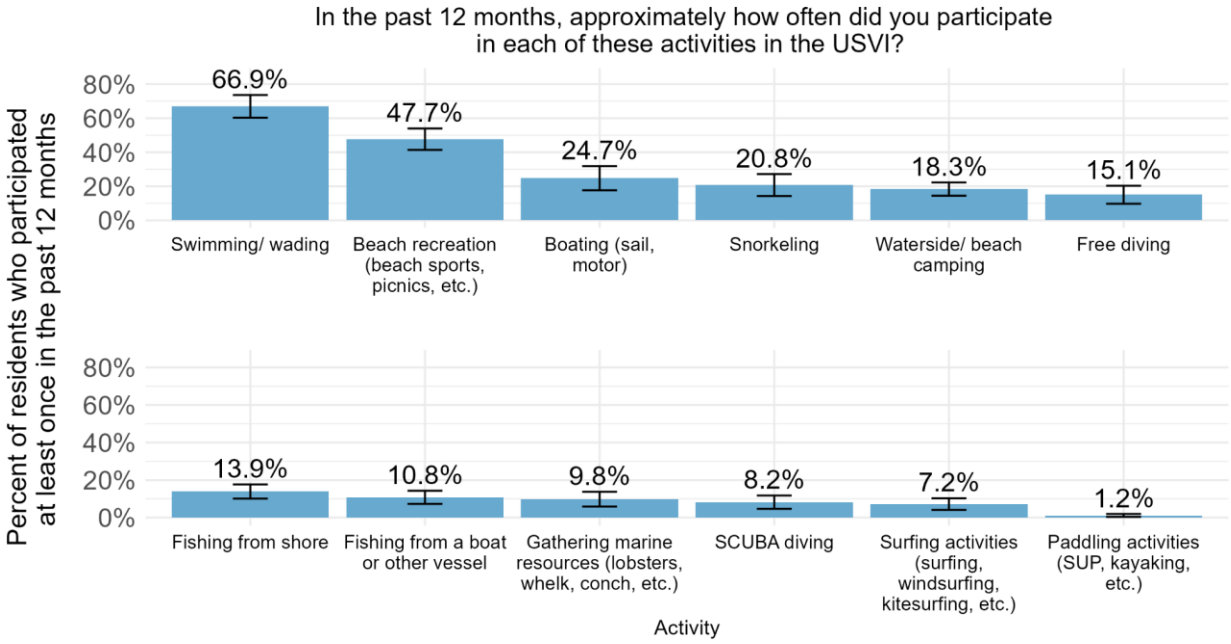


Figure 3. Percentage of USVI residents who participated in a coral reef activity at least once in the past 12 months.

Residents who reported participating in a select activity were asked a follow-up question to indicate the geographic zone they most often use for each activity (Figure 4). The residents of St. John and St. Thomas were shown the same map with zones A–F (Figure 4a), while residents of St. Croix were shown a separate map with zones G–L (Figure 4b). Given the low numbers of responses for each of these questions, there are few statistically significant results. Zone F was the most popular swimming location for St. Thomas residents, while zones A and F were the most popular for beach recreation. St. John residents reported more use in zone B, although none of the results are statistically significant between zones B and C. For residents of St. Croix, Zones H and L were most reported for a majority of activities. These zones are closest to the population centers of the island. See Table C2 for the distribution of activities across zones for all three islands.

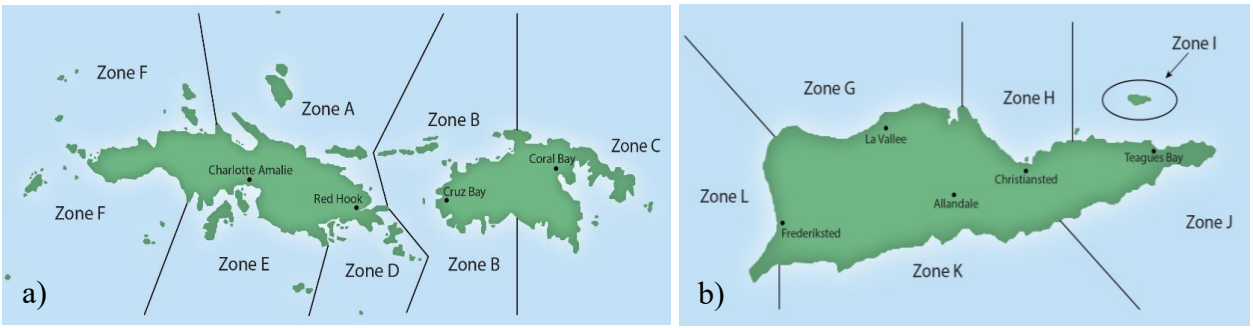


Figure 4. Map of geographic zones for activity participation used in the survey administered in a) St. Thomas and St. John, and b) St. Croix.

Out of residents who fished or gathered in the last 12 months, 50% listed their most common motivation as recreational, followed by subsistence (27%) and cultural (23%) reasons. Commercial reasons were the lowest reported motivator at less than 1%. There were no significant differences between strata (Table C3 reports results separated by strata).

4.2 Cultural importance of reefs and reef reliance

4.2.1 Seafood consumption

Approximately 89% of resident households consumed seafood in at least some of their meals on average, and of all residents, 73% consumed seafood from local coral reefs (Figure 5). There were no significant differences between strata (Table C4 and C5 report results separated by strata).

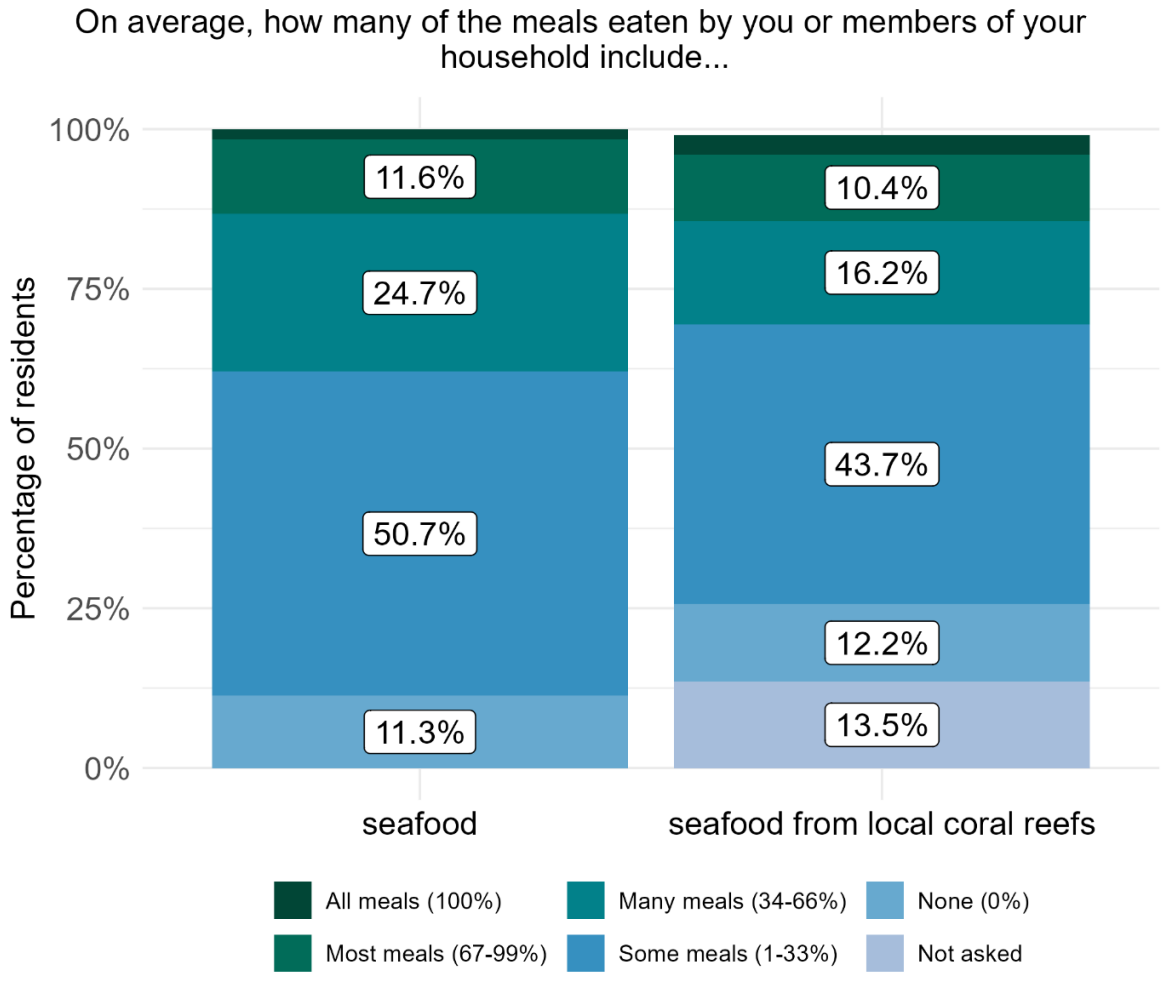


Figure 5. Frequency of general and local coral reef seafood consumption.

4.2.2 Cultural importance

Most residents believed that coral reefs were very important, the highest response category, to each aspect of culture included in the survey (Figure 6). Culturally important events, cultural and familial ties, and ancestral connections were the three examples of cultural practices in which "very important," the highest rating available, was the most selected option. "Not sure" and "very important" were not statistically different from each other but were different from the rest of the available response options.

Compared to residents of the other islands, St. John residents were significantly less likely to respond "not sure." Furthermore, St. John residents were more likely than St. Thomas residents to rate local language and religious practices as "not at all important" (Table C6).

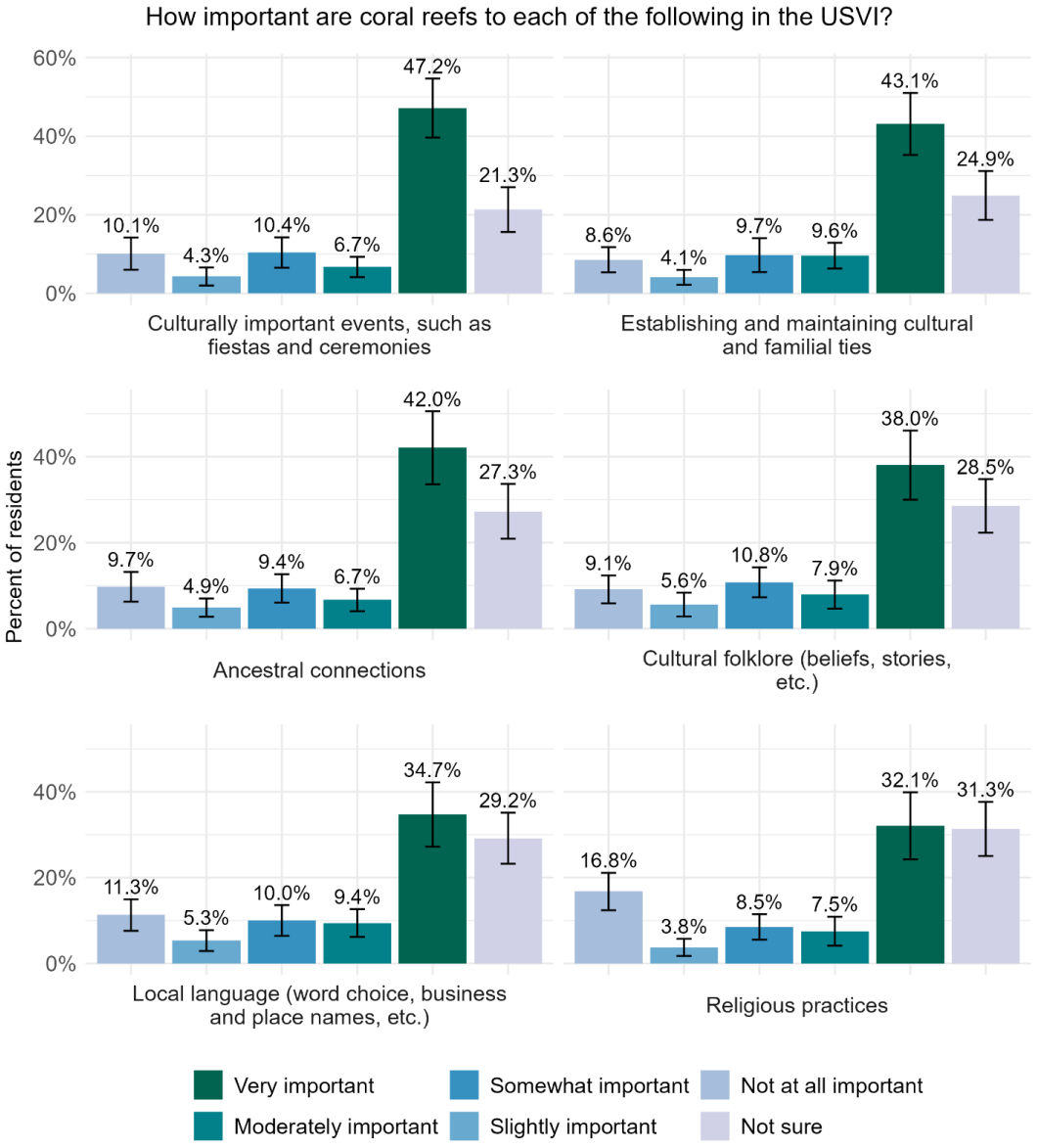


Figure 6. Cultural importance of coral reefs.

4.3 Marine resource importance and perceived conditions

4.3.1 Importance to quality of life

The majority of residents believed that all five marine resources were very important to their quality of life (Figure 7). More residents believed ocean water quality and the health of coral reefs were very important to their quality of life than the amount of lobster. Furthermore, few residents indicated any of the listed marine resources were "not at all important" to their quality of life.

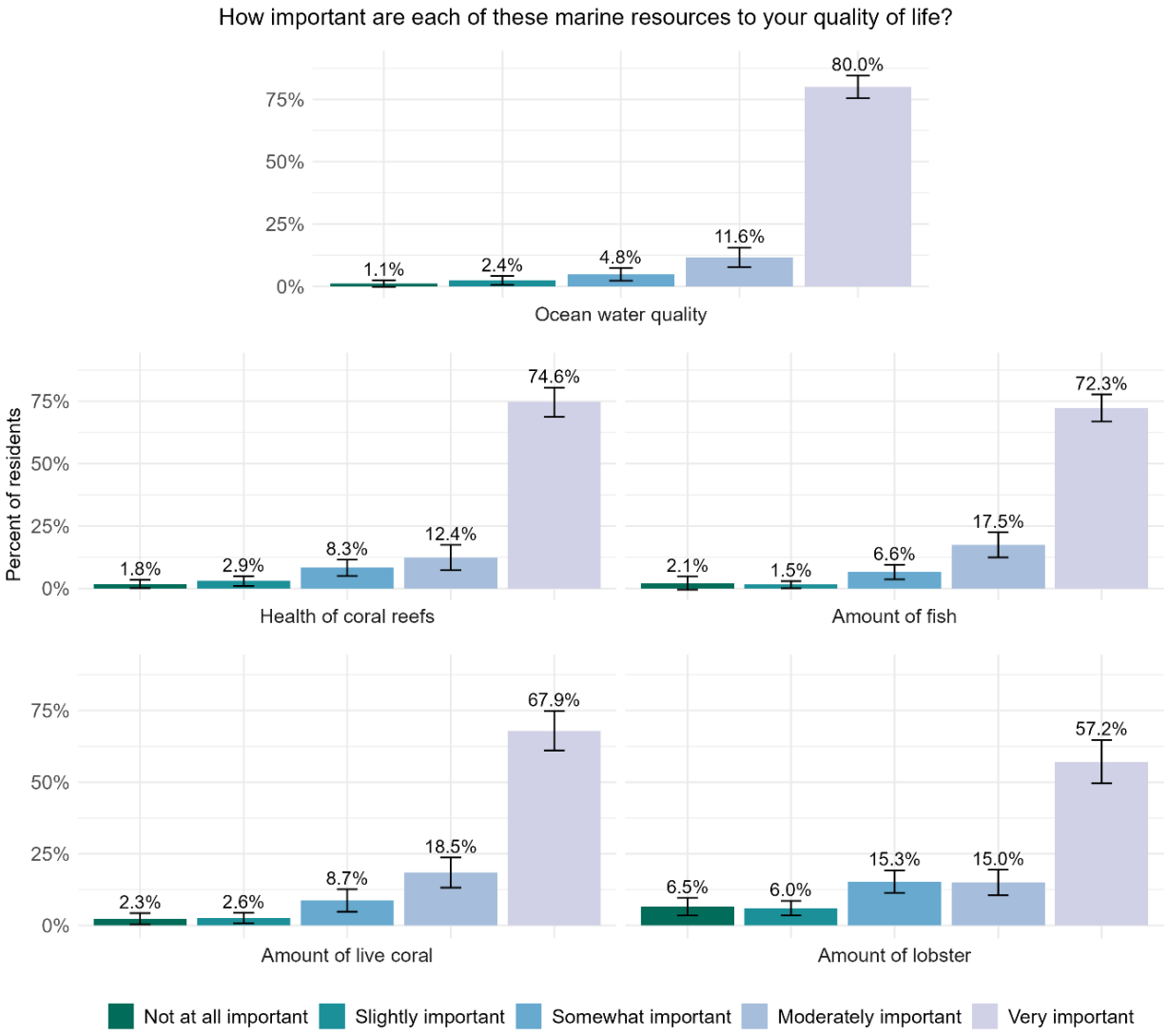


Figure 7. Marine resource importance to quality of life.

4.3.2 Perceived resource conditions

The perceived current condition of marine resources in USVI was generally positive, especially for ocean water quality and the amount of fish, where many residents believed they were in good condition (Figure 8). These two resources also had the lowest uncertainty with a lower proportion of residents answering "not sure." Residents had less certainty on the health of coral reefs—it was the only marine resource with no significant difference between bad and good condition perceptions. St. John residents had more positive perceptions on most resources than the other two islands (Table C8).

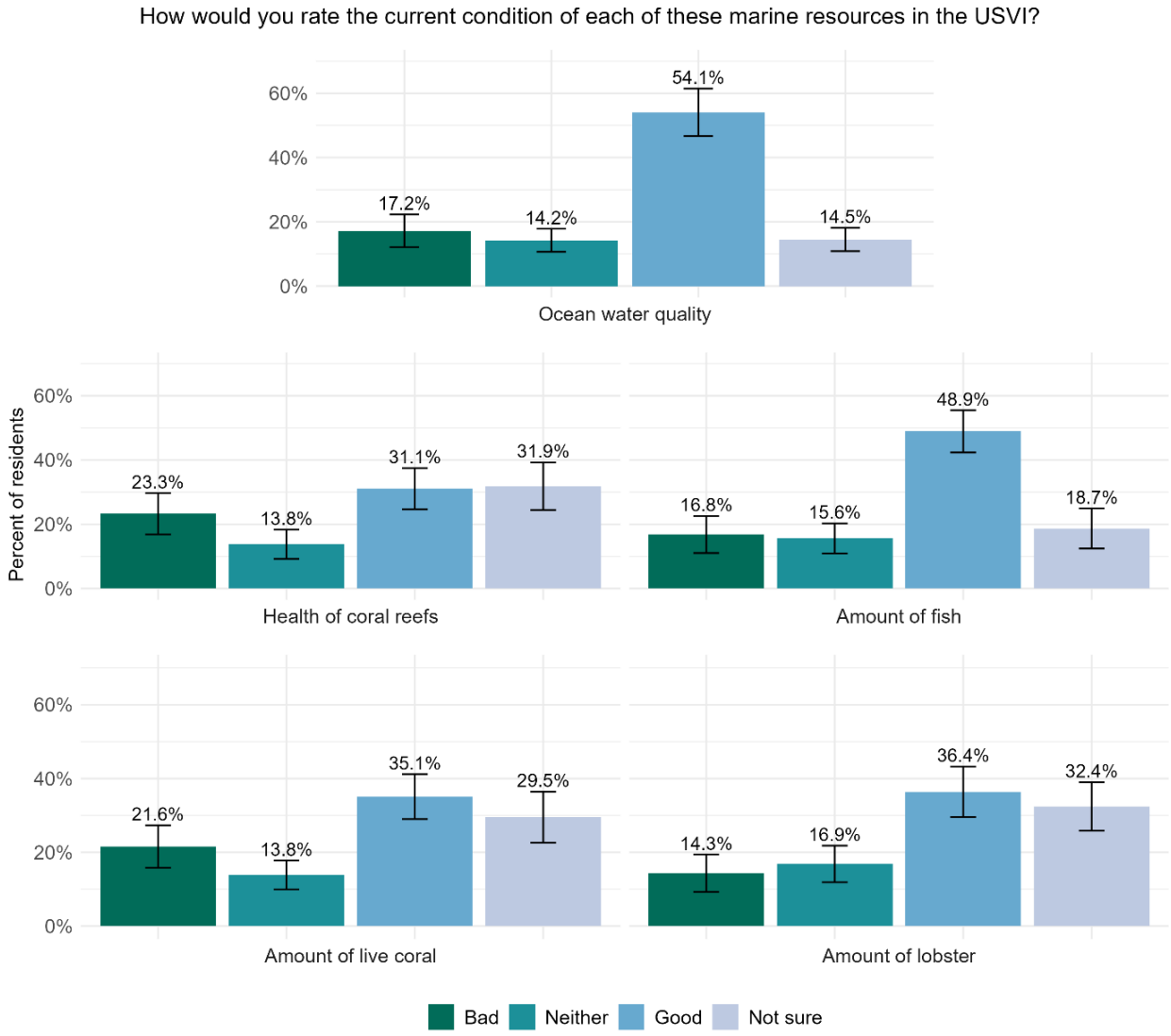


Figure 8. Perceived current resource conditions.

Residents were asked to predict the changes in resource conditions over the next 10 years. For each of the resources, more residents believed conditions would worsen over the next 10 years than would not change or improve. As with the previous question, many residents expressed uncertainty (Figure 9).

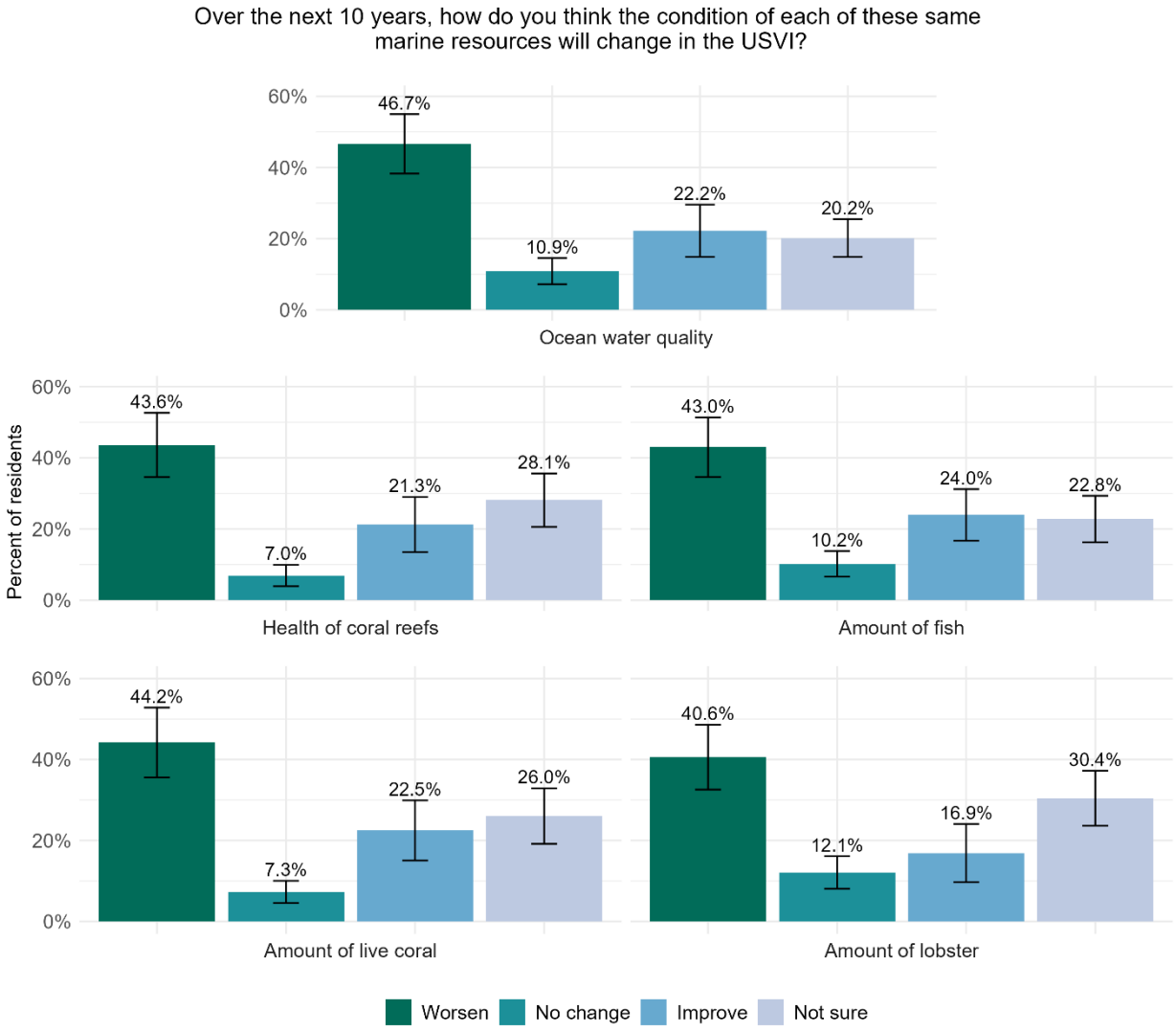


Figure 9. Perceived projected resource conditions (next 10 years).

Figure 10 highlights the relationship between current and projected resource condition responses for the amount of live coral. The width of the relationships is proportional to the quantity of responses to both questions, while the color corresponds to the different ratings of the current resource condition. Out of the 34.3% of residents who believed the current resource condition was good, 37.8% believed the amount of live coral would improve over the next 10 years (13.0% of all residents). Out of the 34.4% of residents who answered the current amount of live coral is

either neutral or bad, a large majority (70.8%) reported they believed the resource will worsen over the next 10 years (24.4% of all residents). These relationships are similar across the other four resources in the survey, and similar diagrams are found in Appendix D.

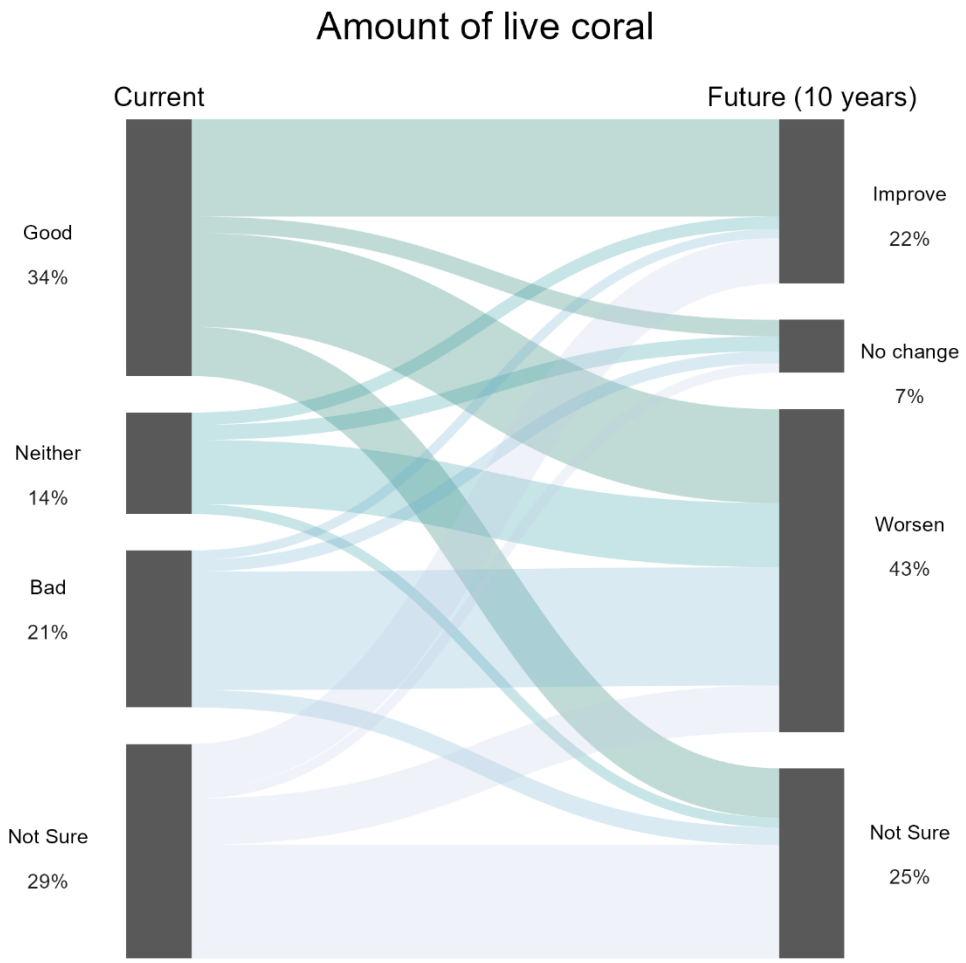


Figure 10. Relationship between current and future perceived amounts of live coral. The Sankey Diagram highlights the flow of responses from ratings of "current resource condition" to ratings of "future resource condition (10 years)."

4.4 Awareness and knowledge of coral reefs

Between 49% and 74% of residents believed coral reefs are very important to each of the listed ecosystem services (Figure 11). The "Your Livelihood" category had the greatest variation among answers compared to the other listed services. St. John residents were the least uncertain in their perceptions of reef importance to the tourism-based economy, reflecting the islands' reliance on tourism (Table C10).

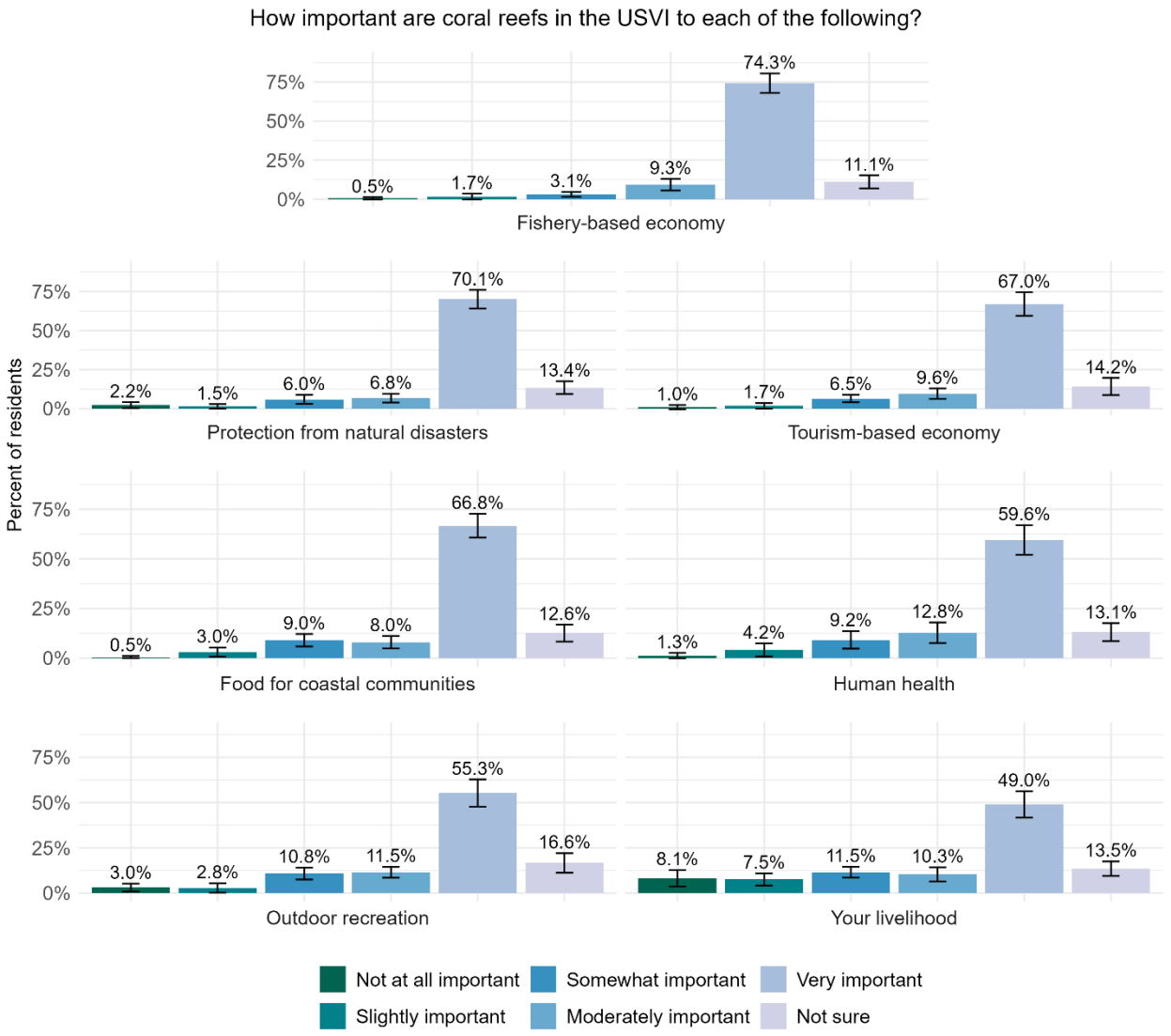


Figure 11. Importance of coral reefs for providing ecosystem services.

Residents were overwhelmingly familiar with threats to coral reefs (Figure 12). The two pollution-related cases had the greatest consensus that they are threats to coral reefs. Despite reporting lower familiarity with coral bleaching and disease, most respondents recognized them as threats. Whether divers and snorkelers pose a threat to coral reefs had the greatest disagreement among residents. The familiarity of threats to coral reefs was generally similar across the three strata (Table C11). One exception was for boat anchoring and grounding—residents of St. Croix and St. Thomas were less likely to report that this was a threat compared to residents of St. John.

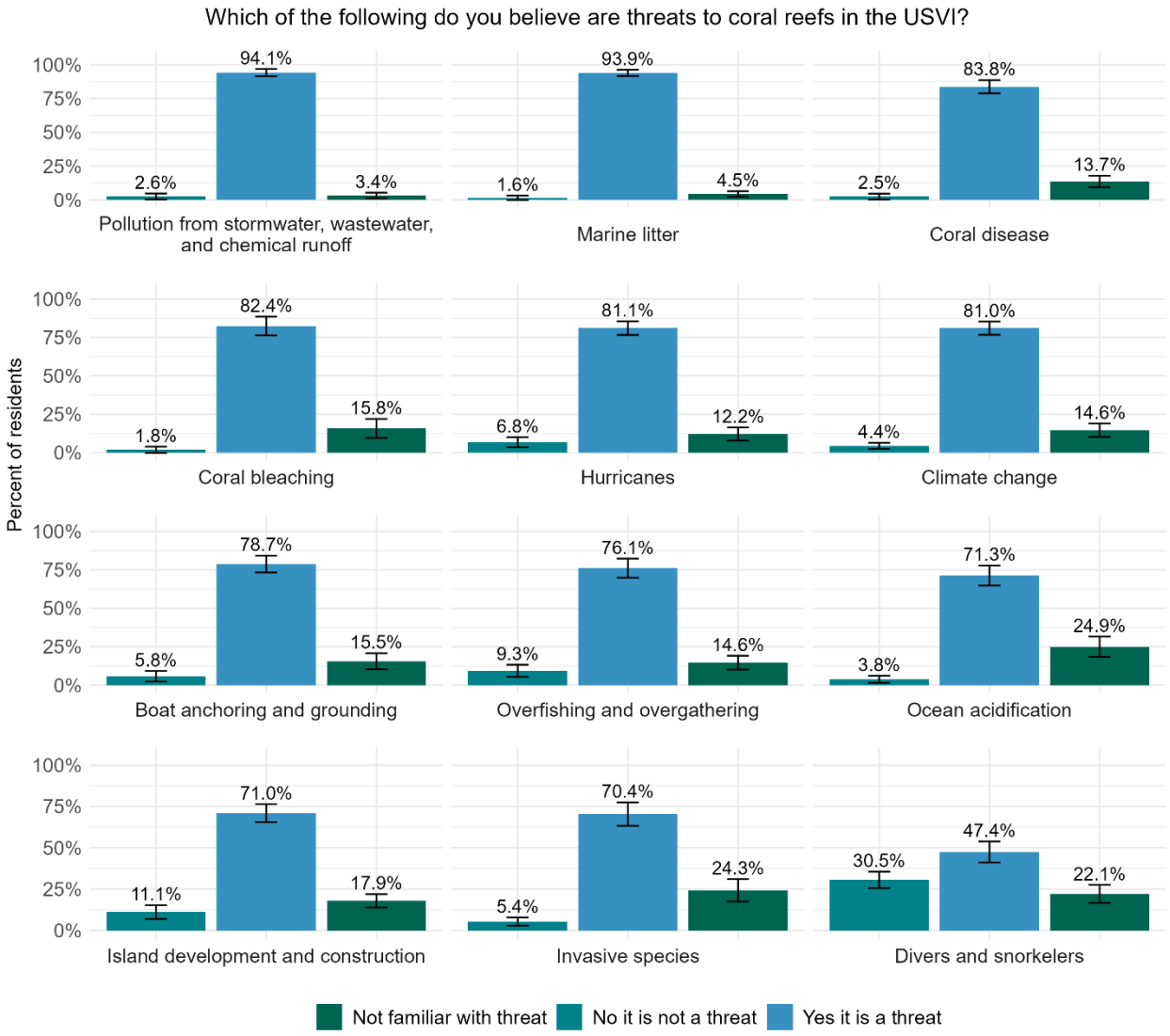


Figure 12. Familiarity of threats to coral reefs.

Residents who reported familiarity with a threat were then asked to rate each threat's severity (Figure 13). A majority of residents identified all of the listed threats as either major or severe except for divers and snorkelers. When assessing the severity of threats, residents across the three strata answered consistently. One exception was fewer residents of St. Croix reported divers and snorkelers as posing severe threats to coral reefs compared to residents of St. John and St. Thomas (Table C12).

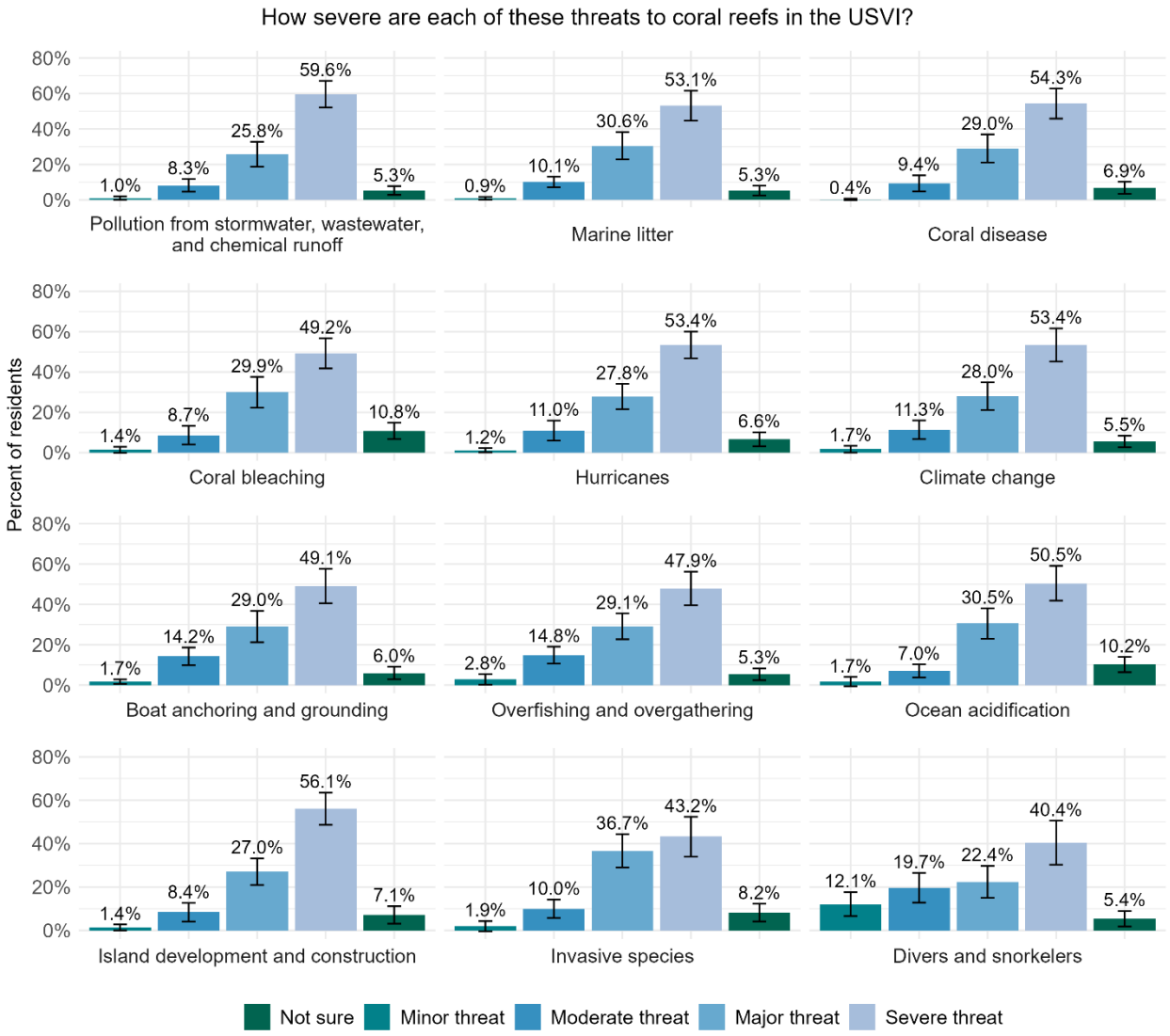


Figure 13. Perceived severity of threats to coral reefs.

4.5 Attitudes toward coral reef management strategies

4.5.1 Marine protected areas

The survey defined a marine protected area (MPA) as "an area of the ocean, such as reserves and marine parks, where particular human activities are managed to protect living, non-living, cultural, and/or historic resources" (Appendix A). Prior to taking the survey, 46% of residents were aware of existing MPAs in the USVI. Fewer residents of St. Thomas (34%) were familiar with MPAs than St. Croix (55%) and St. John (64%) (Table C13). Out of USVI residents who were familiar, most believed that MPAs improved different components of the ecosystem and

economy, but that did not extend to their own livelihood where a similar percentage of residents reported MPAs to have no impact on or improvement of their livelihood (Figure 14).

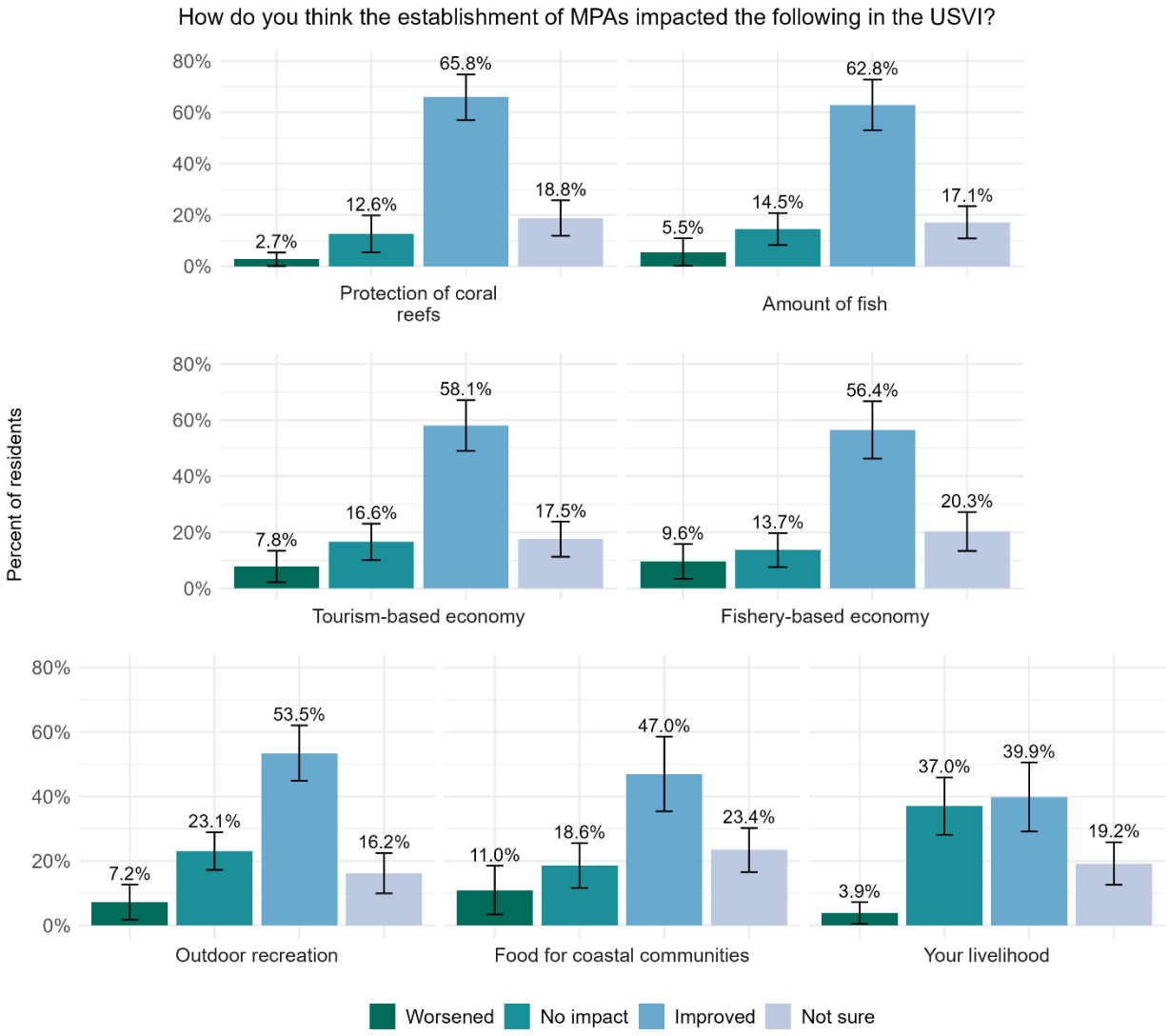


Figure 14. Perceived impacts from marine protected areas.

4.5.2 Support for management strategies

A majority of residents indicated support for each of the management strategies (Figure 15), and levels of support were generally consistent across the three islands (Table C15). Establishing new requirements for improved wastewater management had the highest level of support with 78.1% of residents selecting “somewhat support” or “strongly support.” In contrast, imposing a

license requirement and fee for recreational fishers was rated with the most opposition (29.1%) out of all listed management strategies.[7]

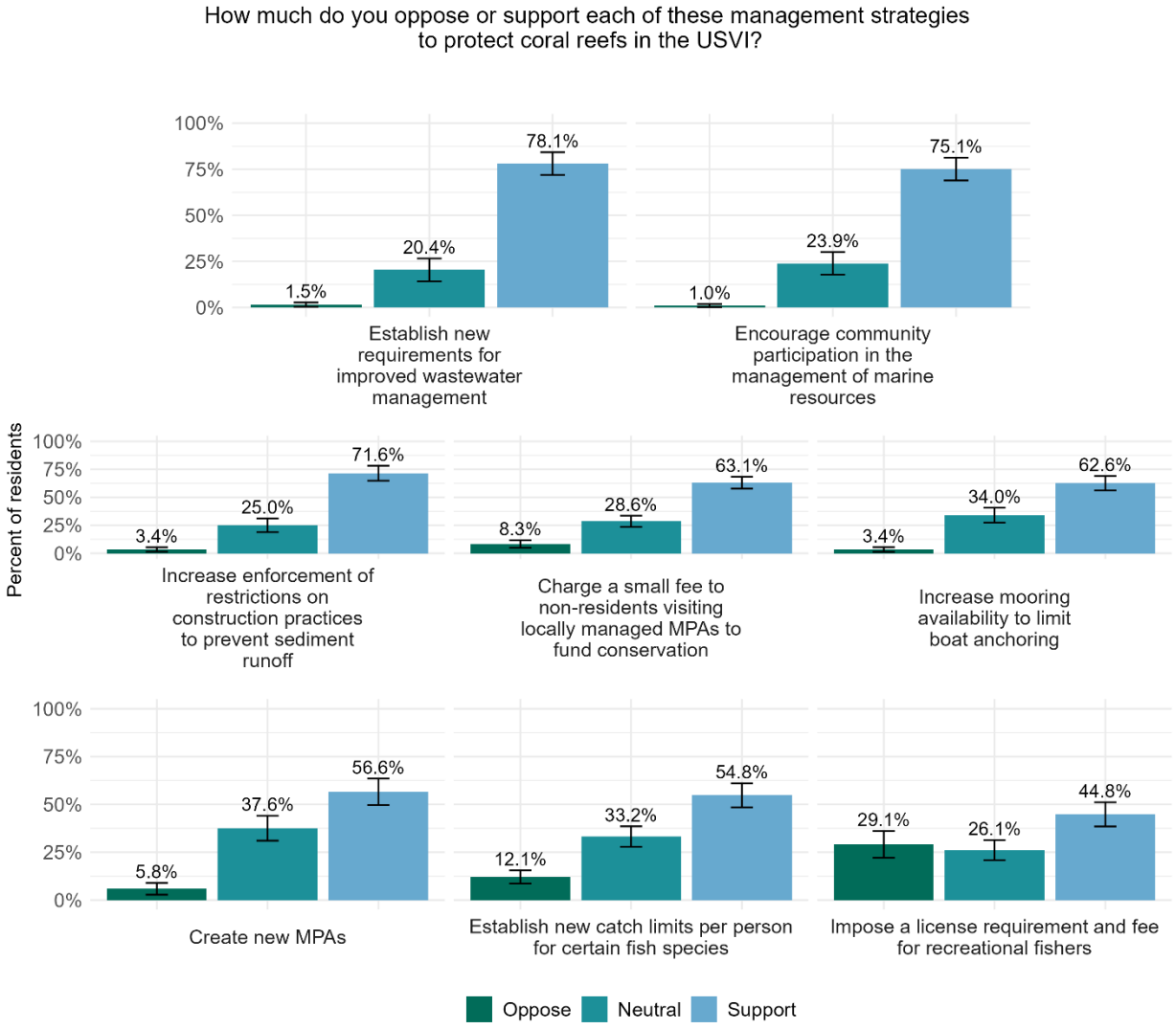


Figure 15. Support for coral reef management strategies.

4.6 Participation in behaviors that may improve coral reef health

A majority of residents (66%) reported that it is very important for USVI residents to engage in activities that help protect coral reefs, and less than 2% reported it would be not at all important (Table C16). There was a range in reported participation for routine behaviors—over 85% of

[7] In August of 2025 (after the survey data collection was completed), the U.S. Virgin Islands Recreational Licensing System was released, applying to residents. See: https://www.gooutdoorsusvi.com/resources.

residents reported routinely reducing household use of electricity, while 39% of residents reported participating in composting (Figure 16).

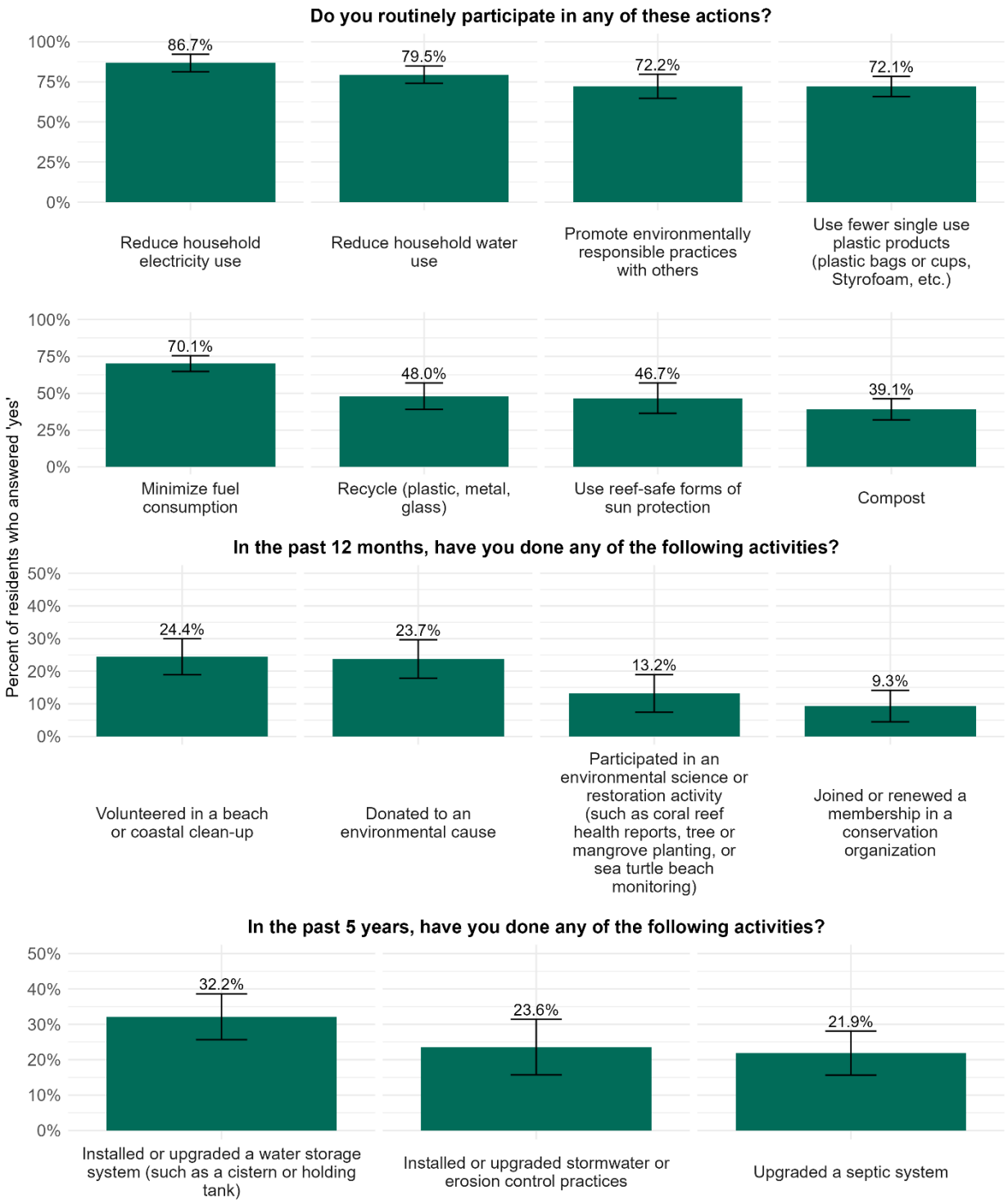


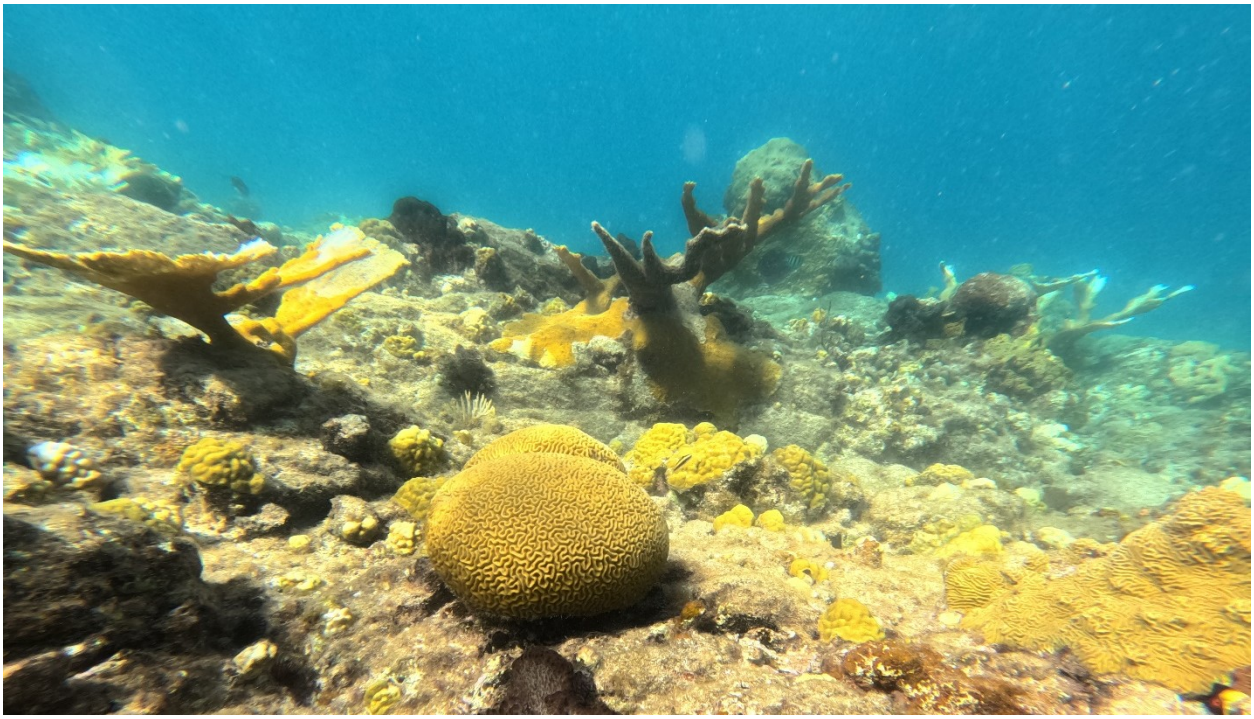
Figure 16. Participation in pro-environmental behaviors.

Approximately a quarter of residents reported volunteering in a beach or coastal clean-up or donating to an environmental cause in the last 12 months (Figure 16). Fewer reported participating in an environmental science or restoration activity (13.2%) or being a member in a conservation organization (9.3%). For the participation in a conservation organization, residents of St. John had higher levels of reported participation (24%) compared to St. Croix (6.2%) (Table C19). When examining the reasons residents reported for not participating in these activities, "I have not had the opportunity" was most frequently selected for each of the annual behaviors, aside from the option "none of these reasons" (Table C20).

For long-term behaviors, approximately a third of residents reported installing or upgrading a water storage system (Figure 16). While 24% reported installing or upgrading stormwater or erosion control practices, 22% reported upgrading a septic system. Rates of reported participation were consistent across island strata (Table C22).

4.7 Awareness of coral reef rules and regulations

Residents were asked how acceptable or unacceptable they considered a range of practices affecting coral reefs and resources. The majority of residents reported most of the listed coral reef behaviors were very unacceptable. Residents were more ambivalent toward feeding marine animals and harvesting resources in MPAs (Figure 17). Notably, most residents (83.7%) felt that leaving trash on the beach was very unacceptable. Residents of St. John were more likely to report the behaviors as very unacceptable compared to residents of St. Thomas (Table C23).



Coral reef in St. Thomas, USVI. Photo credit: M.E. Allen (Lynker, Inc./NOAA CRCP).

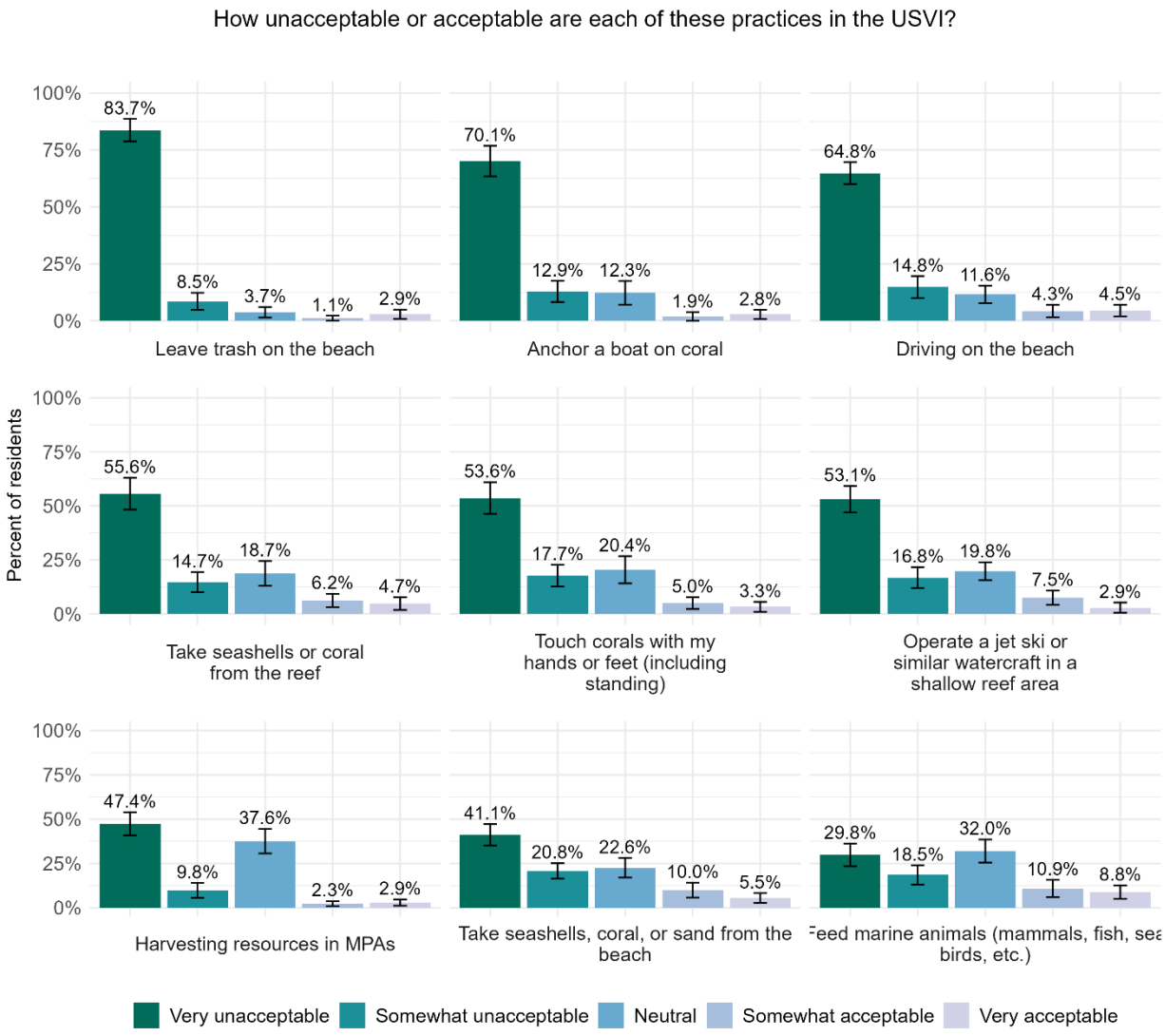


Figure 17. Acceptability of behaviors that may impact coral reefs.

5. Results: Comparison between 2017 and 2025

With two monitoring cycles of survey data from 2017 and 2025, NCRMP can track how human connections with coral reefs may be changing over time, where data are available. The 2017 cycle surveyed a non-probability convenience sample of USVI residents in-person at 30 public locations (e.g., grocery stores, retail stores, parks, marinas, resorts, etc.) and via telephone for a total of 1,187 surveys (Gorstein et al., 2019a).[8] Because 2017 relied on a non-probability sample,

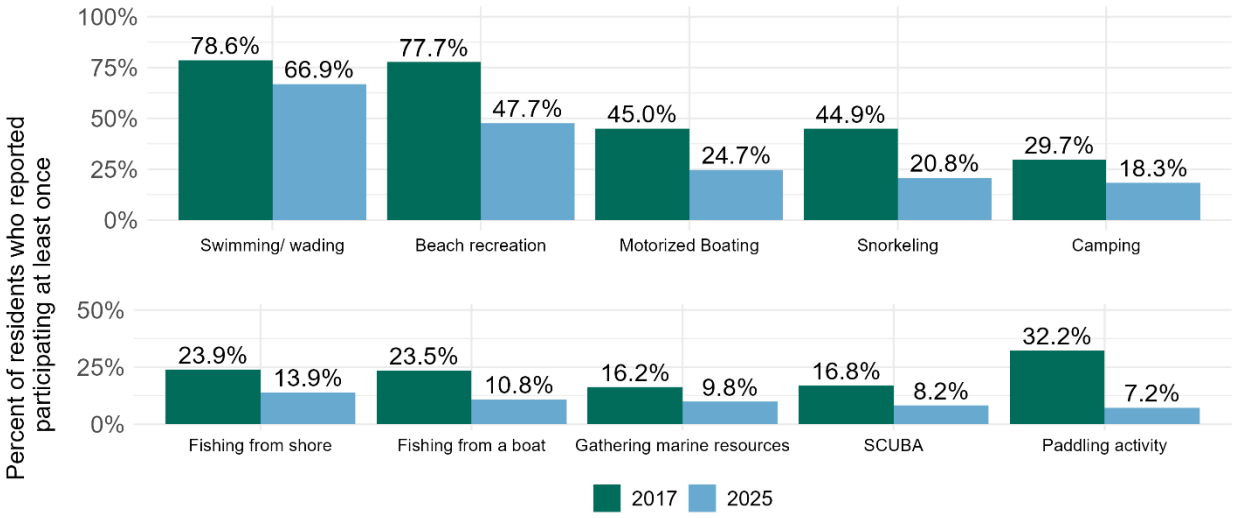
[8] A non-probability convenience sample means participants were surveyed based on location and availability rather than chosen at random. For example, interviewing people at parks and marinas potentially over-represented residents who participate in outdoor recreation. Because the 2017 sample lacks a randomized design, standard statistical tests cannot determine whether differences between 2017 and 2025 reflect true changes over time or simply differences in how the data were collected.

these results cannot be statistically compared to 2025 survey data or extrapolated to represent all USVI residents. The 2025 cycle improved sampling methods by adopting a probability design, enabling the data to be representative of the USVI resident population, and allowing results to be generalized with statistical confidence. A total of 624 surveys were completed in-person by residents at randomly selected households, and results were weighted and adjusted for nonresponse (Appendix B). While statistical testing for trends was not conducted, the results from both cycles provide insight into residents' perceptions of coral reefs.

The islands have undergone a lot of change between the two survey cycles. In the fall of 2017 (months after the first cycle completed data collection in USVI), Hurricanes Irma and Maria, two Category-5 hurricanes, caused catastrophic damage to the islands (NOAA CRCP, 2021). Along with physical damage, existing outmigration trends accelerated in the aftermath of the hurricanes. The USVI population declined 19% between the 2010 and 2020 U.S. Decennial Censuses (U.S. Decennial Census, 2020).

5.1 Participation in coral reef activities

In both 2017 and 2025, residents most often participated in swimming/wading and beach recreation (Figure 18). In 2025, paddling was the lowest reported activity, and in 2017, gathering marine resources was the lowest reported activity.



2017 Question: How often do you usually participate in each of the following activities?
2025 Question: In the past 12 months, approximately how often did you participate in each of these activities in the USVI?
Note that 2017 and 2025 sample designs differed.

Figure 18. Resident participation in coral reef activities during 2017 and 2025.

5.2 Seafood consumption

Frequency of seafood consumption in 2017 and 2025 was examined, but along with a difference in sampling design, there was a difference in question scale for this topic. Overall, the percentage of residents who reported consuming seafood decreased in 2025. In 2017, 95% of residents ate seafood at least once a month (Gorstein et al., 2019a). In 2025, 89% of residents reported that on average, at least some of their meals included seafood (Figure 5).

Generally, there were similar patterns in consumption of seafood harvested from local coral reefs and more certainty about where their seafood came from. In 2017, 70% of residents ate seafood harvested from coral reefs, including snapper, grouper, parrotfish, old wife, trigger fish, lobster, or conch; 6.5% were not sure. In 2025, 73% of residents reported that, on average, their household ate seafood from local reefs in USVI as part of their meals; 1.1% were not sure.

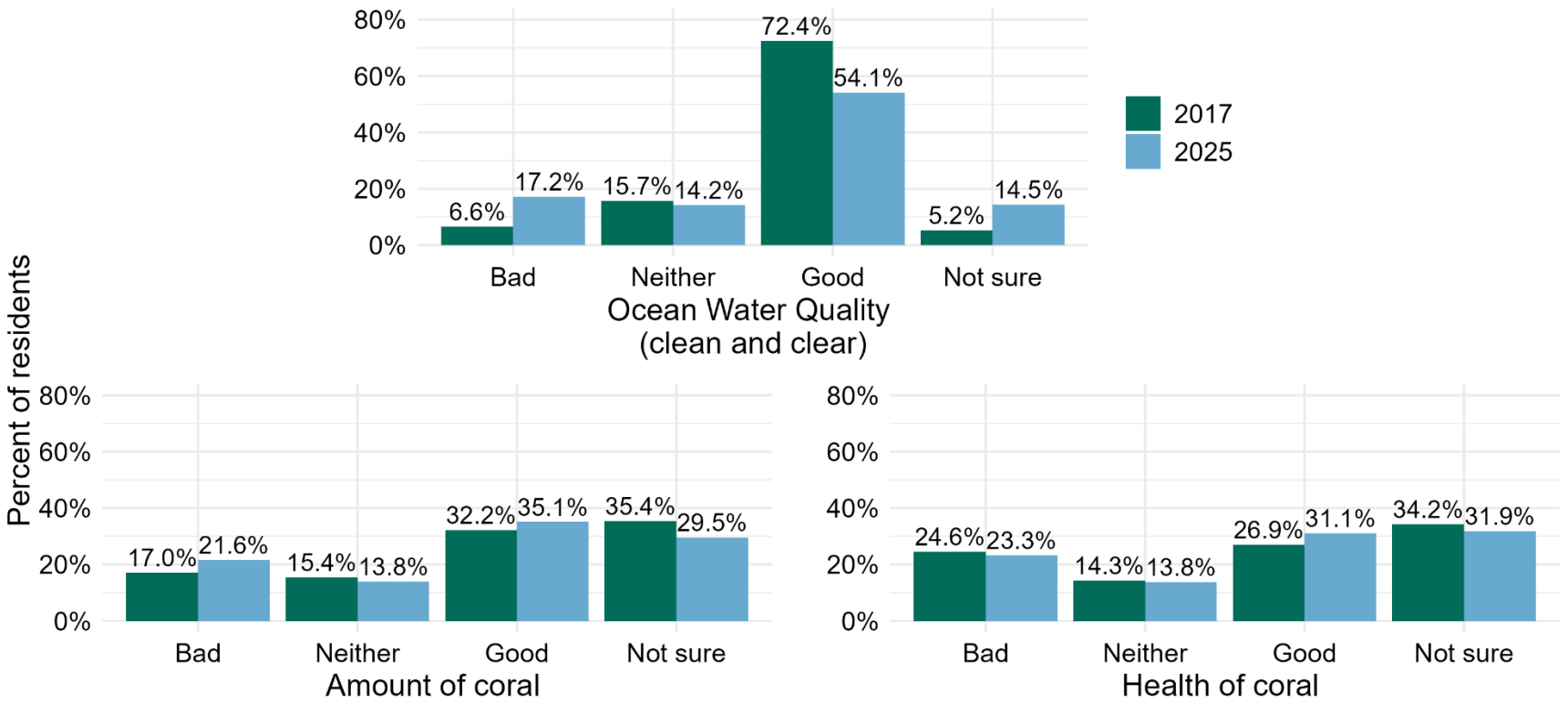
5.3 Importance of coral reefs

Two statements regarding the importance of coral reefs were rated by survey respondents in 2017 and 2025, but there was also a difference in question scales. In 2017, the majority (79%) of residents agreed that coral reefs protect the USVI from coastal erosion and natural disasters; 80% of residents agreed that coral reefs in good condition provide food for island communities to eat (Gorstein et al., 2019a). In 2025, residents rated the importance of those two coral reef benefits. The majority (84%) of residents rated coral reefs in USVI as being "slightly to extremely" important to protection from natural disasters; 87% of residents rated coral reefs in USVI as being "slightly to extremely" important to food for coastal communities (Figure 11).

5.4 Perceived resource conditions and threats

Both the 2017 and 2025 surveys asked about the current condition of three marine resources: ocean water quality, amount of coral, and health of coral (Figure 19). In both years, there were similar perceptions of coral abundance and coral health, with approximately one-third indicating they were unsure about the condition of corals. In 2017, 69% of respondents believed ocean water quality was in good condition, but in 2025, this percentage decreased to 54% and there was more uncertainty about the status of this resource.

Residents' familiarity with potential threats to coral reefs in 2017 and 2025 was also explored. In 2017, most reported being familiar with hurricanes (87%), pollution and runoff (79%), and ocean dumping/littering (72%) as potential threats to coral reefs in USVI; they were least familiar with threats from scuba divers and snorkelers (45%) and coral bleaching (47%). In 2025, 47% believed divers and snorkelers were a threat to coral reefs and 82% believed coral bleaching a threat, suggesting an increase in awareness of these topics.



2017 Question: In your opinion, what is the current condition of the USVI's marine resources on the island of your residence?

2025 Question: How would you rate the current condition of each of these marine resources in the USVI?

Figure 19. Resident perceptions of current resource conditions in 2017 and 2025.

5.5 Attitudes toward coral reef management strategies

Approximately half of USVI residents were familiar with MPAs in both survey years, although there were some differences in the way MPAs were defined and asked about in the survey.

In 2017, 55% of respondents were familiar with MPAs. The 2017 survey defined an MPA as "an area of the ocean where human activity is typically restricted to protect living, non-living, cultural, and/or historic resources such as conservation areas and sanctuaries."

In 2025, 46% of residents were aware of existing MPAs in the USVI. The 2025 survey defined an MPA as "an area of the ocean, such as reserves and marine parks, where particular human activities are managed to protect living, non-living, cultural, and/or historic resources."

Three statements rated by respondents in 2017 and 2025 on the impacts of MPAs were examined, but no statistical comparisons were made due to differences in survey questions and scales (Figure 20). The 2017 survey asked respondents how much they agreed or disagreed with statements about MPAs; the 2025 survey asked respondents how much MPAs had improved or worsened outcomes specifically in USVI. Despite differences in question structure, overall, the results for both years suggest that the population perceived MPAs had positive impacts on coral reef protection, the amount of fish, and tourism-based economy. However, in 2025, higher percentages of residents indicated they were not sure what type of impact MPAs have had in the USVI.



Swimmers at Magens Bay, St. Thomas, USVI. Photo credit: M.E Allen (Lynker, Inc./NOAA CRCP).

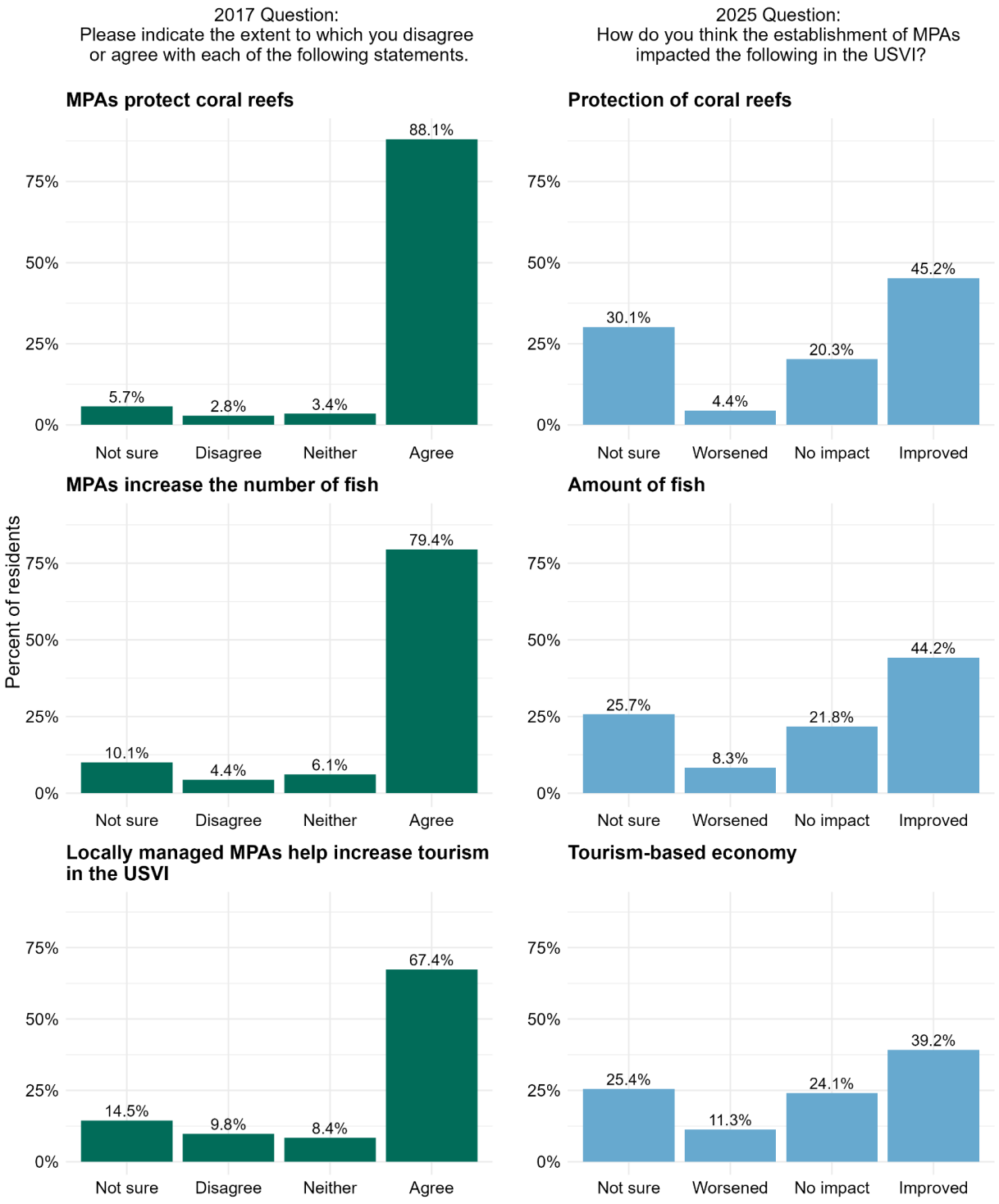


Figure 20. Residents' perceptions of marine protected area impacts in 2017 and 2025.

Residents' attitudes toward two different management strategies for wastewater and construction practices were generally positive in 2017 and 2025, despite a shift in survey question wording

(Figure 21). In 2017, the majority of respondents agreed with increased enforcement of wastewater and stormwater regulations to preserve water quality and more restrictions on construction practices to prevent sediment going to sea. In 2025, most residents supported both of these management strategies in USVI, although nearly one-third expressed neutral opinions.

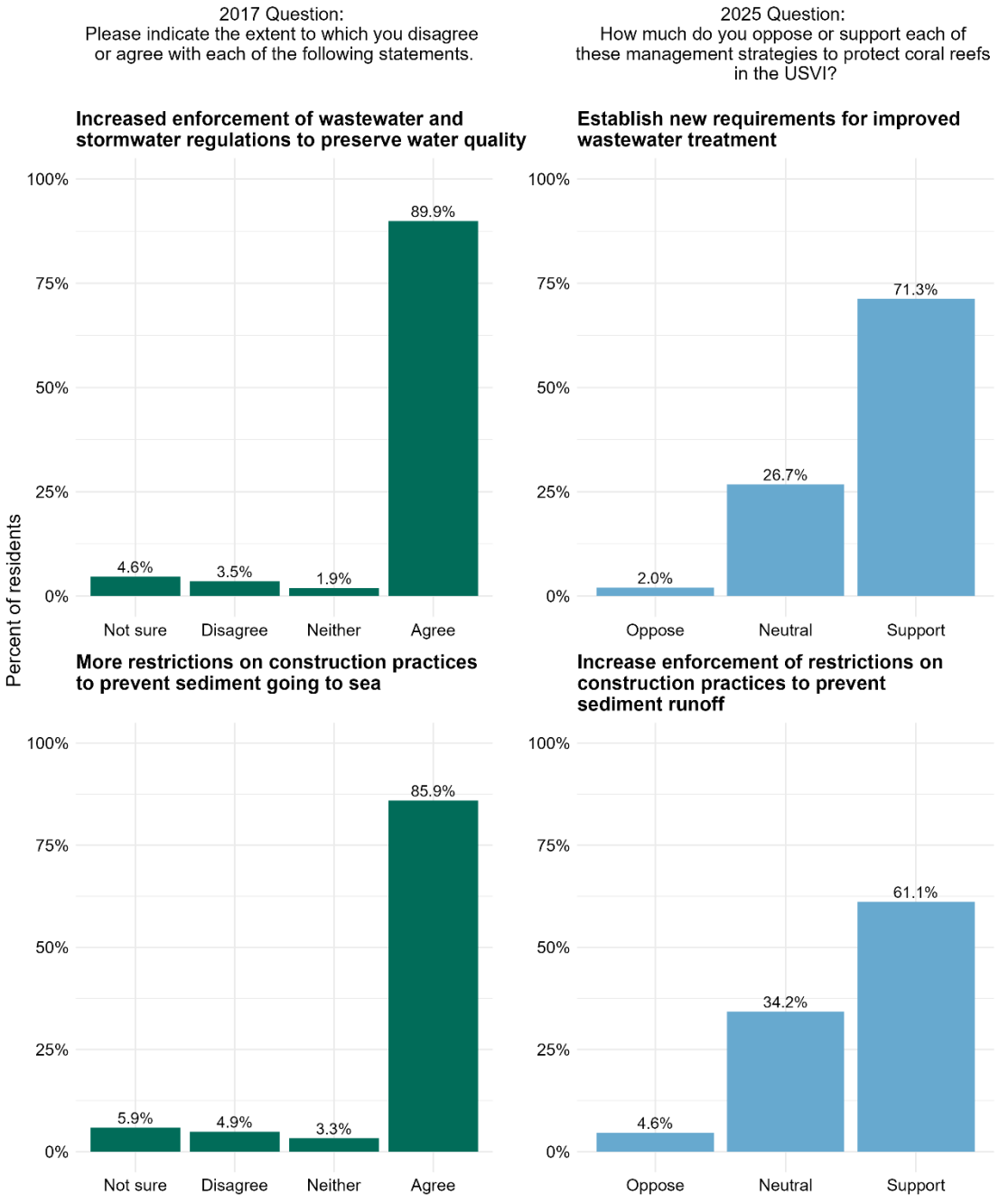


Figure 21. Residents' support for management strategies in 2017 and 2025.

6. Discussion

The results from the 2025 NCRMP socioeconomic survey can inform coral reef management on the perceptions, beliefs, and attitudes that are held by residents in USVI. Based on the survey findings, some general inferences about the resident population of USVI in 2025 and their connections with coral reefs are evident. There are also some notable patterns between 2017 and 2025 that may be informative for management and outreach strategies.

Participation in coral reef activities

Beach recreation and swimming/wading were the most common activities among USVI residents in both 2017 and 2025, but frequency of participation in all activities decreased in 2025. The decline in participation rates may reflect demographic shifts in the USVI associated with factors such as destruction from major hurricanes, high living costs, limited economic and educational opportunities, and relocation to the continental U.S. (U.S. Census Bureau, 2020). Differences in participation across activities may also be influenced by factors such as cost, required equipment, skill level, personal interest, and accessibility. For example, relatively low participation in scuba diving may be attributable to the high costs and personal investment associated with the activity. Spatial variation in participation across St. Croix, St. Thomas, and St. John may further reflect differences in environmental characteristics, management regulations, or the presence of MPAs. Continued access to coastal-marine activities and the quality of those experiences are closely tied to ecosystem conditions, preferences, and perceptions of resource quality (Manning, 1999). Swimming and wading depend on clean ocean water quality and the perception of that quality for public health and safety but may also affect coral reef health by introducing toxic sunscreen residues or other transferable chemicals. Other environmental factors, such as the influx of sargassum on USVI beaches may also discourage swimming/wading and beach recreation while contributing to significant negative economic impacts (Jin, Wang, & Dalton, 2025).

Importance of coral reefs

The majority of residents recognized that coral reefs provide a variety of ecosystem services to USVI communities. There was general consensus that coral reefs are very important to the fishery-based economy, coastal protection, tourism, human health, and food for coastal communities. These benefits are connected to social values, beliefs, and the ways in which people interact with the coastal-marine environment. Eighty percent of residents believed that ocean water quality is important for their quality of life, which aligns with swimming/wading and beach recreation being common activities among USVI residents. Additionally, most residents believed that coral reefs provide important coastal protection. Together, these findings suggest that public outreach and education efforts linking coral reef management to recreation and quality of life could resonate with residents. For example, outreach materials could include messages highlighting how healthy coral reefs support activities residents enjoy, such as swimming, fishing, boating, and beach recreation.

Residents also believed that ***coral reefs are important to local culture, most notably to culturally important events and to establishing and maintaining cultural and familial ties.*** Many cultural traditions in the Caribbean are closely linked to coral reef fisheries and the region's history. Fishing has long been central to resident's identity and plays a role in sustaining social networks among fishers (Valdés-Pizzini et al., 2010; Stoffle, 2011). Coral reef fisheries also contribute to local food systems. This survey found that most residents consumed seafood regularly and approximately 25% reported fishing for subsistence or cultural purposes. Although these results are not representative of all fishing communities, they underscore the important role of marine resources in food security and cultural perpetuation, and highlight the broader significance of coral reef management. Social processes in maintaining cultural and familial ties are important in forming beliefs and perceptions about coral reef resources, which in turn, can influence collective action and behavior (Grace-McCaskey et al., 2023). Social influence strategies may enhance communication efforts by highlighting shared values and social norms that support conservation objectives (Allen et al., 2022; Barnes et al., 2019). By emphasizing community support for reef stewardship and sustainable practices, these approaches can help foster attitudes and behaviors that align with conservation goals.

Perceived resource conditions

USVI residents generally believed that ***ocean water quality and the amount of fish were in good condition, but there was uncertainty about the health of coral reefs.*** Residents identified these three marine resources as extremely important to their quality of life, which is not surprising given residents' participation in swimming/wading, beach recreation, and fishing activity. As such, concerns about ocean water quality may carry important implications for public health and safety messaging. Poor water quality can also negatively affect coral reef health and the availability of fishery and other marine resources that residents may depend on for subsistence or cultural practices. Effective management of these resources is especially important given that more than 40% of residents believed that the condition of coral reefs and marine resources in the USVI will worsen over the next decade.

These findings on perceptions can be further understood in conjunction with actual biophysical conditions being observed. For instance, NCRMP biological monitoring data indicate that hard coral cover has remained steadily low since 2019 in St. Thomas and St. John, and since 2021 in St. Croix, after the arrival of SCTLD in each region, respectively (Viehman et al., 2025). This survey found that residents' perceptions of the amount of live coral were mixed. Notably, approximately 30% of residents were unsure about the amount of live coral or the health of coral reefs in USVI. This uncertainty highlights a potential opportunity for designing information campaigns to enhance awareness of coral conditions and issues contributing to coral decline. Such efforts may be particularly important given that relatively few residents participate in scuba diving or underwater activities that provide direct opportunities to observe coral reef conditions. Residents' awareness of threats to coral reefs provides additional context for understanding perceptions of reef health and condition.

Awareness of threats to coral reefs

USVI residents believed ***pollution (from stormwater, wastewater, chemical runoff), island development and construction, marine litter, and coral disease were the most severe issues.*** These threats to coral reefs encompass both local stressors that can be addressed through management actions and changes in human behavior, such as reducing marine litter and preventing anchor damage, as well as broader environmental threats, including hurricanes and coral bleaching. Ocean acidification and invasive species were the least familiar coral reef threats, with approximately 25% of residents reporting no familiarity with these issues and 10% expressing uncertainty regarding their severity. This finding is relatively consistent with awareness levels reported by residents in other U.S. coral reef jurisdictions (Allen et al., 2021, 2022, 2023, 2024a, 2024b, 2025). Continued outreach can help enhance public awareness of the effects of changing ocean conditions and their effects on both coral reefs and the ecosystem services that support people in the USVI. Given recent thermal stress and coral bleaching events, the spread of SCTLD, and the potential impacts of a new invasive soft coral (Toledo-Rodriguez et al., 2024), ongoing monitoring of residents' perceptions and awareness of reef threats will be important. Tracking changes in these perceptions can help evaluate the effectiveness of outreach efforts in increasing public understanding of coral reef issues and inform engagement for management strategies aimed at addressing emerging threats.

Attitudes toward coral reef management strategies

Nearly half of residents were aware of existing MPAs in USVI, with residents of St. John being most familiar, followed by St. Thomas and St. Croix residents. Over 60% of residents believed that ***MPAs in USVI have improved protection of coral reefs and the amount of fish.*** These findings suggest that residents recognize there are positive effects associated with MPAs in USVI. Differences in MPA perceptions across islands may be influenced by proximity to MPA locations and how long MPAs have been active. The island-level results of familiarity with existing MPAs are consistent with MPA locations around the islands. High levels of familiarity with MPAs may reflect the prominence of several well-established marine reserves across USVI, including the Virgin Islands National Park, which covers about 60% of St. John; the Buck Island Reef National Monument and East End Marine Park in St. Croix; and the St. Thomas East End Reserves. Within these areas, regulations vary, with different requirements for access and restrictions on allowable activities.

Regarding the effects of MPAs, residents were less certain about their impacts on livelihoods and food resources for coastal communities. This finding is particularly important given residents' high reliance on seafood and their participation in subsistence or cultural fishing. Differences in perceptions may be related to the types of fishing practices residents engage in or activities that are allowed within MPAs. For example, because residents were less likely to fish for commercial purposes, they may have been less aware of MPA impacts to fishery-based economies. Although residents recognized multiple benefits of MPAs, targeted communication efforts may help

increase awareness of the ways MPAs also support livelihoods, community well-being, and local economies (Medoff et al., 2022; Baker et al., 2025).

Information on residents' attitudes can help managers and decision-makers better understand which resource management strategies are most likely to receive public support. This survey found ***strong support for management actions aiming to improve wastewater management, prevent sediment runoff from construction, and encourage community participation in marine resource management.*** Support for these management strategies is consistent with residents' values, perceptions of resource conditions, and awareness of threats to reefs. For example, new requirements for wastewater treatment could help address residents' concern about pollution and their perception that ocean water quality may deteriorate in the future. Similarly, strong support for community participation suggests that residents value having a voice in coral reef management and decision-making processes. Previous research has shown that meaningful community participation is critical to building trust in management and promoting fair decision-making processes and outcomes (Bennett et al., 2019). Effective participation depends on governance structures that foster transparency, accountability, coordination, legitimacy, and adaptability, while providing accessible mechanisms for stakeholder engagement. Strengthening these processes may also help reduce conflicts associated with management strategies that received less support in this survey, such as additional fishing restrictions or access requirements. By incorporating local knowledge and stakeholder perspectives into management decisions, agencies may be better positioned to build public support for conservation measures and improve their long-term effectiveness.

Conservation behaviors

About 66% of residents believed that it is very important for USVI residents to engage in activities that help protect coral reefs, suggesting that many view coral reef stewardship as a shared community responsibility. Accordingly, residents reported regularly engaging in several conservation-oriented behaviors, including reducing household electricity and water use, encouraging environmentally responsible practices among friends and family, limiting the use of single-use products, and minimizing fuel consumption. Additionally, 13% of residents participated in an environmental science or restoration activity within the past year. Expanding opportunities for community-based conservation could provide additional opportunities for residents to participate in reef conservation. Volunteer programs and citizen science initiatives, in particular, can provide meaningful ways for residents to contribute directly to coral reef conservation.

Residents also provided their perceptions on whether they believed certain behaviors (following rules and regulations) near or within coral reef ecosystems were acceptable or unacceptable. Most residents believed it was unacceptable to leave trash on the beach, anchor a boat on coral, and drive on the beach. Residents were more ambivalent about whether or not it was acceptable to feed marine animals or harvest marine resources in MPAs, which are established in USVI regulations. Targeted outreach may be needed about these behaviors and their role in

conservation. This could include adding signage at highly-frequented beaches reminding beachgoers about “leave no trace” principles and respect for wildlife and their role in helping the environment.

It should be noted that some of these coral reef behaviors or best practices may not have been applicable to all survey respondents depending on the types of marine activities they typically engage in. Certain coral reef behaviors are often more relevant to and socially enforced through norms held among subgroups (e.g., scuba divers, recreational anglers) in certain contexts. Results from this survey suggest these norms are present among the broader resident population and consistent with desired behaviors set in management regulations. The findings on acceptable coral reef conduct may have further implications for compliance and enforcement of behaviors when examined by activity subgroups.

When interpreting these results, it is important to note the possibility that responses to some questions can be affected by cognitive and behavioral biases. In particular, social desirability bias (inherent in most social surveys), resulting in more favorable responses to certain topics (e.g., pro-environmental behaviors). This may have led to responses about conservation actions undertaken by respondents being inflated. Thus, the results should be interpreted with caution and viewed as broadly indicative of the population’s actual behavior. Research utilizing different methods (e.g., participant observation) can help to validate, triangulate, and contextualize such data in the future. Further, as pressures and threats to coral reefs may evolve over time, residents’ understanding of conservation actions may also change, underscoring the importance of monitoring to inform efforts to leverage stewardship outcomes into the future.

6.1 Future research and monitoring

There were lessons learned from the second NCRMP socioeconomic data collection in USVI related to the sampling design, data collection, and analysis. The 2025 data collection improved the sampling methods to achieve representative samples in all three islands of St. Croix, St. Thomas, and St. John, allowing for data to be representative of USVI as a whole and within its three island strata. The survey was also administered via a mixed-mode approach of in-person and online surveys, making use of both traditional and modern survey resources to achieve higher response rates. Future monitoring may consider offering the survey in additional languages or further increasing the sampling resolution in order to better understand different subpopulations and spatial patterns in USVI and expand how NCRMP socioeconomic data can be used to inform management decisions. It is also important that nonresponse data are collected to determine more accurate response rates and representation of the data. This was a limitation of the first monitoring cycle.

As NCRMP is a national monitoring program with the goal of measuring 13 socioeconomic indicators over time, there is limited ability to change the survey instrument. However, minor changes were made to some of the 2025 survey questions to improve measurement validity,

accuracy, and reliability of the indicators. Future complementary research could ask about the impacts of coral reef threats on particular resource conditions, and further analysis could examine the links between residents' awareness of threats and their perceptions of resource change. Related, additional studies could further examine ocean literacy, social risks of ecosystem issues, and behavior change. Additional analyses or studies could also examine how level of support and perceived benefits of MPAs vary by activity group (such as those who fish), as well as the preferences of those groups for different management actions and policies. This could inform the trade-offs between resource protection and use and has implications for fair and effective governance processes and the success of marine conservation management actions.

Finally, interdisciplinary collaboration and efforts to integrate and model social and biophysical data are still needed. NCRMP's socioeconomic component continues to work with the biological and environmental NCRMP teams and partners for a holistic approach to understanding socioeconomic and biophysical data and to inform coral reef management and monitoring across all jurisdictions. Comparing perceived coral reef resource conditions to biophysical data can reveal gaps between residents' perceptions of resources and patterns observed in fisheries, benthic, and environmental data. Future analyses should continue examining how differing perceptions of coral reef health by region may correlate with differences in biophysical conditions. Integration of socioeconomic, biological, and environmental NCRMP data provides a more holistic understanding of the human-ecological interactions and implications of the indicators that NCRMP is monitoring. This integrated perspective can help managers interpret and communicate complex data in support of science-based decision-making.

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Appendix A: 2025 USVI survey instrument

NOAA CORAL REEF CONSERVATION PROGRAM
NATIONAL CORAL REEF MONITORING PROGRAM (NCRMP)
RESIDENT CORAL REEF SURVEY:
United States Virgin Islands (USVI) 2025
OMB CONTROL NUMBER 0648-0646

Survey administered in (circle one): English or Spanish

[SCRIPT 1]
Hello, my name is _____, and I am working on behalf of the National Oceanic and Atmospheric Administration (NOAA). NOAA's National Coral Reef Monitoring Program is conducting surveys with residents of the U.S. Virgin Islands (USVI) to learn how people interact with coral reefs and how perceptions of coral reef conditions in *the USVI* are changing over time. The information collected will be used to help management better serve local communities. Your household was randomly selected to participate in this survey.

S1. Just one person is needed to complete this survey. May I please speak to the person 18 or older in your household who has had the most recent birthday? (Note: If selected person is not available, choose the next eligible person available).

- The person who answered the door is eligible → *Continue to SCRIPT 2*
- New individual comes to the door → *Re-read SCRIPT 1 with new individual, then proceed to SCRIPT 2*
- No eligible persons available → *Proceed with "not available" protocol, thank the current individual, and end survey*
- The person declines → *Proceed with NR1*

[SCRIPT 2]
The survey should take no more than 20 minutes to complete. Your participation is voluntary, but is very important to the success of this study. You may skip any of the questions or stop the survey at any time. All information you provide is confidential. Your name and address will never be identified or associated with the results.

S2. Are you willing to participate in this survey?

- Yes (person agreed to be interviewed) → *Continue to S3*
- No (person did not agree to be interviewed) → *Proceed with nonresponse question NR1*

S3: On average, how many months per year do you live in *the USVI*?

- Fewer than 3 months a year → *End survey*
- 3 to 6 months a year → *Start survey*
- More than 6 months a year → *Start survey*

NR1. Are there any particular reasons why you would prefer not to participate in the survey that you would be willing to share?

- Yes → *Allow respondent to comment and record reasons in NR2*
- No → *Thank the individual an end survey*

NR2. [For Interviewer] Did the respondent make any of the following comments, whether or not these exact words were used? (Check all that apply)

- I'm TOO BUSY/I don't have time (*If this is a reason, ask for a convenient time to interview*)
- I DO NOT LIKE surveys
- I am NOT INTERESTED
- Surveys are a WASTE OF TIME
- I DON'T TRUST surveys
- Surveys are an INVASION OF PRIVACY
- Unfavorable PAST EXPERIENCE with surveys
- Other reason

NR3. [For Interviewer] Please record the following observations during your interaction with the respondent.

a. Sex of respondent: ____Male ____Female

b. Age: ____18-29 ____30-49 ____50-69 ____70+

c. Race:

d. Presence of children in household: ___Y _____N ____Not Sure

—BEGINNING OF SURVEY—

PARTICIPATION IN REEF ACTIVITIES

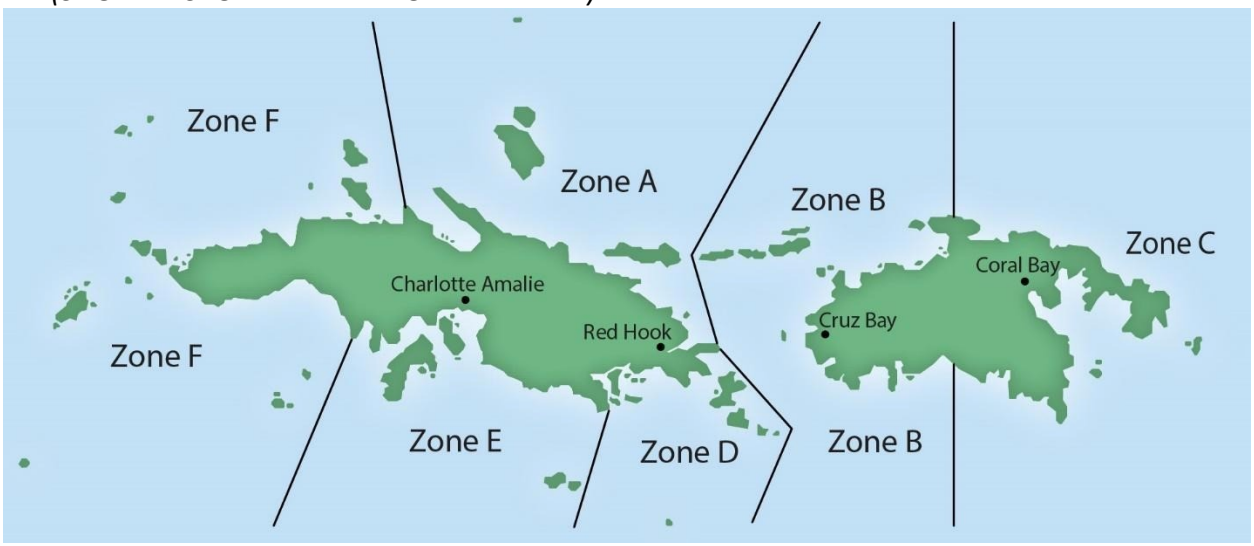
[SCRIPT] In this first section, we would like to understand your coastal and marine-based activities in the USVI.

1. In the past 12 months, approximately how often did you participate in each of these activities in the USVI? *{supports 'participation in reef activities' indicator}*

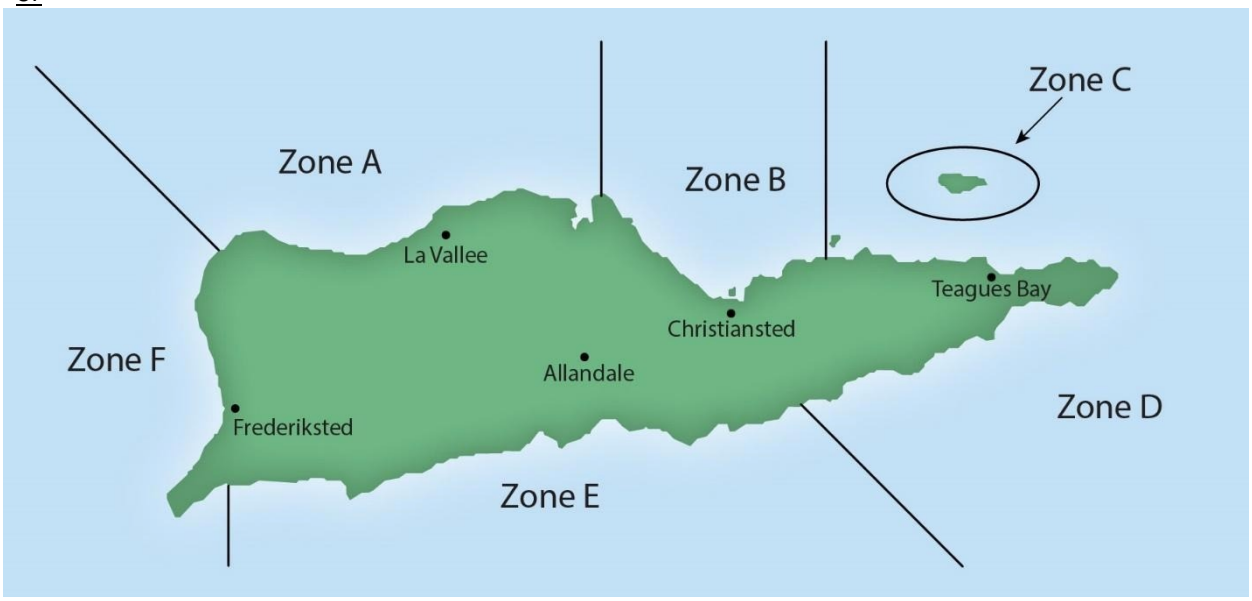
	Never	Once a month or less	2-3 times a month	4 times a month or more
Swimming or wading	1	2	3	4
Snorkeling	1	2	3	4
Scuba diving	1	2	3	4
Free diving	1	2	3	4
Waterside/beach camping	1	2	3	4
Beach recreation (beach sports, picnics, etc.)	1	2	3	4
Boating (sail, motor)	1	2	3	4
Paddling activities (stand up paddle boarding, kayaking, etc.)	1	2	3	4
Surfing activities (surfing, windsurfing, kitesurfing, etc.)	1	2	3	4
Fishing from a boat or other vessel	1	2	3	4
Fishing from shore (including from a pier or dock)	1	2	3	4
Gathering of marine resources (lobsters, whelk, conch, octopus, seaweed, shells, etc.)	1	2	3	4

SKIP LOGIC: IF RESPONDENT DID NOT PARTICIPATE IN ANY ACTIVITIES (NEVER FOR ALL), SKIP TO Q4.

2. Please look at the map of the USVI and the boundaries of each zone. Which zone did you most often use for each activity? *{supports 'participation in reef activities' indicator}*
(SHOW RESPONDENT APPROPRIATE MAP)



or



Depending on island of residence

	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F	Check here if did not participate
[ASK IF POSITIVE VALUE IN Q1] Swimming or wading							
[ASK IF POSITIVE VALUE IN Q1] Snorkeling							
[ASK IF POSITIVE VALUE IN Q1] Scuba diving							
[ASK IF POSITIVE VALUE IN Q1] Free diving							
[ASK IF POSITIVE VALUE IN Q1] Waterside/beach camping							
[ASK IF POSITIVE VALUE IN Q1] Beach recreation (beach sports, picnics, etc.)							
[ASK IF POSITIVE VALUE IN Q1] Boating (sail, motor)							
[ASK IF POSITIVE VALUE IN Q1] Paddling activities (stand up paddle boarding, kayaking, etc.)							
[ASK IF POSITIVE VALUE IN Q1] Surfing activities (surfing, windsurfing, kitesurfing, etc.)							
[ASK IF POSITIVE VALUE IN Q1] Fishing from a boat or other vessel							
[ASK IF POSITIVE VALUE IN Q1] Fishing from shore (including from a pier or dock)							
[ASK IF POSITIVE VALUE IN Q1] Gathering of marine resources (lobsters, whelk, conch, octopus, seaweed, shells, etc.)							

SKIP LOGIC: IF RESPONDENT DID NOT PARTICIPATE IN 'FISHING' OR 'GATHERING', SKIP TO Q4.

3. Which of the following best describes your most common motivation for fishing and gathering? (Choose one). *{supports 'participation in reef activities' indicator}*

1. Recreational: I fish mostly for sport or pleasure, but may also sell a few fish.
2. Subsistence: I fish mostly to catch fish to feed myself, my family, and/or my community.
3. Commercial: I fish mostly for some or all of the money I make in one year.
4. Cultural: I fish mostly to keep traditional practices alive.

IMPORTANCE OF CORAL REEFS

[SCRIPT] For the next several questions, we would like to understand your household's reliance on seafood and the cultural importance of coral reefs in the USVI.

4. **On average, how many of the meals eaten by you or members of your household include seafood? –INTERVIEWER STATES SCALE *{supports 'cultural importance of reefs' indicator}***

None of the meals (0%)	Some of the meals (1-33%)	Many of the meals (34-66%)	Most of the meals (67-99%)	All of the meals (100%)
1	2	3	4	5

SKIP LOGIC: IF 'NONE OF THE MEALS', SKIP TO Q6.

5. **On average, how many of the meals eaten by you or members of your household include seafood from local coral reefs in the USVI? (Examples include reef fish such as parrotfish, triggerfish, snapper, and grouper and other shellfish and marine life that depend on coral reefs such as lobster and conch. This does not include pelagic fish such as mahi, tuna, and wahoo.) {supports *'cultural importance of reefs' indicator}***

None of the meals (0%)	Some of the meals (1-33%)	Many of the meals (34-66%)	Most of the meals (67-99%)	All of the meals (100%)	Not Sure
1	2	3	4	5	NS

6. **How important are coral reefs to each of the following in the USVI? – INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'cultural importance of reefs' indicator}***

	Not at all important	Slightly important	Somewhat important	Moderately important	Very Important	Not Sure
Culturally important events, such as feasts and ceremonies	1	2	3	4	5	NS
Establishing and maintaining cultural and familial ties	1	2	3	4	5	NS
Ancestral connections	1	2	3	4	5	NS
Religious practices	1	2	3	4	5	NS

	Not at all important	Slightly important	Somewhat important	Moderately important	Very Important	Not Sure
Local language (word choice, business and place names, etc.)	1	2	3	4	5	NS
Cultural folklore (beliefs, stories, etc.)	1	2	3	4	5	NS

PERCEIVED RESOURCE CONDITION

[SCRIPT] This next section will ask about marine resource importance and their conditions.

7. How important are each of these marine resources to your quality of life? – INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'perceived resource condition' indicator}*

	Not at all important	Slightly important	Somewhat important	Moderately important	Very Important
Ocean water quality	1	2	3	4	5
Amount of live coral	1	2	3	4	5
Amount of fish	1	2	3	4	5
Health of coral reefs	1	2	3	4	5
Amount of lobster	1	2	3	4	5

8. How would you rate the current condition of each of these marine resources in the USVI? – INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'perceived resource condition' indicator}*

	Very Bad	Somewhat Bad	Neither Bad nor Good	Somewhat Good	Very Good	Not Sure
Ocean water quality	1	2	3	4	5	NS
Amount of live coral	1	2	3	4	5	NS
Amount of fish	1	2	3	4	5	NS
Health of coral reefs	1	2	3	4	5	NS
Amount of lobster	1	2	3	4	5	NS

9. Over the next 10 years, how do you think the condition of each of these same marine resources will change in the USVI? – INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'perceived resource condition' indicator}*

	Worsen Greatly	Worsen Somewhat	No Change	Improve Somewhat	Improve Greatly	Not Sure
Ocean water quality	1	2	3	4	5	NS

	Worsen Greatly	Worsen Somewhat	No Change	Improve Somewhat	Improve Greatly	Not Sure
Amount of live coral	1	2	3	4	5	NS
Amount of fish	1	2	3	4	5	NS
Health of coral reefs	1	2	3	4	5	NS
Amount of lobster	1	2	3	4	5	NS

AWARENESS AND KNOWLEDGE OF REEFS AND REEF THREATS

[SCRIPT] This next section will ask about reef awareness and importance in the USVI.

10. How important are coral reefs in the USVI to each of the following? -INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'awareness and knowledge of reefs' indicator}*

	Not at all important	Slightly important	Somewhat important	Moderately important	Very Important	Not Sure
Protection from natural disasters	1	2	3	4	5	NS
Outdoor recreation	1	2	3	4	5	NS
Food for coastal communities	1	2	3	4	5	NS
Tourism-based economy	1	2	3	4	5	NS
Fishery-based economy	1	2	3	4	5	NS
Your livelihood	1	2	3	4	5	NS
Human health	1	2	3	4	5	NS

11. Which of the following do you believe are threats to coral reefs in the USVI?

	Yes – This is a threat to coral reefs	No – This is not a threat to coral reefs	Not Sure – I am not sure if this is a threat to coral reefs
Climate change	1	2	NS
Coral bleaching	1	2	NS
Hurricanes	1	2	NS
Pollution from stormwater, wastewater, and chemical runoff	1	2	NS
Marine litter	1	2	NS
Invasive species	1	2	NS

	Yes – This is a threat to coral reefs	No – This is not a threat to coral reefs	Not Sure – I am not sure if this is a threat to coral reefs
Overfishing and overgathering	1	2	NS
Boat anchoring and grounding	1	2	NS
Ocean acidification	1	2	NS
Divers and snorkelers	1	2	NS
Coral disease	1	2	NS
Island development and construction	1	2	NS

SKIP LOGIC: IF 'YES' TO ANY ITEM, ASK ABOUT EACH ITEM IN Q12.
IF 'NO' OR 'NOT SURE' WITH ALL ITEMS, SKIP TO Q13

12. How severe are each of these threats to coral reefs in the USVI? –INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'awareness and knowledge of reefs' indicator}*

	Minor Threat	Moderate Threat	Major Threat	Severe Threat	Not Sure
[ASK IF 'YES' IN Q11] Climate change	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Coral bleaching	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Hurricanes	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Pollution from stormwater, wastewater, and chemical runoff	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Marine litter	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Invasive species	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Overfishing and overgathering	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Boat anchoring and grounding	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Ocean acidification	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Divers and snorkelers	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Coral disease	2	3	4	5	NS
[ASK IF 'YES' IN Q11] Island development and construction	2	3	4	5	NS

ATTITUDES TOWARD CORAL REEF MANAGEMENT STRATEGIES

[SCRIPT] There are many different management strategies for protecting coral reefs in the USVI. In the next few questions, we are interested in your opinions on some of these strategies.

13. **A Marine Protected Area (MPA) is an area of the ocean, such as reserves and marine parks, where particular human activities are managed to protect living, non-living, cultural, and/or historic resources. Before today, were you aware of existing MPAs in the USVI? *{supports 'awareness of reef regulations' indicator}***
    1. Yes (*IF YES, GO TO Q14*)
    2. No (*IF NO, SKIP TO Q15*)

14. **How do you think the establishment of MPAs impacted the following in the USVI? – INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'attitudes toward reef management strategies' indicator}***

	Worsened Greatly	Worsened Somewhat	No Impact	Improved Somewhat	Improved Greatly	Not Sure
Protection of coral reefs	1	2	3	4	5	NS
Amount of fish	1	2	3	4	5	NS
Tourism-based economy	1	2	3	4	5	NS
Fishery-based economy	1	2	3	4	5	NS
Your livelihood	1	2	3	4	5	NS
Outdoor recreation	1	2	3	4	5	NS
Food for coastal communities	1	2	3	4	5	NS

15. **Next, how much do you oppose or support each of these management strategies to protect coral reefs in the USVI? – INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'attitudes toward reef management strategies' indicator}***

	Strongly Oppose	Somewhat Oppose	Neutral	Somewhat Support	Strongly Support
Establish new catch limits per person for certain fish species	1	2	3	4	5
Create new MPAs	1	2	3	4	5
Establish new requirements for improved wastewater treatment	1	2	3	4	5
Encourage community participation in the	1	2	3	4	5

	Strongly Oppose	Somewhat Oppose	Neutral	Somewhat Support	Strongly Support
management of marine resources					
Charge a small fee to non-residents visiting locally managed MPAs to fund conservation	1	2	3	4	5
Increase mooring availability to limit boat anchoring	1	2	3	4	5
Increase enforcement of restrictions on construction practices to prevent sediment runoff	1	2	3	4	5
Impose a license requirement and fee for recreational fishers	1	2	3	4	5

PARTICIPATION IN BEHAVIORS THAT MAY IMPROVE CORAL HEALTH

[SCRIPT] Now, we'll talk about some activities that can help protect coral reef ecosystems in the USVI.

16. How important is it for the USVI residents to participate in actions that help to protect coral reefs? ***{supports 'pro-environmental behaviors' indicator}***

Not at all Important	Slightly Important	Somewhat Important	Moderately Important	Very Important
1	2	3	4	5

17. Do you routinely participate in any of these actions? ***{supports 'pro-environmental behaviors' indicator}***

	Yes	No
Reduce household water use		
Reduce household electricity use		
Compost		
Recycle (plastic, metal, glass)		
Use reef-safe forms of sun protection		
Promote environmentally responsible practices with others		
Minimize fuel consumption		
Use fewer single use products (plastic bags or cups, Styrofoam, etc.)		

SKIP PATTERN: IF 'YES' FOR ALL ITEMS, SKIP TO Q19.
IF 'NO' FOR ANY ITEM, ASK ABOUT EACH ITEM IN Q18.

18. Why do you not participate in those actions routinely? (Check all that apply). *{supports 'pro-environmental behaviors' indicator}*

	I do not know how	It is not convenient	It is too expensive	I have not had the opportunity	None of these reasons
[ASK IF 'NO' IN Q17] Reduce household water use					
[ASK IF 'NO' IN Q17] Reduce household electricity use					
[ASK IF 'NO' IN Q17] Compost					
[ASK IF 'NO' IN Q17] Recycle (plastic, metal, glass)					
[ASK IF 'NO' IN Q17] Use reef-safe forms of sun protection					
[ASK IF 'NO' IN Q17] Promote environmentally responsible practices with others					
[ASK IF 'NO' IN Q17] Minimize fuel consumption					
[ASK IF 'NO' IN Q17] Use fewer single use products (plastic bags or straws, Styrofoam, etc.)					

19. <u>In the past 12 months</u>, have you done any of these actions? *{supports 'pro-environmental behaviors' indicator}*

	Yes	No
Donated to an environmental cause		
Volunteered in a beach or coastal clean-up		
Joined or renewed a membership in a conservation organization		
Participated in an environmental science or restoration activity (such as coral reef health reports, tree or mangrove planting, or sea turtle beach monitoring)		

<u>SKIP PATTERN</u>: IF 'YES' FOR ALL ITEMS, SKIP TO Q21.
IF 'NO" FOR ANY ITEM, ASK ABOUT EACH ITEM IN Q20.

20. Why have you not participated in those actions in the past 12 months? (Check all that apply) *{supports 'pro-environmental behaviors' indicator}*

	I do not know how	It is not convenient	It is too expensive	I have not had the opportunity	None of these reasons
[ASK IF 'NO' IN Q19] Donated to an environmental cause					
[ASK IF 'NO' IN Q19] Volunteered in a beach or coastal clean-up					
[ASK IF 'NO' IN Q19] Joined or renewed a membership in a conservation organization					
[ASK IF 'NO' IN Q19] Participated in a science or restoration activity (such as coral reef health reports, tree or mangrove planting, or sea turtle beach monitoring)					

21. <u>In the past 5 years</u>, have you done any of these actions on your property? *{supports 'pro-environmental behaviors' indicator}*

	Yes	No
Upgraded a septic system		
Installed or upgraded a water storage system (such as a cistern or holding tank)		
Installed or upgraded stormwater or erosion control practices		

<u>SKIP PATTERN</u>: IF 'YES' FOR ALL ITEMS, SKIP TO Q23.
IF 'NO' FOR ANY ITEM, ASK ABOUT EACH ITEM IN Q22.

22. Why have you not participated in those actions on your property in the past 5 years? (Check all that apply). *{supports 'pro-environmental behaviors' indicator}*

	I do not know how	It is not convenient	It is too expensive	My system is already up to date	I am not allowed to	None of these reasons
[ASK IF 'NO' IN Q21] Upgraded a septic system						
[ASK IF 'NO' IN Q21] Installed or upgraded a water storage system (such as a cistern or holding tank)						

	I do not know how	It is not convenient	It is too expensive	My system is already up to date	I am not allowed to	None of these reasons
[ASK IF 'NO' IN Q21] Installed or upgraded stormwater or erosion control practices						

23. The rules and regulations surrounding coral reefs are sometimes misunderstood. How unacceptable or acceptable are each of these practices in the USVI?– INTERVIEWER REPEATS SCALE AS NEEDED *{supports 'awareness of reef regulations' indicator}*

	Very Unacceptable	Somewhat Unacceptable	Neutral	Somewhat Acceptable	Very Acceptable
Operate a jet ski or similar watercraft in a shallow reef area	1	2	3	4	5
Leave trash on the beach	1	2	3	4	5
Anchor a boat on coral	1	2	3	4	5
Feed marine animals (mammals, fish, sea birds, etc.)	1	2	3	4	5
Touch corals with my hands or feet (including standing)	1	2	3	4	5
Take seashells or coral from the reef	1	2	3	4	5
Take seashells, coral, or sand from the beach	1	2	3	4	5
Harvesting resources in MPAs	1	2	3	4	5
Driving on the beach	1	2	3	4	5

DEMOGRAPHICS

[SCRIPT] I just have a few more questions that will help us to interpret our results. As a reminder, the information you provide will remain strictly confidential.

24. What is your sex? ___Female ___Male

25. In what year were you born? _____

26. Were you born in the USVI? ___Yes___No

27. How many years have you lived in the USVI? _____ Years

28. What is your race and/or ethnicity? (Select all that apply and enter additional details in the spaces below)

□ **American Indian or Alaska Native** – *Provide details below.*

- *Enter, for example, Navajo Nation, Blackfeet Tribe of the Blackfeet Indian Reservation of Montana, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, Aztec, Maya, etc.* _____

□ **Asian** – *Provide details below.*

□ Chinese □ Asian Indian □ Filipino □ Vietnamese □ Korean □ Japanese

- *Enter, for example, Pakistani, Hmong, Afghan, etc.* _____

□ **Black or African American** – *Provide details below.*

□ African American □ Jamaican □ Haitian □ Nigerian □ Ethiopian □ Somali

- *Enter, for example, Trinidadian and Tobagonian, Ghanaian, Congolese, etc.* _____

□ **Hispanic or Latino** – *Provide details below.*

□ Mexican □ Puerto Rican □ Salvadorean □ Cuban □ Dominican □ Guatemalan

- *Enter, for example, Colombian, Honduran, Spaniard, etc.* _____

□ **Middle Eastern or North African** – *Provide details below.*

□ Lebanese □ Iranian □ Egyptian □ Syrian □ Iraqi □ Israeli

- *Enter, for example, Moroccan, Yemeni, Kurdish, etc.* _____

□ **Native Hawaiian or Pacific Islander** – *Provide details below.*

□ Native Hawaiian □ Samoan □ Chamorro □Tongan □ Fijian □ Marshallese

- *Enter, for example, Chuukese, Palauan, Tahitian, etc.* _____

□ **White** – *Provide details below.*

□ English □ German □ Irish □ Italian □ Polish □ Scottish

- *Enter, for example, French, Swedish, Norwegian, etc.* _____

29. Do you speak a language other than English at home? ___Yes ___No

30. What is the highest level of education you have completed? (Choose one)

- 8th Grade or Less
- Some high school
- High School Graduate, GED
- Technical/trade school certification
- Some college or community college
- Associate's degree
- College Graduate
- Graduate School, Law School, Medical School

31. What is your current employment status? (Check all that apply).

- Unemployed
- Employed full time
- Employed part time
- Retired

32. **Is your current or most recent occupation related to one or more of the following? (Check all that apply).** ***{demographic question for variable weighting and livelihood contextualization in Q10}***
    - Commercial fishing
    - Outdoor recreation
    - Tourism
    - Not related to any of the above

33. **How many adults aged 18 years or older live in your household, including yourself? _____**

34. **What is your annual household income?**
    - Less than $10,000
    - $10,000-$14,999
    - $15,000-$24,999
    - $25,000-$39,999
    - $40,000-$49,999
    - $50,000-$74,999
    - $75,000-$99,999
    - $100,000-$124,999
    - $125,000 or more
    - No Response

Thank you for your time and contribution to this research!

If you have any questions or comments about the research,
please contact Mary Allen at mary.allen@noaa.gov.

For more information about the National Coral Reef Monitoring Program,
or to see the results of the survey, please visit:
https://coralreef.noaa.gov/topics/national-coral-reef-monitoring-program/socioeconomic-component

Appendix B: Data collection protocols and weighting efforts

B.1 Data collection

Sample design

USVI was stratified into three strata: St. Croix, St. Thomas, and St. John. The sample design for this survey effort involved three stages.

In stage one, census block groups were chosen using a systematic, proportionate-to-size technique to identify the target clusters. There was a random selection of 18 primary clusters each in St. Croix and St. Thomas from the available, inhabited census block groups, while St. John, with its small number of households, had all seven of its inhabited census block groups included (more details in Table B1).

Table B1. USVI island strata and sample sizes (2020 data from the U.S. census). CI = confidence interval.

Stratum	Substrata	20+ Population	Households	Expected Completes	Adjusted Sample Size	Margin of Error (95% CI)	First-Stage Cluster Selection	Required Completion Rate
St. Croix	N/A	32,422	18,083	195	1,639	7.0	18	17%
St. Thomas	N/A	34,338	19,705	195	1,639	7.0	18	17%
St. John	N/A	3,300	1,854	178	1,496	7.0	7	17%
Total	N/A	70,060	39,642	568	4,773		43	17%

In stage two (after review of stage 1 but before field work), households were systematically chosen within each cluster for interview attempts by randomly selecting starting points (and alternate starting points) within each cluster. Further, a separate group of alternate clusters were selected by reviewing census-block population data and inspecting satellite maps to provide a backup for each of the 18 primary clusters on St. Croix and St. Thomas. The randomly assigned starting points were adjusted slightly as needed in order to ensure that the starting point represented an intersection or street location that could be reliably located via Google search/GPS and was not in an inaccessible location (wooded area, etc.). The goal was to collect approximately 11 responses in each of the 43 clusters across the three strata.

In stage three (during data collection), households were randomly selected by following detailed walking rules, including a) starting with the closest dwelling unit, b) attempting the survey and dispatching leave-behind postcards, and c) repeating these two steps by working away from the starting point in a systematic manner. One adult (aged 18+) from each selected household was selected using the last-birthday method (the person who had the most recent birthday) to ensure a random selection from all eligible individuals within the household.

Response rate achievement plan

The goal of data collection was to achieve 568 survey responses. Surveyors made up to two attempts to have respondents complete the survey. We implemented an adaptive survey design based on lessons learned from initial cluster visits. Initial cluster visits served as a pilot testing phase to determine the response rate and to assess if we needed to increase (or decrease) the number of eligible households visited during the first visit and to assess the successfulness of the second visit. We began by visiting approximately 65 eligible houses (i.e., excluding vacant or destroyed) per cluster in St. Croix and St. Thomas and visited all households in St. John. Given the higher response rate than expected during first visits, second visits were limited to eight clusters with the fewest number of completes (seven or fewer) on St. Croix and five clusters with the fewest number of completes on St. Thomas. On St. John, the two clusters with the lowest response rates were selected for second visits and visually assessed to select regions/neighborhoods with few to no survey submissions as starting points. Second visits were conducted on a different part of the week as much as possible. Postcards with an invitation and link to take the survey were left behind at households that did not answer the door.

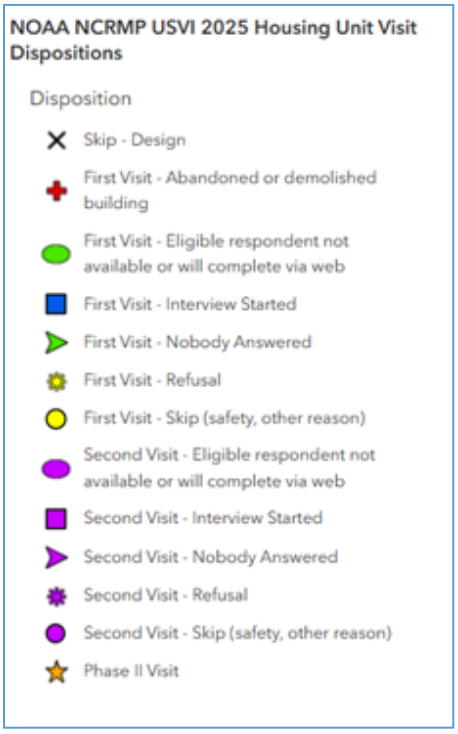


Figure B1. Housing status options

Data collection methods and data processing methods

Field teams conducted in-person surveys with household respondents and dispatched postcards that provided the household with a unique code should they want to complete the survey online. Field teams visited eligible houses up to two times and used ArcGIS Field Maps to document household visitation and status. Possible statuses are shown in Figure B1.

Language accommodation

Surveyors approached each household with a postcard that introduced the survey project in English and Spanish. If surveyors determined a language barrier, they presented the translated postcard. They then offered a self-administered table option to the respondent. There were 23 requests for Creole and two for Arabic.

Dates of data collection

Data collection began on February 20, 2025, and in-person surveying continued through April 20, 2025. Online submission remained open through April 28, 2025. Surveyors were hired by the survey vendor and subcontractor in early February 2024 and were trained in mid- and late-

February. Surveyor training consisted of both an in-office training consisting of a presentation and practicing administering the survey to other surveyors, as well as field training.

Determining sufficient survey responses

In total, 3,874 households were visited during the data collection effort. Of all households visited, 55% did not answer the door, and 4% refused. Out of the 3,874 households, 651 initiated a survey. 27 did not meet the initial screening criteria (age and residency thresholds), and four did not meet sufficiency rules (surveys with completion rates under 50%).

A total of 624 sufficient surveys were received (231 in St. Croix, 207 in St. Thomas, and 186 in St. John). The results section of this report presents results based on the 624 sufficient surveys. Tables B2 and B3 present the percentage of sufficient surveys by strata, language, and survey mode. Tables B4 and B5 present the number of attempts required to obtain the sufficient surveys and response rate percentages by mode and stratum, respectively. Each column may not exactly sum to 100.0% due to rounding. The overall response rate across the three strata and both survey modes was calculated to be 16.1%.

Table B2. Language of administered survey.

Language	St. Croix	St. Thomas	St. John	Total
English	97.0% (224)	93.7% (194)	97.8% (182)	96.2% (600)
Spanish	3.0% (7)	6.3% (13)	2.2% (4)	3.8% (24)

Table B3. Mode of survey completion (online/in-person).

Mode	St. Croix	St. Thomas	St. John	Total
In-person	73.2% (169/231)	65.7% (136/207)	66.7% (124/186)	68.8% (429/624)
Online	26.8% (62/231)	34.3% (71/207)	33.3% (62/186)	31.3% (195/624)

Table B4. Number of survey attempts.

Number of Attempts	St. Croix	St. Thomas	St. John	Total
One Attempt	69.3% (160/231)	78.7% (163/207)	98.4% (183/186)	81.1% (506/624)
Two Attempts	30.7% (71/231)	21.3% (44/207)	1.6% (3/186)	18.9% (118/624)

Table B5. Response rate percentages and the values used to calculate response rates.

Mode	St. Croix	St. Thomas	St. John	Total
In-Person	14.5% (169/1168)	11.7% (136/1159)	8.0% (124/1547)	11.1% (429/3874)
Online	5.3% (62/1168)	6.1% (71/1159)	4.0% (62/1547)	5.0% (195/3874)
Total Response Rate	19.8% (231/1168)	17.9% (207/1159)	12.0% (186/1547)	16.1% (624/3874)

B.2 Weighting

Data were weighted to account for sample design and nonresponse and then calibrated based on key variables (age category, gender, education, race, and household income) within each stratum to ensure data were representative of the adult population of USVI. This was accomplished through iterative proportional fitting, a method commonly referred to as "raking." Iterative proportional fitting creates a weight for each survey respondent to help the sample become more representative of true population characteristics. In this analysis, base weights were computed as the product of three stages of random selection that included (1) random selection of clusters within each of two strata, (2) random selection of households within selected clusters, and (3) random selection of adults within selected households. The sampling design for this survey effort reflected a complex, multistage process. Therefore, a base weight was calculated and applied in order to correct for the unequal probabilities of selection at each of the three stages of the sampling. The base weights were computed as the inverse of the overall probability of selection that reflected each of the three stages of sampling.

To account for nonresponse caused by both survey-related factors (i.e., field period, incentives, survey topic/sponsor, and survey mode) as well as various other survey unit factors (i.e., demographics, sampled unit's experience with surveys and/or the topic, or in this case, household level indicators such as region or rental status), a nonresponse adjustment was made in order to account and correct for nonresponses among surveyed households.

These weights were then calibrated to match six of the survey sample's demographic data to the true demographic characteristics of the USVI population: gender (male, female), age group (18–34, 35–44, 45–54, 55–64, 65 or older), education level (less than high school, high school or GED, some college or associate degree, college degree or more), median household income (less than $15,000, $15,000–$39,999, $40,000–$79,999, $75,000 or higher, unknown), race/ethnicity (Black, White, all other races), and current employment status (employed, not employed unknown). These population controls were from the 2020 U.S. Census. Given the need for complete information for these variables, a hot deck imputation procedure (Ellis, 2007) was used to impute any missing values for age group, education group, sex, race group, and number of adults in the household (capped at 3).

Finally, weights were trimmed to ensure no single final weight dominated the distribution. A 5% trim was ultimately implemented because it was found to balance the bias and variance of the weights the best. After the trimming was performed, the final weights were derived by computing a final post-stratification adjustment that multiplied the trimmed weights by a fixed constant of 1.12660804 to ensure that the final weights summed to the target population value of 70,058. A comparison between the demographics in the weighted sample is presented in Table B6.

Table B6. Demographics of true population and weighted respondents.

Demographic Variables		Population	Weighted Respondents
Location of Residence	St. Croix	46.30%	46.65%
	St. John	4.70%	5.35%
	St. Thomas	49.00%	48.00%
Gender	Male	47.80%	44.97%
	Female	52.20%	55.03%
Age	18–34	21.90%	20.46%
	35–44	14.60%	13.32%
	45–54	17.60%	17.04%
	55–64	19.40%	19.63%
	65+	26.50%	29.55%
Education	Less than high school	21.70%	20.34%
	High school or GED	38.80%	39.00%
	Some college/Associates degree	17.20%	16.73%
	College degree or more	22.30%	23.93%
Household Income	Under $15,000	14.30%	13.74%
	$15,000–$39,999	19.20%	18.71%
	$40,000-$74,999	16.50%	17.02%
	$75,000 or higher	17.60%	18.23%
	Unknown	32.40%	32.30%
Race/Ethnicity Group	Black	64.20%	64.65%
	White	12.70%	13.77%
	All other races	23.10%	21.58%
Current Employment	Not Employed	32.80%	27.65%
	Employed	34.50%	37.19%
	Unknown	32.70%	35.17%

Appendix C: USVI and island strata results for 2025

The following tables show the point estimate and margin of error (at a 95% confidence interval level) in the tables.

Table C1. Proportion of participation in activities by stratum.

Question 1: In the past 12 months, approximately how often did you participate in each of these activities in the USVI?

Note: The table shows the proportion of respondents who reported: Once a month or less, 2–3 times a month, or 4 times a month or more.

Activity	St. Thomas	St. Croix	St. John	Total
Swimming/wading	68.0% (10.4)	65.6% (9.4)	69.5% (11.5)	66.9% (6.6)
Snorkeling	14.6% (8.2)	25.6% (10.7)	33.2% (15.8)	20.8% (6.4)
Scuba diving	6.0% (4.0)	9.5% (6.4)	16.6% (6.9)	8.2% (3.5)
Free diving	11.6% (5.3)	17.7% (9.8)	22.1% (7.3)	15.1% (5.3)
Waterside/beach camping	15.2% (5.6)	20.4% (5.8)	28.9% (9.1)	18.3% (3.9)
Beach recreation (beach sports, picnics, etc.)	48.5% (8.5)	46.1% (10.1)	53.3% (16.1)	47.7% (6.3)
Boating (sail, motor)	26.3% (10.7)	21.7% (10.2)	36.5% (15.6)	24.7% (7.1)
Fishing from shore	10.7% (5.8)	16.2% (5.3)	24.0% (10.0)	13.9% (3.8)
Fishing from a boat or other vessel	9.3% (5.0)	11.3% (5.3)	21.5% (7.3)	10.8% (3.5)
Gathering marine resources (lobsters, whelk, conch, etc.)	10.4% (6.3)	7.3% (5.1)	27.2% (10.2)	9.8% (3.9)
Surfing activities (surfing, windsurfing, kitesurfing, etc.)	6.4% (4.2)	6.2% (4.9)	23.0% (15.0)	7.2% (3.1)
Paddling activities (SUP, kayaking, etc.)	0.7% (0.8)	0.8% (1.2)	8.6% (7.6)	1.2% (0.8)

Table C2. Zone of activity participation; answered only by those who participated in question 1.

Question 2: Please look at the map of the USVI and the boundaries of each zone. Which zone did you most often use for each activity? (Maps shown are Figure 4.)

Activity	St. Thomas and St. John Zones	St. Thomas	St. John	St. Croix Zones	St. Croix
Swimming/wading	A	22.2% (11.3)	0.0% (0.0)	G	8.6% (6.3)
	B	4.0% (4.3)	60.1% (15.4)	H	27.2% (15.3)
	C	0.0% (0.0)	32.2% (19.0)	I	6.7% (5.3)
	D	8.7% (6.5)	7.1% (12.0)	J	2.2% (2.1)
	E	19.9% (17.5)	0.5% (0.9)	K	13.1% (8.3)

Activity	St. Thomas and St. John Zones	St. Thomas	St. John	St. Croix Zones	St. Croix
	F	45.1% (18.0)	0.0% (0.0)	L	42.3% (15.8)
Snorkeling	A	24.5% (17.7)	11.2% (21.3)	G	9.3% (7.1)
	B	6.7% (6.1)	52.4% (22.6)	H	33.1% (15.5)
	C	10.6% (18.1)	26.7% (18.8)	I	16.1% (12.8)
	D	20.4% (18.8)	1.6% (2.8)	J	3.1% (3.9)
	E	1.7% (2.5)	8.0% (14.2)	K	0.0% (0.0)
	F	36.1% (32.4)	0.0% (0.0)	L	38.3% (17.5)
Scuba diving	A	41.0% (29.5)	2.3% (2.8)	G	21.0% (12.3)
	B	12.8% (17.6)	36.3% (26.3)	H	50.3% (26.3)
	C	0.0% (0.0)	41.3% (40.3)	I	0.8% (1.8)
	D	18.3% (21.1)	3.1% (5.0)	J	2.9% (4.4)
	E	9.1% (9.5)	16.9% (24.4)	K	8.9% (13.3)
	F	18.8% (27.2)	0.0% (0.0)	L	16.0% (15.7)
Free diving	A	30.9% (27.7)	1.1% (1.9)	G	20.8% (12.4)
	B	5.0% (9.9)	46.6% (31.7)	H	17.8% (12.4)
	C	12.1% (20.7)	20.0% (16.1)	I	9.2% (16.5)
	D	17.0% (14.8)	32.3% (32.2)	J	0.7% (1.4)
	E	13.4% (16.5)	0.0% (0.0)	K	5.9% (7.9)
	F	21.6% (19.1)	0.0% (0.0)	L	45.7% (17.0)
Waterside/beach camping	A	24.5% (17.6)	0.0% (0.0)	G	8.0% (6.7)
	B	17.0% (18.6)	42.3% (27.4)	H	38.2% (16.0)
	C	5.8% (7.7)	40.0% (34.0)	I	6.1% (7.8)
	D	11.1% (10.8)	5.3% (9.5)	J	14.1% (16.1)
	E	12.5% (12.5)	12.3% (24.1)	K	0.0% (0.0)
	F	29.0% (20.4)	0.0% (0.0)	L	33.5% (16.3)
Beach recreation	A	33.5% (12.3)	5.2% (8.8)	G	7.6% (7.8)
	B	2.1% (2.1)	50.2% (19.4)	H	28.2% (12.7)
	C	2.0% (3.7)	32.0% (18.8)	I	13.6% (7.5)
	D	8.3% (6.5)	5.1% (8.6)	J	1.6% (1.9)
	E	14.7% (11.9)	0.0% (0.0)	K	9.9% (8.9)
	F	39.4% (13.9)	7.4% (14.7)	L	39.1% (19.1)
Boating (sail, motor)	A	8.8% (8.9)	1.1% (1.3)	G	10.6% (11.4)
	B	22.9% (14.9)	61.7% (20.8)	H	39.9% (18.7)
	C	10.4% (12.4)	26.4% (14.7)	I	24.7% (11.8)
	D	30.0% (20.8)	0.0% (0.0)	J	9.0% (12.8)
	E	8.5% (11.0)	8.5% (14.6)	K	1.8% (2.6)
	F	19.4% (11.2)	2.3% (4.0)	L	14.0% (12.9)
Fishing from shore	A	4.4% (5.3)	1.6% (2.7)	G	4.3% (5.5)

Activity	St. Thomas and St. John Zones	St. Thomas	St. John	St. Croix Zones	St. Croix
	B	0.0% (0.0)	38.5% (25.7)	H	29.3% (15.9)
	C	3.3% (6.5)	45.2% (44.2)	I	3.5% (5.3)
	D	36.6% (24.2)	14.7% (23.9)	J	14.0% (14.8)
	E	27.1% (14.8)	0.0% (0.0)	K	5.6% (9.4)
	F	28.7% (24.3)	0.0% (0.0)	L	43.4% (18.8)
Fishing from a boat or other vessel	A	12.6% (15.5)	1.5% (1.3)	G	12.7% (15.5)
	B	15.0% (15.5)	22.6% (16.9)	H	45.3% (25.0)
	C	1.8% (3.6)	43.8% (31.8)	I	17.1% (21.5)
	D	25.9% (26.8)	3.4% (6.2)	J	1.4% (2.9)
	E	35.2% (24.4)	28.7% (32.9)	K	0.8% (1.8)
	F	9.5% (12.4)	0.0% (0.0)	L	22.7% (24.8)
Gathering marine resources	A	21.0% (24.5)	0.5% (0.9)	G	13.3% (16.1)
	B	9.9% (11.5)	21.8% (12.3)	H	65.6% (33.9)
	C	16.7% (24.5)	50.7% (24.2)	I	1.1% (2.4)
	D	15.4% (15.5)	2.0% (3.6)	J	0.0% (0.0)
	E	12.3% (23.6)	9.9% (17.9)	K	1.4% (3.0)
	F	24.7% (32.5)	15.1% (27.1)	L	18.6% (22.5)
Paddling activities (SUP, kayaking, etc.)	A	21.1% (22.1)	17.8% (29.6)	G	23.7% (23.1)
	B	16.2% (28.4)	61.0% (37.5)	H	51.1% (34.9)
	C	0.0% (0.0)	21.2% (10.7)	I	0.0% (0.0)
	D	53.7% (35.7)	0.0% (0.0)	J	0.0% (0.0)
	E	6.7% (12.8)	0.0% (0.0)	K	0.0% (0.0)
	F	2.2% (4.7)	0.0% (0.0)	L	25.2% (26.6)
Surfing activities (surfing, windsurfing, kitesurfing, etc.)	A	29.3% (51.9)	0.0% (0.0)	G	0.0% (0.0)
	B	0.0% (0.0)	91.7% (16.3)	H	100.0% (0.0)
	C	0.0% (0.0)	8.3% (16.3)	I	0.0% (0.0)
	D	0.0% (0.0)	0.0% (0.0)	J	0.0% (0.0)
	E	25.3% (47.0)	0.0% (0.0)	K	0.0% (0.0)
	F	45.4% (61.3)	0.0% (0.0)	L	0.0% (0.0)

Table C3. Primary motivation for fishing and gathering by stratum.

Question 3: Which of the following best describes your most common motivation for fishing and gathering? (Choose one)

Note: Asked only to respondents who fished and/or gathered at least 1 day per year.

Motive	St Thomas	St Croix	St John	Overall
Recreation	47.9% (25.6)	51.5% (15.2)	47.4% (26.6)	49.5% (13.4)

Motive	St Thomas	St Croix	St John	Overall
Subsistence	31.0% (19.1)	22.6% (14.0)	34.0% (12.4)	27.3% (10.5)
Commercial	0.0% (0.0)	0.4% (0.8)	0.0% (0.0)	0.2% (0.4)
Cultural	21.1% (16.0)	25.5% (15.1)	18.5% (22.9)	22.9% (10.3)

Table C4. Percent of meals eaten within household containing seafood by stratum.

Question 4: On average, how many of the meals eaten by you or members of your household include seafood?

Percent	St Thomas	St Croix	St John	Overall
None (0%)	14.2% (7.0)	8.1% (4.5)	13.6% (6.2)	11.3% (4.0)
Some meals (1%–33%)	48.6% (11.3)	52.6% (10.8)	54.4% (9.3)	50.7% (7.4)
Many meals (34%–66%)	25.3% (10.1)	24.7% (9.9)	18.5% (1.9)	24.7% (6.7)
Most meals (67%–99%)	10.6% (6.5)	13.2% (6.1)	7.1% (10.0)	11.6% (4.3)
All meals (100%)	1.4% (1.4)	1.4% (1.5)	6.3% (9.7)	1.6% (1.1)

Table C5. Percent of meals eaten within household containing seafood from local coral reefs in USVI by stratum.

Question 5: On average, how many of the meals eaten by you or members of your household include seafood from local coral reefs in the USVI?

Note: Asked only to respondents who ate seafood for at least some meals.

Percent	St Thomas	St Croix	St John	Overall
None (0%)	14.6% (6.4)	13.3% (6.9)	17.5% (9.2)	14.1% (4.5)
Some meals (1%–33%)	54.0% (10.6)	47.0% (9.0)	52.4% (15.2)	50.6% (6.7)
Many meals (34%–66%)	14.2% (7.4)	24.0% (11.3)	10.3% (5.3)	18.8% (6.6)
Most meals (67%–99%)	13.5% (7.3)	11.5% (5.1)	2.5% (3.6)	12.0% (4.2)
All meals (100%)	2.1% (2.2)	4.1% (3.3)	11.4% (11.4)	3.5% (2.0)
Not sure	1.6% (1.8)	0.1% (0.2)	5.8% (7.2)	1.1% (0.9)

Table C6. Importance of coral reefs to culture.

Question 6: How important are coral reefs to each of the following in the USVI?

Resource	Importance	St Thomas	St Croix	St John	Total
Culturally important events, such as fiestas and ceremonies	Not at all	7.3% (6.2)	12.1% (6.0)	18.4% (10.1)	10.1% (4.1)
	Slightly	3.5% (2.9)	4.7% (3.8)	8.3% (3.9)	4.3% (2.3)
	Somewhat	8.6% (3.9)	11.9% (7.2)	13.7% (12.6)	10.4% (3.9)
	Moderately	7.6% (4.6)	5.4% (2.8)	10.1% (6.0)	6.7% (2.6)
	Very	48.9% (11.4)	45.3% (10.9)	48.5% (11.4)	47.2% (7.5)
	Not sure	24.2% (8.7)	20.7% (8.2)	0.9% (1.1)	21.3% (5.7)
Establishing and maintaining cultural and familial ties	Not at all	4.0% (3.5)	12.4% (5.9)	16.5% (12.0)	8.6% (3.2)
	Slightly	3.7% (2.3)	3.8% (3.0)	10.4% (11.2)	4.1% (1.9)
	Somewhat	8.9% (4.9)	10.8% (7.7)	8.0% (5.2)	9.7% (4.3)
	Moderately	12.4% (5.8)	6.8% (3.4)	9.0% (9.4)	9.6% (3.3)
	Very	41.5% (13.0)	43.9% (10.2)	50.7% (11.2)	43.1% (7.9)
	Not sure	29.6% (10.4)	22.2% (7.8)	5.5% (5.4)	24.9% (6.2)
Ancestral connections	Not at all	5.3% (4.1)	13.3% (6.1)	18.4% (12.7)	9.7% (3.4)
	Slightly	4.7% (2.9)	3.6% (3.0)	18.5% (8.4)	4.9% (2.1)
	Somewhat	9.3% (4.3)	9.7% (5.5)	7.2% (6.0)	9.4% (3.3)
	Moderately	7.9% (4.5)	5.5% (3.0)	6.0% (5.5)	6.7% (2.6)
	Very	42.5% (14.5)	40.9% (10.4)	48.1% (11.0)	42.0% (8.5)
	Not sure	30.3% (11.1)	27.1% (7.3)	1.7% (1.6)	27.3% (6.4)
Religious practices	Not at all	10.6% (5.6)	21.1% (7.2)	34.9% (10.3)	16.8% (4.4)
	Slightly	4.4% (2.9)	2.9% (3.0)	5.4% (3.9)	3.8% (2.0)
	Somewhat	7.6% (4.3)	9.7% (4.5)	6.7% (7.1)	8.5% (3.0)
	Moderately	9.8% (5.6)	5.4% (4.1)	5.9% (4.9)	7.5% (3.4)
	Very	33.3% (12.9)	29.6% (10.1)	42.2% (10.9)	32.1% (7.8)
	Not sure	34.2% (10.0)	31.3% (8.7)	4.9% (3.3)	31.3% (6.3)
Local language (word choice, business and place names, etc.)	Not at all	5.3% (4.2)	15.4% (6.5)	29.4% (8.9)	11.3% (3.7)
	Slightly	6.9% (3.9)	3.6% (3.3)	6.9% (5.3)	5.3% (2.4)
	Somewhat	9.0% (4.1)	11.0% (6.3)	10.6% (9.0)	10.0% (3.6)
	Moderately	10.4% (3.9)	8.8% (5.6)	7.2% (4.4)	9.4% (3.2)
	Very	35.9% (13.1)	32.5% (8.7)	43.9% (11.4)	34.7% (7.5)
	Not sure	32.6% (10.4)	28.7% (6.7)	2.0% (1.5)	29.2% (6.0)
Cultural folklore (beliefs, stories, etc.)	Not at all	5.0% (4.0)	11.7% (5.6)	25.1% (11.4)	9.1% (3.2)
	Slightly	6.8% (4.8)	3.5% (3.0)	13.5% (8.9)	5.6% (2.8)
	Somewhat	10.3% (5.7)	11.8% (4.6)	5.5% (3.2)	10.8% (3.5)
	Moderately	7.4% (5.6)	8.5% (3.9)	6.8% (4.6)	7.9% (3.3)
	Very	37.9% (13.5)	37.1% (10.0)	47.3% (8.9)	38.0% (8.0)
	Not sure	32.6% (10.7)	27.4% (7.3)	1.8% (0.8)	28.5% (6.2)

Table C7. Perceptions of marine resource importance to quality of life.

Question 7: How important are each of these marine resources to your quality of life?

Resource	Importance	St Thomas	St Croix	St John	Total
Ocean water quality	Not at all	1.9% (2.7)	0.1% (0.2)	3.0% (2.5)	1.1% (1.3)
	Slightly	3.9% (3.6)	0.9% (1.2)	2.6% (1.8)	2.4% (1.8)
	Somewhat	6.3% (5.0)	3.6% (2.0)	2.7% (2.1)	4.8% (2.5)
	Moderately	18.4% (7.3)	5.1% (3.8)	9.4% (4.5)	11.6% (3.9)
	Very	69.5% (7.8)	90.4% (5.2)	82.3% (7.3)	80.0% (4.6)
Amount of live coral	Not at all	2.3% (2.9)	2.2% (3.0)	2.6% (2.7)	2.3% (2.0)
	Slightly	4.3% (3.7)	0.9% (1.2)	2.5% (1.9)	2.6% (1.8)
	Somewhat	9.1% (5.5)	8.8% (6.1)	5.0% (3.9)	8.7% (3.9)
	Moderately	21.8% (8.7)	15.9% (6.7)	11.3% (5.2)	18.5% (5.3)
	Very	62.5% (9.8)	72.2% (10.5)	78.6% (5.2)	67.9% (6.9)
Amount of fish	Not at all	4.0% (5.5)	0.1% (0.2)	2.6% (2.7)	2.1% (2.7)
	Slightly	2.0% (2.8)	0.9% (1.1)	2.5% (1.9)	1.5% (1.4)
	Somewhat	5.8% (4.1)	7.6% (4.6)	3.9% (3.1)	6.6% (2.9)
	Moderately	23.3% (8.5)	12.9% (6.1)	6.1% (4.9)	17.5% (5.0)
	Very	64.9% (8.7)	78.4% (7.2)	84.8% (6.0)	72.3% (5.4)
Health of coral reefs	Not at all	3.3% (3.4)	0.1% (0.2)	2.8% (2.6)	1.8% (1.7)
	Slightly	3.7% (3.7)	2.2% (1.9)	2.5% (1.9)	2.9% (2.0)
	Somewhat	9.2% (5.5)	7.4% (4.1)	7.8% (2.3)	8.3% (3.2)
	Moderately	18.2% (8.6)	7.5% (5.8)	3.4% (2.2)	12.4% (5.1)
	Very	65.7% (9.4)	82.8% (7.7)	83.5% (6.2)	74.6% (5.9)
Amount of lobster	Not at all	7.1% (4.3)	6.3% (4.8)	3.7% (3.0)	6.5% (3.1)
	Slightly	6.0% (3.8)	5.5% (3.6)	10.9% (7.8)	6.0% (2.5)
	Somewhat	17.7% (7.1)	13.5% (4.3)	10.0% (2.0)	15.3% (3.9)
	Moderately	16.5% (6.8)	14.0% (6.5)	10.3% (7.3)	15.0% (4.5)
	Very	52.7% (11.1)	60.8% (11.4)	65.1% (9.4)	57.2% (7.6)

Table C8. Perceptions of marine resource current condition by stratum.

Question 8: How would you rate the current condition of each of these marine resources in the USVI?

Resource	Current condition	St Thomas	St Croix	St John	Total
Ocean water quality	Very bad	2.8% (2.6)	9.4% (6.6)	3.1% (3.1)	5.9% (3.4)
	Somewhat bad	8.1% (6.0)	15.1% (7.2)	5.9% (2.3)	11.3% (4.4)
	Neither bad nor good	19.3% (5.7)	9.5% (4.6)	11.2% (5.8)	14.2% (3.6)
	Somewhat good	29.2% (9.8)	25.5% (9.2)	22.6% (7.5)	27.1% (6.3)
	Very good	30.7% (11.7)	20.3% (9.9)	51.6% (10.1)	26.9% (7.3)

Resource	Current condition	St Thomas	St Croix	St John	Total
	Not sure	9.9% (4.8)	20.2% (6.2)	5.5% (2.3)	14.5% (3.6)
Amount of live coral	Very bad	3.9% (3.7)	10.1% (6.2)	7.5% (4.2)	7.0% (3.5)
	Somewhat bad	13.7% (6.9)	16.1% (5.9)	8.9% (3.1)	14.6% (4.3)
	Neither bad nor good	18.3% (6.5)	9.5% (5.2)	12.1% (7.4)	13.8% (3.9)
	Somewhat good	18.9% (5.7)	24.0% (4.7)	25.2% (7.5)	21.7% (3.5)
	Very good	17.6% (11.0)	6.5% (3.8)	37.5% (14.2)	13.4% (5.6)
	Not sure	27.6% (10.2)	33.8% (10.4)	8.7% (4.5)	29.5% (6.9)
Amount of fish	Very bad	3.8% (4.9)	6.0% (5.7)	5.3% (4.8)	4.9% (3.6)
	Somewhat bad	12.3% (6.7)	12.3% (4.9)	5.3% (3.4)	11.9% (4.0)
	Neither bad nor good	17.8% (7.2)	14.1% (6.7)	9.0% (2.6)	15.6% (4.7)
	Somewhat good	21.5% (5.6)	23.0% (6.9)	22.1% (8.0)	22.2% (4.2)
	Very good	24.8% (12.5)	26.3% (11.0)	47.2% (8.3)	26.7% (7.9)
	Not sure	19.9% (10.9)	18.4% (7.4)	11.1% (3.0)	18.7% (6.3)
Health of coral reefs	Very bad	3.5% (4.1)	12.9% (7.3)	8.9% (6.7)	8.2% (4.1)
	Somewhat bad	14.8% (8.0)	16.0% (4.8)	9.2% (4.5)	15.1% (4.4)
	Neither bad nor good	18.5% (8.2)	9.6% (4.6)	9.5% (8.3)	13.8% (4.6)
	Somewhat good	16.2% (6.6)	13.3% (5.0)	31.9% (11.9)	15.7% (4.0)
	Very good	18.5% (12.5)	10.1% (5.7)	34.0% (8.5)	15.4% (6.6)
	Not sure	28.5% (11.8)	38.1% (9.9)	6.5% (5.5)	31.9% (7.4)
Amount of lobster	Very bad	1.2% (1.4)	6.4% (6.1)	5.0% (7.2)	3.8% (3.1)
	Somewhat bad	10.4% (6.7)	10.9% (5.2)	7.8% (5.3)	10.5% (4.0)
	Neither bad nor good	20.4% (8.7)	13.6% (5.4)	14.3% (9.2)	16.9% (5.0)
	Somewhat good	19.3% (6.6)	19.5% (4.1)	18.5% (4.4)	19.3% (3.7)
	Very good	15.7% (11.6)	16.3% (7.3)	35.3% (19.7)	17.0% (6.6)
	Not sure	33.0% (10.2)	33.3% (9.2)	19.0% (11.7)	32.4% (6.6)

Table C9. Perceived change in resource conditions over the next 10 years by stratum.

Question 9: Over the next 10 years, how do you think the condition of each of these same marine resources will change in the USVI?

Resource	Change in condition	St Thomas	St Croix	St John	Total
Ocean water quality	Worsen greatly	17.1% (6.4)	11.5% (7.8)	22.0% (2.5)	14.7% (4.8)
	Worsen somewhat	33.6% (8.4)	32.2% (8.4)	15.3% (6.9)	31.9% (5.6)
	No change	9.5% (4.7)	12.6% (6.1)	9.0% (6.4)	10.9% (3.7)
	Improve somewhat	11.8% (6.6)	11.8% (4.6)	12.2% (4.9)	11.8% (3.8)

Resource	Change in condition	St Thomas	St Croix	St John	Total
	Improve greatly	15.3% (15.5)	2.9% (2.0)	32.9% (9.1)	10.4% (7.6)
	Not sure	12.8% (4.9)	29.0% (10.0)	8.6% (4.8)	20.2% (5.3)
Amount of live coral	Worsen greatly	19.6% (8.0)	11.2% (5.7)	26.4% (5.1)	16.0% (4.7)
	Worsen somewhat	26.8% (7.7)	31.4% (10.1)	11.9% (6.0)	28.2% (6.0)
	No change	7.3% (3.8)	7.6% (4.3)	5.4% (4.7)	7.3% (2.7)
	Improve somewhat	11.8% (6.0)	14.4% (5.1)	16.4% (5.0)	13.3% (3.8)
	Improve greatly	14.1% (14.0)	1.5% (1.5)	33.3% (9.9)	9.2% (6.9)
	Not sure	20.5% (10.2)	33.9% (10.3)	6.5% (5.2)	26.0% (6.9)
Amount of fish	Worsen greatly	18.5% (8.1)	10.5% (5.5)	25.3% (3.4)	15.1% (4.6)
	Worsen somewhat	24.6% (8.2)	33.0% (12.2)	12.2% (5.0)	27.9% (7.0)
	No change	10.6% (5.4)	9.7% (5.3)	11.3% (5.4)	10.2% (3.6)
	Improve somewhat	14.7% (6.0)	10.2% (4.1)	11.9% (7.1)	12.5% (3.4)
	Improve greatly	13.1% (14.2)	7.4% (4.9)	33.8% (11.3)	11.5% (7.2)
	Not sure	18.6% (10.9)	29.1% (8.5)	5.5% (4.1)	22.8% (6.5)
Health of coral reefs	Worsen greatly	17.9% (7.5)	12.0% (5.5)	26.5% (5.4)	15.6% (4.4)
	Worsen somewhat	27.6% (8.6)	30.3% (11.0)	12.7% (5.8)	28.0% (6.6)
	No change	6.4% (4.2)	7.3% (4.7)	9.0% (7.4)	7.0% (3.0)
	Improve somewhat	10.7% (5.8)	12.9% (6.4)	14.8% (4.7)	12.0% (4.1)
	Improve greatly	14.8% (15.6)	2.0% (1.6)	25.5% (8.3)	9.3% (7.5)
	Not sure	22.6% (11.7)	35.6% (10.6)	11.5% (7.4)	28.1% (7.5)
Amount of lobster	Worsen greatly	18.2% (8.0)	7.4% (4.5)	24.2% (4.4)	13.4% (4.4)
	Worsen somewhat	24.1% (8.4)	32.0% (11.7)	11.2% (4.4)	27.1% (6.9)
	No change	11.3% (6.2)	13.0% (5.7)	11.1% (8.1)	12.1% (4.0)
	Improve somewhat	7.0% (5.5)	7.5% (4.4)	13.8% (7.3)	7.6% (3.4)
	Improve greatly	12.4% (13.9)	4.2% (4.0)	26.2% (11.4)	9.3% (7.0)
	Not sure	26.9% (10.6)	35.9% (9.7)	13.6% (5.1)	30.4% (6.8)

Table C10. Importance of coral reefs to various ecosystem services by stratum.

Question 10: How important are coral reefs in the USVI to each of the following?

Value	Importance	St Thomas	St Croix	St John	Total
Protection from natural disasters	Not at all	3.9% (3.7)	0.7% (1.4)	0.9% (0.8)	2.2% (1.9)
	Slightly	2.0% (2.9)	0.5% (0.7)	5.2% (5.5)	1.5% (1.5)
	Somewhat	8.5% (4.9)	3.2% (3.5)	7.2% (3.9)	6.0% (2.9)
	Moderately	9.1% (5.3)	4.3% (2.5)	7.5% (6.8)	6.8% (2.8)
	Very	62.1% (9.7)	77.8% (7.3)	75.6% (7.6)	70.1% (6.0)
	Not sure	14.4% (6.4)	13.6% (5.8)	3.6% (1.7)	13.4% (4.1)

Value	Importance	St Thomas	St Croix	St John	Total
Outdoor recreation	Not at all	1.9% (2.6)	4.0% (3.9)	5.4% (4.1)	3.0% (2.2)
	Slightly	3.2% (4.3)	2.3% (3.1)	4.8% (7.8)	2.8% (2.6)
	Somewhat	13.7% (5.9)	8.2% (3.6)	7.3% (3.0)	10.8% (3.3)
	Moderately	11.5% (4.4)	11.2% (4.6)	13.3% (5.3)	11.5% (3.0)
	Extremely	56.3% (13.1)	53.6% (8.8)	60.7% (9.8)	55.3% (7.5)
	Not sure	13.5% (6.9)	20.8% (9.0)	8.6% (8.6)	16.6% (5.4)
Food for coastal communities	Not at all	0.3% (0.4)	0.0% (0.0)	7.6% (5.3)	0.5% (0.5)
	Slightly	3.2% (3.7)	2.9% (3.1)	2.4% (2.9)	3.0% (2.3)
	Somewhat	9.4% (4.7)	8.0% (4.6)	14.3% (6.5)	9.0% (3.1)
	Moderately	9.6% (5.0)	6.4% (4.3)	8.1% (6.7)	8.0% (3.1)
	Very	65.9% (8.4)	68.2% (9.4)	62.0% (7.6)	66.8% (6.0)
	Not sure	11.6% (4.6)	14.4% (7.7)	5.6% (6.7)	12.6% (4.2)
Tourism-based industry	Not at all	0.3% (0.4)	1.8% (2.8)	0.6% (1.0)	1.0% (1.3)
	Slightly	2.7% (3.7)	0.5% (0.7)	3.3% (4.9)	1.7% (1.8)
	Somewhat	9.5% (4.4)	3.4% (2.4)	6.7% (5.6)	6.5% (2.4)
	Moderately	10.5% (5.6)	8.7% (4.2)	9.1% (6.3)	9.6% (3.4)
	Very	64.4% (12.0)	68.3% (10.3)	78.3% (6.2)	67.0% (7.5)
	Not sure	12.6% (6.9)	17.2% (9.4)	2.2% (1.5)	14.2% (5.5)
Fishery-based industry	Not at all	0.7% (1.4)	0.4% (0.7)	0.6% (1.0)	0.5% (0.7)
	Slightly	2.8% (3.7)	0.3% (0.6)	3.5% (4.8)	1.7% (1.8)
	Somewhat	3.6% (2.7)	1.8% (1.7)	9.4% (5.7)	3.1% (1.6)
	Moderately	10.8% (6.0)	8.1% (4.9)	6.0% (2.5)	9.3% (3.7)
	Extremely	68.0% (11.3)	80.6% (6.4)	75.4% (4.0)	74.3% (6.3)
	Not sure	14.1% (7.0)	8.8% (5.2)	5.1% (5.6)	11.1% (4.2)
Your livelihood	Not at all	7.6% (6.5)	8.6% (7.1)	9.2% (8.7)	8.1% (4.6)
	Slightly	7.0% (5.4)	7.8% (4.4)	10.3% (7.9)	7.5% (3.3)
	Somewhat	8.3% (4.5)	15.0% (4.6)	10.0% (6.5)	11.5% (3.0)
	Moderately	12.2% (6.3)	8.3% (5.1)	11.2% (7.3)	10.3% (3.9)
	Very	49.9% (11.1)	47.5% (10.7)	53.6% (7.5)	49.0% (7.3)
	Not sure	15.1% (6.0)	12.7% (6.0)	5.6% (6.1)	13.5% (4.0)
Human health	Not at all	0.6% (0.8)	1.8% (2.8)	2.6% (2.8)	1.3% (1.4)
	Slightly	6.8% (6.7)	1.6% (1.9)	2.5% (2.1)	4.2% (3.3)
	Somewhat	10.9% (8.6)	7.8% (3.7)	7.0% (5.2)	9.2% (4.4)
	Moderately	9.1% (4.1)	16.4% (10.1)	13.1% (9.4)	12.8% (5.2)
	Very	57.5% (12.4)	60.8% (9.6)	67.2% (10.2)	59.6% (7.5)
	Not sure	15.1% (7.3)	11.6% (6.1)	7.6% (7.8)	13.1% (4.5)

Table C11. Threat familiarity by stratum.

Question 11: Which of the following do you believe are threats to coral reefs in the USVI?

Threat	Familiarity	St Thomas	St Croix	St John	Total
Climate change	No, it is not a threat	4.4% (3.0)	4.1% (3.0)	6.2% (3.9)	4.4% (2.0)
	Yes, it is a threat	83.8% (5.3)	77.8% (7.3)	83.4% (7.0)	81.0% (4.3)
	Not familiar with threat	11.7% (5.0)	18.0% (7.6)	10.4% (8.2)	14.6% (4.3)
Divers and Snorkelers	No, it is not a threat	30.2% (6.2)	31.5% (8.1)	23.8% (20.9)	30.5% (5.0)
	Yes, it is a threat	50.7% (7.2)	43.2% (11.3)	55.6% (16.1)	47.4% (6.4)
	Not familiar with threat	19.0% (8.1)	25.3% (8.0)	20.6% (13.2)	22.1% (5.5)
Coral bleaching	No, it is not a threat	3.6% (4.2)	0.2% (0.2)	0.0% (0.0)	1.8% (2.0)
	Yes, it is a threat	80.3% (9.8)	83.5% (8.2)	92.2% (6.8)	82.4% (6.1)
	Not familiar with threat	16.1% (10.1)	16.4% (8.1)	7.8% (6.8)	15.8% (6.2)
Hurricanes	No, it is not a threat	5.8% (3.7)	8.1% (5.9)	4.8% (3.4)	6.8% (3.3)
	Yes, it is a threat	81.6% (6.7)	79.4% (6.4)	90.7% (5.1)	81.1% (4.4)
	Not familiar with threat	12.6% (5.8)	12.6% (6.8)	4.5% (5.2)	12.2% (4.2)
Pollution from stormwater, wastewater, and chemical runoff	No, it is not a threat	2.9% (3.7)	2.3% (2.9)	1.7% (1.6)	2.6% (2.2)
	Yes, it is a threat	93.8% (4.1)	94.0% (3.9)	97.6% (1.5)	94.1% (2.7)
	Not familiar with threat	3.3% (2.6)	3.7% (3.5)	0.7% (0.5)	3.4% (2.1)
Marine litter	No, it is not a threat	3.0% (3.3)	0.2% (0.4)	0.6% (1.0)	1.6% (1.6)
	Yes, it is a threat	89.8% (4.0)	97.7% (2.1)	97.9% (2.0)	93.9% (2.2)
	Not familiar with threat	7.2% (3.7)	2.1% (2.0)	1.5% (1.2)	4.5% (2.0)
Invasive species	No, it is not a threat	3.6% (3.0)	7.6% (4.1)	2.5% (1.4)	5.4% (2.5)
	Yes, it is a threat	71.1% (9.3)	67.7% (11.7)	87.7% (9.9)	70.4% (7.1)
	Not familiar with threat	25.3% (9.7)	24.8% (10.4)	9.9% (9.1)	24.3% (6.8)
Overfishing and over gathering	No, it is not a threat	10.5% (6.5)	8.2% (5.2)	7.7% (6.0)	9.3% (4.0)
	Yes, it is a threat	76.5% (9.0)	74.7% (9.6)	85.5% (5.9)	76.1% (6.2)
	Not familiar with threat	13.0% (6.0)	17.1% (7.3)	6.8% (5.1)	14.6% (4.5)
Boat anchoring	No, it is not a threat	5.0% (4.6)	7.0% (5.6)	1.4% (1.6)	5.8% (3.4)
	Yes, it is a threat	81.5% (7.2)	74.0% (9.1)	96.3% (1.5)	78.7% (5.5)
	Not familiar with threat	13.5% (6.8)	19.0% (8.7)	2.3% (1.5)	15.5% (5.2)
Ocean acidification	No, it is not a threat	5.7% (4.4)	2.0% (1.5)	0.5% (0.8)	3.8% (2.3)
	Yes, it is a threat	69.4% (9.2)	71.6% (10.1)	86.7% (7.1)	71.3% (6.5)
	Not familiar with threat	24.9% (9.5)	26.3% (10.2)	12.8% (7.1)	24.9% (6.6)
Coral disease	No, it is not a threat	3.2% (3.7)	1.8% (2.8)	3.3% (2.7)	2.5% (2.2)
	Yes, it is a threat	82.9% (5.8)	84.0% (8.6)	90.0% (5.9)	83.8% (4.9)
	Not familiar with threat	13.9% (5.2)	14.2% (7.2)	6.7% (5.9)	13.7% (4.2)
Island development and construction	No, it is not a threat	9.7% (5.7)	13.2% (6.6)	6.2% (4.3)	11.1% (4.2)
	Yes, it is a threat	73.7% (7.3)	66.9% (8.5)	81.0% (7.9)	71.0% (5.4)
	Not familiar with threat	16.5% (6.4)	19.9% (5.4)	12.8% (6.4)	17.9% (4.0)

Table C12. Threat impact perception by stratum.

Question 12: How severe are each of these threats to coral reefs in the USVI?

Note: Asked only to respondents who answered “yes – this is a threat to coral reefs” in Q11.

Threat	Threat level	St Thomas	St Croix	St John	Total
Climate change	Minor threat	2.4% (3.2)	0.3% (0.7)	6.4% (6.6)	1.7% (1.7)
	Moderate threat	14.6% (7.6)	8.1% (5.6)	8.6% (3.6)	11.3% (4.6)
	Major threat	18.4% (7.6)	38.4% (11.6)	28.4% (7.7)	28.0% (6.8)
	Severe threat	58.2% (13.7)	48.2% (10.2)	54.4% (10.6)	53.4% (8.2)
	Not sure	6.4% (4.6)	5.0% (3.8)	2.2% (1.9)	5.5% (2.8)
Divers and snorkelers	Minor threat	5.5% (6.6)	20.6% (10.3)	6.7% (6.1)	12.1% (5.5)
	Moderate threat	16.0% (9.2)	24.5% (11.9)	16.8% (12.4)	19.7% (6.8)
	Major threat	16.5% (8.6)	29.7% (12.3)	19.6% (7.6)	22.4% (7.3)
	Severe threat	56.3% (16.4)	20.1% (11.4)	52.4% (12.7)	40.4% (10.1)
	Not sure	5.8% (6.1)	5.1% (3.9)	4.6% (5.6)	5.4% (3.6)
Coral bleaching	Minor threat	1.5% (2.7)	1.0% (1.7)	3.3% (3.6)	1.4% (1.5)
	Moderate threat	11.1% (8.2)	6.7% (5.3)	5.6% (4.9)	8.7% (4.6)
	Major threat	21.1% (7.9)	39.2% (12.9)	25.1% (5.5)	29.9% (7.6)
	Severe threat	53.4% (11.2)	44.1% (10.7)	58.2% (7.2)	49.2% (7.5)
	Not sure	12.9% (6.9)	9.0% (5.0)	7.8% (6.4)	10.8% (4.1)
Hurricanes	Minor threat	0.4% (0.8)	1.9% (2.1)	2.2% (3.2)	1.2% (1.1)
	Moderate threat	10.9% (8.8)	10.9% (5.5)	12.1% (7.1)	11.0% (5.0)
	Major threat	21.7% (10.2)	34.4% (8.0)	27.5% (8.3)	27.8% (6.3)
	Severe threat	56.2% (11.7)	50.2% (7.7)	55.5% (6.6)	53.4% (6.6)
	Not sure	10.9% (6.6)	2.7% (2.6)	2.7% (2.4)	6.6% (3.5)
Pollution from stormwater, wastewater, and chemical runoff	Minor threat	0.5% (1.0)	1.6% (1.8)	0.3% (0.4)	1.0% (1.0)
	Moderate threat	8.7% (6.0)	7.9% (4.5)	7.6% (8.6)	8.3% (3.6)
	Major threat	19.4% (7.2)	31.9% (12.6)	29.2% (5.8)	25.8% (7.0)
	Severe threat	62.3% (9.9)	56.8% (12.2)	60.3% (9.9)	59.6% (7.5)
	Not sure	9.1% (4.7)	1.8% (1.7)	2.6% (2.3)	5.3% (2.5)
Marine litter	Minor threat	0.0% (0.0)	1.8% (1.7)	0.9% (1.2)	0.9% (0.8)
	Moderate threat	9.3% (5.1)	10.4% (3.6)	14.2% (7.8)	10.1% (3.0)
	Major threat	24.9% (9.4)	36.2% (12.6)	27.7% (5.9)	30.6% (7.7)
	Severe threat	58.2% (11.6)	48.2% (13.2)	55.1% (7.1)	53.1% (8.4)
	Not sure	7.6% (5.2)	3.5% (2.6)	2.0% (2.5)	5.3% (2.8)
Invasive species	Minor threat	1.6% (2.7)	2.3% (4.3)	1.8% (2.0)	1.9% (2.3)
	Moderate threat	12.5% (7.6)	6.6% (4.8)	13.8% (11.0)	10.0% (4.2)
	Major threat	22.6% (10.0)	53.7% (11.4)	24.3% (9.8)	36.7% (7.7)
	Severe threat	52.5% (13.2)	31.3% (13.0)	56.1% (13.5)	43.2% (9.2)

Threat	Threat level	St Thomas	St Croix	St John	Total
	Not sure	10.8% (7.1)	6.1% (4.6)	4.0% (2.4)	8.2% (4.1)
Overfishing and overgathering	Minor threat	1.4% (2.8)	4.1% (4.7)	4.0% (5.1)	2.8% (2.6)
	Moderate threat	12.6% (6.1)	17.2% (6.4)	14.6% (9.4)	14.8% (4.2)
	Major threat	27.7% (10.8)	30.4% (7.8)	31.4% (10.9)	29.1% (6.4)
	Severe threat	51.2% (12.5)	44.4% (12.0)	47.6% (8.9)	47.9% (8.3)
	Not sure	7.0% (4.8)	3.9% (3.6)	2.3% (1.4)	5.3% (2.9)
Boat anchoring and grounding	Minor threat	1.1% (1.5)	2.5% (1.8)	0.8% (1.3)	1.7% (1.1)
	Moderate threat	15.2% (6.0)	13.9% (7.3)	8.9% (4.9)	14.2% (4.4)
	Major threat	20.3% (7.0)	38.0% (14.4)	35.5% (11.2)	29.0% (7.8)
	Severe threat	56.7% (10.2)	40.5% (14.5)	49.3% (12.6)	49.1% (8.5)
	Not sure	6.8% (4.9)	5.1% (4.3)	5.6% (4.8)	6.0% (3.1)
Ocean acidification	Minor threat	3.6% (4.9)	0.0% (0.0)	0.9% (1.5)	1.7% (2.3)
	Moderate threat	9.4% (6.1)	4.6% (3.2)	7.0% (7.6)	7.0% (3.2)
	Major threat	21.4% (7.9)	39.7% (12.4)	31.1% (8.1)	30.5% (7.6)
	Severe threat	55.1% (12.3)	45.0% (12.7)	57.1% (8.8)	50.5% (8.6)
	Not sure	10.5% (5.8)	10.7% (5.6)	3.9% (3.0)	10.2% (3.8)
Coral disease	Minor threat	0.0% (0.0)	0.7% (0.9)	0.8% (1.4)	0.4% (0.4)
	Moderate threat	15.4% (8.5)	3.4% (3.3)	9.5% (4.6)	9.4% (4.5)
	Major threat	21.8% (8.6)	36.9% (13.1)	23.9% (4.8)	29.0% (7.9)
	Severe threat	55.6% (13.3)	52.0% (11.7)	62.9% (7.2)	54.3% (8.5)
	Not sure	7.2% (5.5)	7.1% (4.6)	2.9% (3.0)	6.9% (3.4)
Island development and construction	Minor threat	0.0% (0.0)	3.0% (3.1)	0.9% (1.6)	1.4% (1.4)
	Moderate threat	6.8% (6.0)	10.4% (6.8)	7.2% (4.1)	8.4% (4.3)
	Major threat	25.9% (9.4)	27.7% (8.6)	31.6% (9.7)	27.0% (6.1)
	Severe threat	59.2% (11.3)	52.3% (10.5)	57.6% (9.3)	56.1% (7.4)
	Not sure	8.2% (6.3)	6.5% (5.5)	2.8% (3.1)	7.1% (4.0)

Table C13. Familiarity with marine protected areas by stratum.

Question 13: Before today, were you aware of existing MPAs in the USVI?

Familiarity	St Thomas	St Croix	St John	Total
No	65.6% (13.1)	45.2% (8.0)	36.2% (10.5)	54.4% (7.4)
Yes	34.4% (13.1)	54.8% (8.0)	63.8% (10.5)	45.6% (7.4)

Table C14. Perceived impacts of marine protected areas by stratum.

Question 14: How do you think the establishment of MPAs impacted the following in the USVI?

Note: Answered only by respondents who answered “yes” in Table C13 (they are familiar with MPAs).

Statement	Change in condition	St Thomas	St Croix	St John	Total
Protection of coral reefs	Worsened greatly	0.0% (0.0)	0.6% (1.2)	4.8% (4.0)	0.7% (0.7)
	Worsened	0.2% (0.4)	3.1% (3.6)	2.3% (3.6)	2.0% (2.1)
	No impact	11.3% (6.9)	13.5% (11.7)	12.6% (7.8)	12.6% (7.2)
	Improved	33.7% (13.3)	40.4% (12.1)	35.2% (14.4)	37.6% (8.4)
	Improved greatly	31.5% (7.6)	26.1% (10.4)	28.6% (7.4)	28.2% (6.6)
	Not sure	23.3% (11.6)	16.3% (9.6)	16.6% (12.6)	18.8% (6.9)
Amount of fish	Worsened greatly	0.0% (0.0)	4.8% (9.0)	7.7% (5.6)	3.3% (5.3)
	Worsened	0.3% (0.7)	2.8% (3.0)	6.8% (4.3)	2.2% (1.8)
	No impact	13.3% (9.1)	15.6% (9.3)	11.5% (6.5)	14.5% (6.3)
	Improved	24.9% (13.1)	39.2% (16.9)	30.1% (17.2)	33.4% (10.9)
	Improved greatly	43.6% (10.9)	20.8% (12.0)	27.6% (7.9)	29.4% (8.6)
	Not sure	17.9% (11.3)	16.7% (8.3)	16.3% (11.7)	17.1% (6.3)
Tourism-based economy	Worsened greatly	0.0% (0.0)	6.1% (9.3)	1.7% (1.7)	3.6% (5.4)
	Worsened	4.0% (4.3)	3.4% (3.4)	12.2% (10.3)	4.2% (2.7)
	No impact	13.9% (9.6)	18.9% (9.5)	11.9% (8.1)	16.6% (6.5)
	Improved	29.3% (14.7)	33.7% (9.9)	20.1% (3.4)	31.1% (7.7)
	Improved greatly	31.3% (13.3)	22.4% (11.0)	41.5% (13.8)	27.0% (8.2)
	Not sure	21.6% (10.3)	15.6% (8.7)	12.6% (13.3)	17.5% (6.3)
Fishery-based economy	Worsened greatly	0.0% (0.0)	6.2% (9.3)	4.1% (3.7)	3.8% (5.4)
	Worsened	4.3% (4.4)	5.8% (6.6)	12.6% (10.8)	5.8% (4.2)
	No impact	13.1% (10.4)	14.0% (8.3)	13.4% (11.2)	13.7% (6.1)
	Improved	22.2% (11.6)	32.8% (14.5)	25.9% (5.3)	28.5% (9.4)
	Improved greatly	37.8% (11.7)	21.5% (9.9)	30.2% (9.9)	27.9% (7.5)
	Not sure	22.6% (9.4)	19.7% (10.4)	13.9% (14.7)	20.3% (6.9)
Your livelihood	Worsened greatly	0.0% (0.0)	2.2% (4.0)	3.2% (4.1)	1.5% (2.4)
	Worsened	0.0% (0.0)	2.8% (4.4)	10.7% (11.3)	2.4% (2.7)
	No impact	22.8% (13.4)	46.5% (12.6)	32.3% (11.4)	37.0% (8.9)
	Improved	18.4% (9.8)	20.7% (11.4)	19.7% (11.2)	19.8% (7.4)
	Improved greatly	32.9% (12.3)	11.4% (8.4)	25.7% (12.4)	20.1% (7.0)
	Not sure	25.9% (10.3)	16.5% (9.4)	8.4% (6.5)	19.2% (6.6)
Outdoor recreation	Worsened greatly	0.0% (0.0)	6.0% (9.2)	4.3% (4.8)	3.7% (5.4)
	Worsened	2.8% (4.1)	3.1% (2.6)	9.9% (9.5)	3.5% (2.3)
	No impact	11.6% (7.8)	30.7% (8.0)	19.9% (12.1)	23.1% (5.9)
	Improved	25.9% (13.7)	32.5% (9.9)	19.0% (10.0)	29.2% (7.5)
	Improved greatly	32.2% (12.2)	17.8% (9.9)	36.4% (10.7)	24.3% (7.5)
	Not sure	27.5% (10.2)	9.9% (8.4)	10.5% (11.4)	16.2% (6.3)

Statement	Change in condition	St Thomas	St Croix	St John	Total
Food for coastal communities	Worsened greatly	0.0% (0.0)	6.0% (9.2)	6.2% (5.0)	3.9% (5.4)
	Worsened	1.6% (2.8)	10.5% (11.0)	7.1% (3.5)	7.1% (6.4)
	No impact	14.4% (9.5)	21.6% (10.5)	15.5% (11.3)	18.6% (7.0)
	Improved	21.4% (14.6)	20.7% (9.6)	27.1% (17.9)	21.4% (7.7)
	Improved greatly	37.4% (11.2)	17.7% (10.8)	30.2% (9.9)	25.6% (7.7)
	Not sure	25.2% (10.1)	23.5% (9.9)	13.9% (14.5)	23.4% (6.9)

Table C15. Support for coral reef management strategies by stratum.

Question 15: How much do you oppose or support each of these managements strategies to protect coral reefs in the USVI?

Strategy	Support	St Thomas	St Croix	St John	Total
Establish new catch limits per person for certain fish species	Strongly oppose	4.1% (4.5)	8.9% (5.1)	12.6% (6.2)	6.8% (3.2)
	Somewhat oppose	4.6% (4.2)	5.2% (3.5)	12.4% (7.1)	5.3% (2.6)
	Neutral	37.0% (8.4)	29.5% (7.3)	30.8% (8.7)	33.2% (5.4)
	Somewhat support	34.1% (9.9)	26.2% (5.7)	22.1% (15.2)	29.8% (5.4)
	Strongly support	20.3% (6.1)	30.2% (8.0)	22.1% (10.7)	25.0% (4.7)
Create new MPAs	Strongly oppose	1.6% (2.2)	3.0% (2.9)	1.6% (2.2)	2.3% (1.7)
	Somewhat oppose	1.5% (2.1)	5.3% (4.4)	7.0% (5.7)	3.6% (2.4)
	Neutral	34.5% (10.3)	40.2% (9.1)	42.9% (11.5)	37.6% (6.5)
	Somewhat support	38.2% (9.5)	23.2% (6.0)	16.9% (3.0)	30.1% (5.3)
	Strongly support	24.2% (6.7)	28.3% (7.4)	31.5% (10.0)	26.5% (4.7)
Establish new requirements for improved wastewater treatment	Strongly oppose	0.1% (0.1)	0.0% (0.0)	0.7% (0.8)	0.1% (0.1)
	Somewhat oppose	1.3% (1.4)	1.2% (1.8)	5.3% (6.1)	1.5% (1.1)
	Neutral	24.6% (10.4)	15.1% (7.7)	28.6% (10.3)	20.4% (6.2)
	Somewhat support	32.4% (9.4)	15.0% (6.2)	20.5% (8.4)	23.7% (5.2)
	Strongly support	41.6% (7.6)	68.8% (9.5)	44.9% (10.3)	54.4% (5.5)
Encourage community participation in the management of marine resources	Strongly oppose	0.1% (0.1)	0.0% (0.0)	2.6% (2.8)	0.2% (0.2)
	Somewhat oppose	0.4% (0.7)	0.8% (1.1)	5.4% (6.6)	0.8% (0.7)
	Neutral	29.2% (10.3)	17.7% (7.9)	30.3% (7.1)	23.9% (6.2)
	Somewhat support	36.8% (7.9)	27.8% (9.2)	15.2% (3.2)	31.5% (5.7)
	Strongly support	33.5% (7.7)	53.7% (8.8)	46.5% (12.6)	43.6% (5.5)
Charge a small fee to non-residents visiting locally managed MPAs to fund conservation	Strongly oppose	1.5% (1.5)	6.7% (4.4)	8.9% (3.7)	4.3% (2.2)
	Somewhat oppose	4.1% (4.2)	3.2% (2.9)	9.9% (7.4)	4.0% (2.5)
	Neutral	33.2% (8.1)	22.2% (6.5)	43.8% (9.9)	28.6% (5.0)
	Somewhat support	29.2% (7.9)	28.5% (6.8)	15.2% (4.4)	28.1% (5.0)
	Strongly support	32.0% (8.7)	39.4% (7.9)	22.2% (9.0)	35.0% (5.6)
Increase mooring availability to limit	Strongly oppose	1.1% (1.4)	0.0% (0.0)	5.1% (4.6)	0.8% (0.8)
	Somewhat oppose	2.9% (3.0)	2.1% (2.0)	3.6% (2.3)	2.5% (1.7)

Strategy	Support	St Thomas	St Croix	St John	Total
boat anchoring	Neutral	36.6% (9.7)	31.5% (10.1)	32.6% (10.2)	34.0% (6.6)
	Somewhat support	28.1% (11.1)	26.6% (5.8)	25.0% (6.6)	27.3% (6.0)
	Strongly support	31.2% (7.6)	39.8% (8.2)	33.7% (12.8)	35.3% (5.3)
Increase enforcement of restrictions on construction practices to prevent sediment runoff	Strongly oppose	0.1% (0.1)	4.0% (3.5)	7.2% (7.0)	2.3% (1.7)
	Somewhat oppose	0.5% (0.7)	1.5% (2.0)	3.8% (2.3)	1.1% (1.0)
	Neutral	28.5% (8.3)	21.0% (10.2)	28.5% (7.2)	25.0% (6.2)
	Somewhat support	32.5% (9.7)	21.7% (9.0)	21.9% (8.3)	26.9% (6.4)
	Strongly support	38.5% (10.0)	51.9% (10.1)	38.5% (9.5)	44.7% (6.8)
Impose a license requirement and fee for recreational fishers	Strongly oppose	4.2% (3.4)	36.0% (11.6)	20.8% (8.1)	19.9% (6.1)
	Somewhat oppose	10.0% (5.6)	8.5% (4.6)	8.1% (5.6)	9.2% (3.5)
	Neutral	30.7% (8.3)	20.7% (7.0)	31.7% (12.5)	26.1% (5.3)
	Somewhat support	24.4% (7.6)	13.3% (4.3)	21.5% (10.0)	19.1% (4.1)
	Strongly support	30.7% (7.4)	21.5% (7.2)	18.0% (8.3)	25.8% (5.1)

Table C16. Importance of USVI residents to engage in activities to protect coral reefs by stratum.

Question 16: How important is it for the USVI residents to participate in actions that help to protect coral reefs?

Importance	St Thomas	St Croix	St John	Total
Not at all	3.3% (3.5)	0.0% (0.0)	3.9% (6.9)	1.8% (1.8)
Slightly	2.8% (3.0)	2.3% (3.1)	4.3% (7.0)	2.7% (2.1)
Somewhat	16.8% (7.5)	10.3% (4.8)	7.0% (3.4)	13.2% (4.3)
Moderately	17.3% (7.3)	15.3% (6.5)	9.8% (6.1)	16.0% (4.6)
Very	59.7% (8.7)	72.1% (8.4)	74.9% (10.9)	66.3% (5.9)

Table C17. Participation in routine pro-environmental behaviors by stratum.

Question 17: Do you routinely participate in any of these actions?

Behavior	St Thomas	St Croix	St John	Total
Reduce household water use	76.8% (8.7)	82.9% (7.1)	74.2% (6.5)	79.5% (5.4)
Reduce household electricity use	81.4% (9.1)	93.4% (6.3)	75.8% (13.5)	86.7% (5.5)
Compost	36.0% (12.4)	41.7% (8.3)	43.1% (8.5)	39.1% (7.2)
Recycle	48.1% (14.7)	46.7% (11.9)	59.2% (11.8)	48.0% (9.0)
Use reef-safe forms of sun protection	46.5% (15.9)	44.9% (14.8)	64.4% (9.5)	46.7% (10.3)
Promote environmentally responsible practices with others	62.7% (13.3)	81.6% (7.6)	74.8% (11.2)	72.2% (7.5)
Minimize fuel consumption	68.6% (8.2)	72.2% (7.6)	65.3% (12.0)	70.1% (5.3)
Use fewer single-use products (plastic bags or cups, Styrofoam, etc.)	63.5% (11.3)	80.7% (5.9)	75.2% (13.6)	72.1% (6.3)

Table C18. Reasons for not participating in routine pro-environmental behaviors by stratum.

Question 18: Why do you not participate in those actions routinely?

Note: Answered only by those who did not participate in the behavior.

Behavior	Reason	St Thomas	St Croix	St John	Total
Reduce household water use	I don't know how	19.5% (15.1)	5.4% (8.0)	22.4% (14.0)	14.2% (8.8)
	It is not convenient	33.4% (16.9)	10.9% (16.7)	13.7% (17.3)	23.2% (10.8)
	It is too expensive	2.9% (6.1)	0.0% (0.0)	5.2% (6.5)	1.9% (3.3)
	I have not had the opportunity to do so	17.2% (14.4)	22.7% (16.0)	29.6% (19.1)	20.2% (10.3)
	None of these reasons	38.0% (24.2)	60.9% (22.9)	29.0% (10.7)	46.4% (15.3)
Reduce household electricity use	I don't know how	17.9% (17.0)	0.0% (0.0)	13.4% (5.0)	13.1% (11.5)
	It is not convenient	28.2% (19.8)	8.3% (13.6)	18.5% (28.7)	22.4% (13.5)
	It is too expensive	7.9% (15.8)	6.2% (14.0)	23.5% (15.8)	9.1% (11.3)
	I have not had the opportunity to do so	4.1% (5.2)	81.7% (24.0)	24.3% (14.8)	25.1% (17.6)
	None of these reasons	46.7% (30.1)	3.8% (6.0)	20.2% (17.5)	33.5% (22.8)
Compost	I don't know how	44.5% (10.6)	15.0% (10.6)	25.5% (15.3)	30.4% (7.8)
	It is not convenient	5.8% (4.1)	12.9% (7.6)	17.1% (15.3)	9.5% (4.2)
	It is too expensive	1.1% (2.2)	0.0% (0.0)	11.2% (11.1)	1.1% (1.3)
	I have not had the opportunity to do so	24.5% (14.6)	30.0% (10.1)	29.7% (9.0)	27.2% (8.6)
	None of these reasons	31.2% (11.8)	43.1% (11.5)	23.6% (5.0)	36.2% (8.0)
Recycle	I don't know how	6.1% (6.7)	5.6% (5.0)	11.6% (3.5)	6.1% (4.0)
	It is not convenient	30.9% (11.3)	19.1% (7.7)	24.9% (22.5)	24.9% (6.9)
	It is too expensive	0.4% (0.8)	0.3% (0.6)	7.4% (12.0)	0.7% (0.8)
	I have not had the opportunity to do so	23.9% (11.8)	33.5% (9.0)	24.2% (13.1)	28.6% (7.1)
	None of these reasons	45.5% (17.2)	44.1% (9.8)	32.5% (17.6)	44.3% (9.4)
Use reef-safe forms of sun protection	I don't know how	7.7% (8.6)	16.1% (9.9)	9.0% (4.4)	11.9% (6.5)
	It is not convenient	4.0% (4.1)	6.4% (6.0)	11.8% (5.8)	5.4% (3.5)
	It is too expensive	1.3% (2.5)	4.2% (6.0)	13.6% (18.5)	3.2% (3.3)
	I have not had the opportunity to do so	27.1% (8.2)	12.8% (6.5)	30.1% (14.6)	20.2% (5.3)
	None of these reasons	62.2% (12.0)	63.0% (13.1)	35.5% (12.3)	61.6% (8.7)
Promote environmentally responsible	I don't know how	11.3% (10.5)	25.3% (20.4)	20.5% (3.7)	16.2% (9.6)
	It is not convenient	1.5% (1.7)	6.6% (6.0)	11.0% (7.4)	3.6% (2.2)
	It is too expensive	0.0% (0.0)	1.1% (2.4)	16.4% (20.5)	1.2% (1.4)

Behavior	Reason	St Thomas	St Croix	St John	Total
practices with others	I have not had the opportunity to do so	29.3% (16.6)	21.2% (15.6)	22.8% (21.4)	26.4% (11.5)
	None of these reasons	63.7% (17.4)	48.1% (18.9)	29.8% (13.1)	57.1% (13.2)
Minimize fuel consumption	I don't know how	7.9% (7.9)	24.0% (15.4)	21.6% (22.8)	16.0% (8.3)
	It is not convenient	17.2% (11.1)	25.5% (18.3)	6.6% (4.5)	20.4% (10.0)
	It is too expensive	3.8% (7.6)	0.0% (0.0)	37.1% (18.8)	4.0% (4.5)
	I have not had the opportunity to do so	16.6% (12.6)	15.5% (11.5)	18.0% (11.1)	16.2% (8.1)
	None of these reasons	58.2% (18.7)	34.9% (21.7)	19.6% (11.0)	45.3% (14.0)
Use fewer single-use products (plastic bags or cups, Styrofoam, etc.)	I don't know how	2.9% (6.0)	10.0% (14.2)	15.9% (19.6)	5.9% (6.2)
	It is not convenient	41.9% (21.6)	21.0% (14.9)	22.6% (21.3)	34.1% (15.1)
	It is too expensive	1.8% (3.5)	0.0% (0.0)	7.1% (8.3)	1.5% (2.3)
	I have not had the opportunity to do so	14.2% (15.1)	27.7% (17.1)	19.2% (16.8)	18.9% (11.2)
	None of these reasons	45.1% (21.5)	41.3% (16.6)	35.2% (18.6)	43.3% (14.4)

Table C19. Participation in annual pro-environmental behaviors by stratum.

Question 19: In the past 12 months, have you done any of these actions?

Behavior	St Thomas	St Croix	St John	Total
Donate to an environmental cause	22.7% (10.0)	23.1% (7.3)	38.4% (11.0)	23.7% (5.9)
Volunteered in a beach clean-up or coastal clean-up	19.2% (8.9)	28.1% (7.5)	38.6% (12.9)	24.4% (5.5)
Joined or renewed a membership in a conservation organization	10.7% (9.2)	6.2% (4.3)	24.0% (8.7)	9.3% (4.8)
Participated in an environmental science or restoration activity (such as coral reef health reports, tree or mangrove planting, or sea turtle beach monitoring)	9.8% (9.1)	15.5% (8.1)	23.0% (12.5)	13.2% (5.8)

Table C20. Reasons for not participating in annual pro-environmental behaviors by stratum.

Question 20: Why have you not participated in those actions in the past 12 months?

Note: Answered only by those who did not participate in the behavior.

Behavior	Reason	St Thomas	St Croix	St John	Total
Donated to an environmental cause	I don't know how	21.6% (12.7)	13.5% (9.5)	19.1% (2.9)	17.6% (7.5)
	It is not convenient	1.8% (2.0)	4.8% (3.4)	3.2% (2.7)	3.3% (1.9)
	It is too expensive	0.0% (0.0)	8.8% (9.2)	6.1% (6.0)	4.4% (4.6)
	I have not had the opportunity to do so	36.9% (10.8)	36.0% (10.6)	56.2% (8.4)	37.3% (7.3)
	None of these reasons	41.2% (13.2)	39.6% (11.6)	17.9% (5.9)	39.4% (8.5)
Volunteered in a beach or coastal clean-up	I don't know how	15.2% (11.1)	7.3% (5.7)	6.1% (5.9)	11.3% (6.2)
	It is not convenient	5.6% (3.6)	9.8% (4.7)	10.6% (10.0)	7.7% (2.9)
	It is too expensive	0.0% (0.0)	0.2% (0.3)	2.9% (6.1)	0.2% (0.3)
	I have not had the opportunity to do so	40.6% (9.9)	43.4% (10.3)	63.5% (11.8)	42.9% (6.9)
	None of these reasons	39.9% (12.9)	42.3% (11.2)	16.9% (6.9)	40.0% (8.3)
Joined or renewed a membership in a conservation organization	I don't know how	19.8% (9.5)	8.9% (4.9)	11.0% (5.2)	14.1% (5.0)
	It is not convenient	4.8% (5.0)	5.1% (3.7)	8.0% (8.6)	5.1% (3.0)
	It is too expensive	0.1% (0.2)	5.7% (3.8)	10.7% (9.3)	3.3% (2.0)
	I have not had the opportunity to do so	28.9% (8.6)	31.9% (8.6)	47.3% (11.5)	31.2% (5.9)
	None of these reasons	47.9% (11.7)	51.5% (9.2)	23.1% (9.6)	48.6% (7.2)
Participated in an environmental science or restoration activity (such as coral reef health reports, tree or mangrove planting, or sea turtle beach monitoring)	I don't know how	21.1% (12.3)	7.9% (6.5)	15.4% (10.4)	14.8% (6.8)
	It is not convenient	4.3% (4.6)	5.6% (4.9)	3.0% (1.0)	4.9% (3.2)
	It is too expensive	0.0% (0.0)	0.2% (0.3)	3.7% (4.9)	0.2% (0.3)
	I have not had the opportunity to do so	35.7% (8.4)	36.5% (10.2)	57.6% (14.7)	37.1% (6.4)
	None of these reasons	41.1% (11.2)	51.9% (10.6)	21.5% (8.6)	45.1% (7.6)

Table C21. Participation in long-term pro-environmental behaviors by stratum.

Question 21: In the past 5 years, have you done any of these actions on your property?

Behavior	St Thomas	St Croix	St John	Total
Upgraded a septic system	23.0% (9.9)	19.7% (8.5)	30.9% (8.5)	21.9% (6.2)
Installed or upgraded a water storage system (such as a cistern or holding tank)	30.1% (10.9)	33.5% (8.1)	38.7% (11.1)	32.2% (6.5)
Installed or upgraded stormwater or erosion control practices	22.5% (11.9)	24.1% (11.5)	29.3% (10.6)	23.6% (7.8)

Table C22. Reasons for not participating in long-term pro-environmental behaviors by stratum.

Question 22: Why have you not participated in those actions on your property in the past 5 years?

Note: Answered only by those who did not participate in the behavior.

Behavior	Reason	St Thomas	St Croix	St John	Total
Upgraded the septic or sewer system on my property	I don't know how	8.4% (7.3)	5.3% (3.9)	8.8% (4.6)	6.9% (3.9)
	It is not convenient	0.9% (1.7)	0.9% (1.7)	4.3% (8.5)	1.1% (1.2)
	It is too expensive	4.3% (4.6)	5.6% (4.3)	16.1% (17.6)	5.5% (3.1)
	I have not had the opportunity to do so	24.8% (9.4)	39.2% (13.3)	30.3% (8.7)	32.0% (8.0)
	I am not allowed to	23.7% (10.6)	18.3% (10.0)	24.7% (14.2)	21.1% (6.9)
	None of these reasons	41.4% (12.6)	36.8% (9.4)	22.0% (11.2)	38.2% (7.6)
Installed or upgraded a water storage system (such as a cistern or holding tank)	I don't know how	5.0% (5.1)	0.9% (1.3)	8.1% (6.8)	3.3% (2.6)
	It is not convenient	2.2% (3.3)	1.9% (2.3)	2.8% (5.0)	2.1% (1.9)
	It is too expensive	6.9% (5.9)	5.2% (4.9)	19.3% (16.2)	6.7% (3.8)
	I have not had the opportunity to do so	20.0% (10.5)	41.0% (13.3)	38.1% (6.1)	30.5% (8.6)
	I am not allowed to	22.2% (9.9)	17.5% (10.3)	16.6% (8.0)	19.8% (6.8)
	None of these reasons	46.4% (12.8)	36.3% (13.6)	15.3% (8.2)	40.2% (9.2)
Installed or upgraded stormwater or erosion control practices	I don't know how	11.0% (6.0)	11.2% (7.0)	7.6% (6.1)	11.0% (4.4)
	It is not convenient	0.0% (0.0)	1.2% (1.6)	1.1% (2.0)	0.6% (0.8)
	It is too expensive	3.1% (3.5)	1.0% (1.7)	16.6% (10.3)	2.8% (2.0)
	I have not had the opportunity to do so	15.8% (9.2)	20.7% (8.0)	29.7% (7.0)	18.7% (6.0)
	I am not allowed to	19.5% (8.9)	15.3% (8.6)	19.4% (10.5)	17.5% (6.0)
	None of these reasons	50.5% (15.1)	51.6% (13.2)	26.1% (10.1)	49.9% (9.7)

Table C23. Perceptions of acceptability of regulations to protect coral reefs by stratum.

Question 23: How unacceptable or acceptable are each of these practices in the USVI?

Behavior	Perception	St Thomas	St Croix	St John	Total
Operating a Jet Ski or similar watercraft in a shallow reef area	Very unacceptable	46.1% (9.3)	57.9% (8.3)	72.6% (9.5)	53.1% (6.1)
	Somewhat unacceptable	20.1% (7.5)	14.4% (6.7)	8.5% (6.8)	16.8% (4.8)
	Neutral	20.7% (6.5)	19.5% (5.9)	13.9% (7.1)	19.8% (4.2)
	Somewhat acceptable	8.7% (5.5)	6.8% (4.4)	2.7% (1.9)	7.5% (3.3)
	Very acceptable	4.4% (4.6)	1.4% (1.5)	2.3% (4.3)	2.9% (2.4)
Leave trash on the beach	Very unacceptable	76.0% (8.6)	90.8% (5.2)	88.4% (7.2)	83.7% (4.9)
	Somewhat unacceptable	12.3% (6.7)	5.7% (4.4)	0.3% (0.3)	8.5% (3.8)
	Neutral	5.2% (3.7)	2.3% (3.0)	2.7% (3.1)	3.7% (2.3)
	Somewhat acceptable	1.7% (2.3)	0.3% (0.7)	3.4% (2.7)	1.1% (1.1)

Behavior	Perception	St Thomas	St Croix	St John	Total
	Very acceptable	4.7% (4.0)	0.8% (0.9)	5.2% (5.9)	2.9% (2.0)
Anchor a boat on coral	Very unacceptable	61.9% (11.8)	76.7% (7.1)	87.0% (6.2)	70.1% (6.7)
	Somewhat unacceptable	15.6% (7.9)	11.5% (5.7)	0.7% (1.0)	12.9% (4.6)
	Neutral	16.4% (8.8)	8.9% (6.2)	4.5% (2.7)	12.3% (5.2)
	Somewhat acceptable	1.4% (2.7)	2.3% (3.1)	2.5% (2.7)	1.9% (1.9)
	Very acceptable	4.7% (4.0)	0.6% (0.7)	5.2% (6.0)	2.8% (2.0)
Feed marine animals (mammals, fish, sea birds, etc.)	Very unacceptable	29.9% (9.0)	26.3% (9.7)	59.3% (13.8)	29.8% (6.4)
	Somewhat unacceptable	20.1% (7.6)	17.8% (8.7)	9.8% (8.2)	18.5% (5.5)
	Neutral	30.6% (9.5)	35.1% (9.9)	18.5% (9.3)	32.0% (6.5)
	Somewhat acceptable	10.5% (6.3)	11.8% (8.2)	6.1% (6.6)	10.9% (4.9)
	Very acceptable	8.9% (5.1)	8.9% (6.2)	6.4% (6.6)	8.8% (3.8)
Touch corals with my hands or feet (including standing)	Very unacceptable	44.7% (11.7)	60.2% (9.5)	76.4% (6.9)	53.6% (7.3)
	Somewhat unacceptable	22.4% (8.9)	13.8% (5.4)	9.9% (10.2)	17.7% (5.0)
	Neutral	25.0% (10.5)	17.4% (7.8)	5.7% (1.6)	20.4% (6.3)
	Somewhat acceptable	2.8% (3.4)	7.4% (4.6)	2.7% (1.9)	5.0% (2.7)
	Very acceptable	5.1% (4.5)	1.1% (1.6)	5.3% (6.0)	3.3% (2.3)
Take seashells or coral from the reef	Very unacceptable	47.8% (11.9)	62.0% (9.4)	69.6% (8.8)	55.6% (7.3)
	Somewhat unacceptable	17.6% (6.9)	12.0% (6.9)	12.5% (11.4)	14.7% (4.6)
	Neutral	24.1% (9.5)	14.4% (7.3)	8.7% (2.9)	18.7% (5.7)
	Somewhat acceptable	5.2% (4.6)	7.4% (4.6)	4.1% (2.6)	6.2% (3.1)
	Very acceptable	5.2% (4.6)	4.2% (4.1)	5.1% (5.8)	4.7% (2.9)
Take seashells, coral, or sand from the beach	Very unacceptable	30.4% (9.0)	49.1% (8.0)	65.6% (11.8)	41.1% (6.1)
	Somewhat unacceptable	23.0% (4.6)	19.4% (7.7)	14.1% (10.5)	20.8% (4.3)
	Neutral	26.3% (9.8)	20.2% (6.0)	10.6% (5.8)	22.6% (5.5)
	Somewhat acceptable	13.7% (6.8)	6.9% (5.7)	4.1% (1.9)	10.0% (4.2)
	Very acceptable	6.6% (4.7)	4.4% (3.3)	5.5% (5.9)	5.5% (2.8)
Harvesting resources in MPAs	Very unacceptable	35.8% (9.5)	57.2% (8.9)	62.9% (14.8)	47.4% (6.5)
	Somewhat unacceptable	13.7% (7.8)	5.9% (4.1)	10.2% (8.1)	9.8% (4.2)
	Neutral	43.6% (10.8)	34.1% (9.5)	14.5% (4.4)	37.6% (6.9)
	Somewhat acceptable	2.1% (2.3)	2.0% (1.7)	6.3% (7.2)	2.3% (1.4)
	Very acceptable	4.8% (3.5)	0.7% (0.8)	6.0% (5.3)	2.9% (1.8)
Driving on the beach	Very unacceptable	56.4% (7.2)	71.4% (6.8)	82.2% (3.7)	64.8% (4.8)
	Somewhat unacceptable	20.0% (8.0)	11.1% (6.2)	1.6% (2.3)	14.8% (4.8)
	Neutral	13.8% (6.0)	9.9% (5.4)	6.5% (1.9)	11.6% (3.8)
	Somewhat acceptable	3.4% (3.8)	5.2% (4.4)	3.9% (3.5)	4.3% (2.7)
	Very acceptable	6.5% (4.3)	2.4% (2.9)	5.8% (5.8)	4.5% (2.5)

Appendix D: Additional figures of results

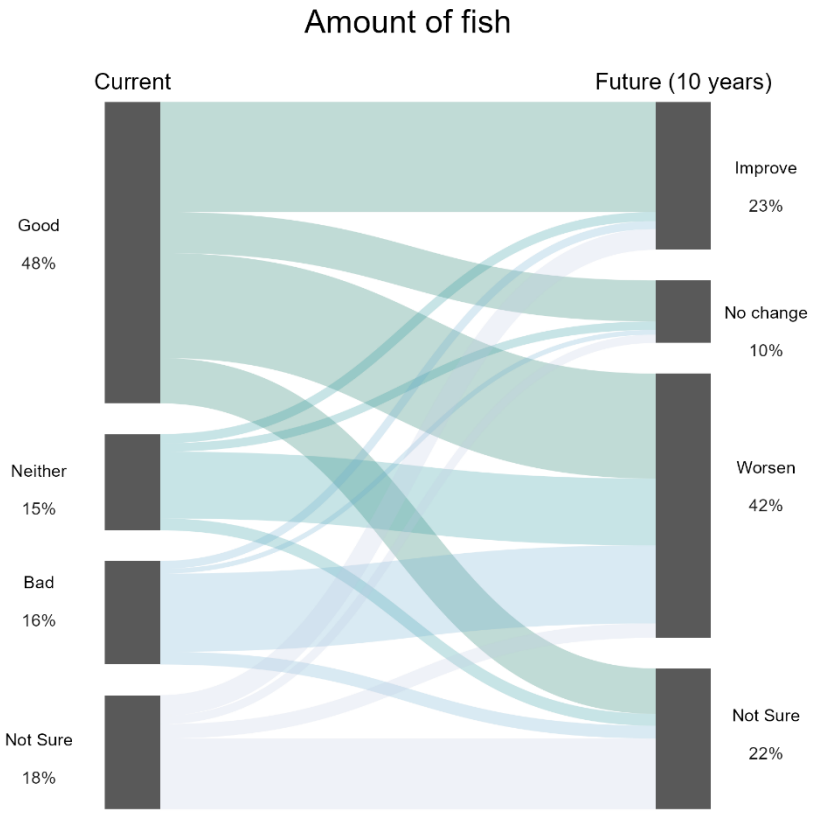


Figure D1. Relationship between current and future perceived amounts of fish in USVI.

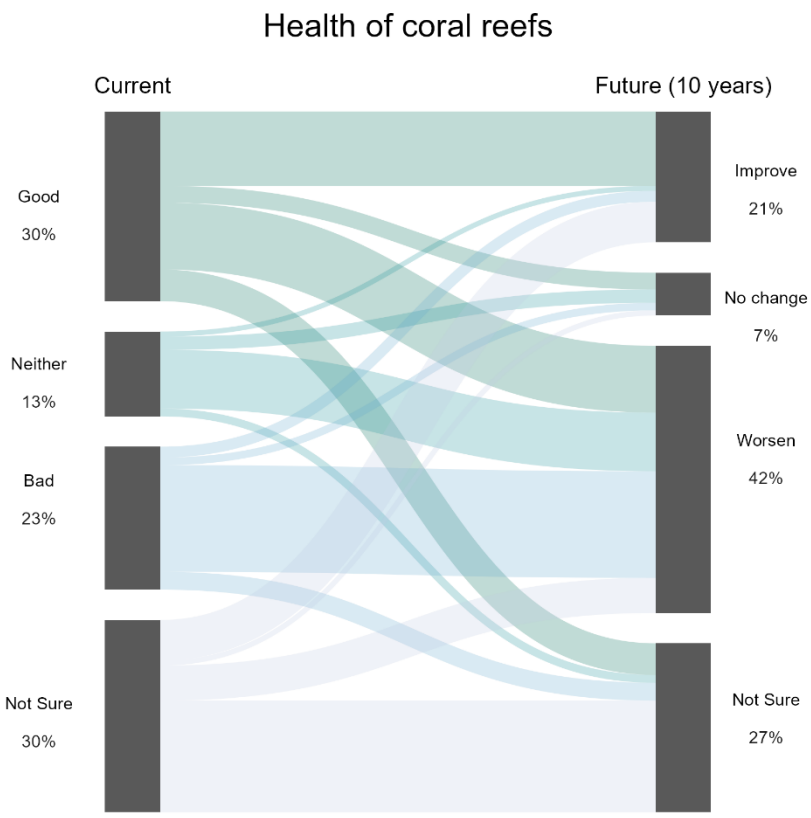


Figure D2. Relationship between current and future perceived health of coral reefs in USVI.

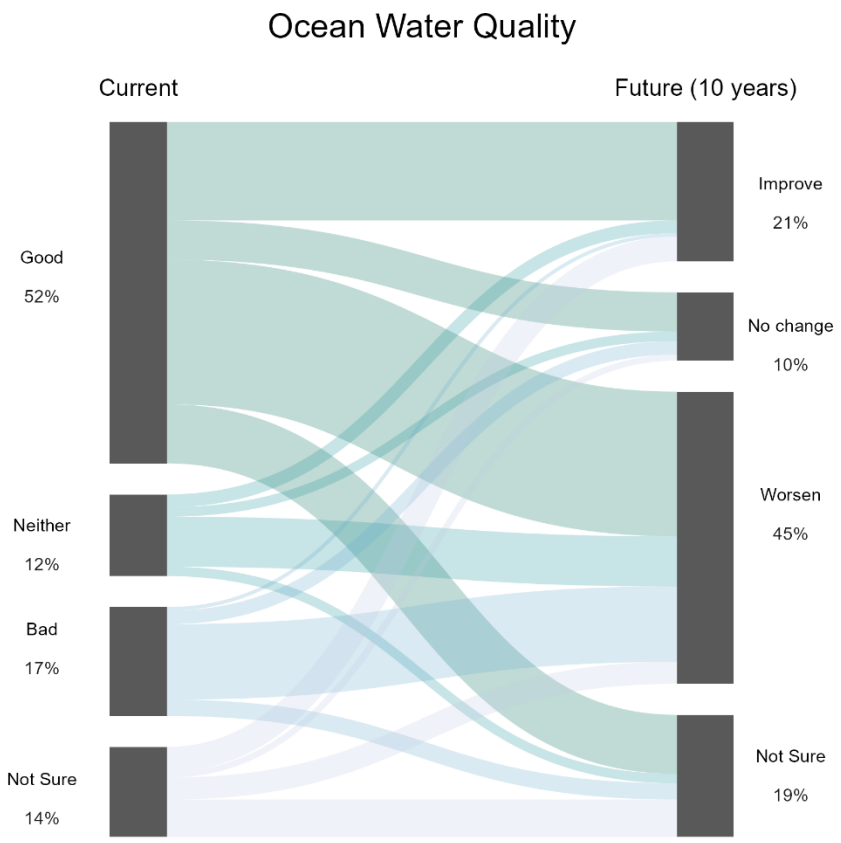


Figure D3. Relationship between current and future perceived ocean water quality in USVI.

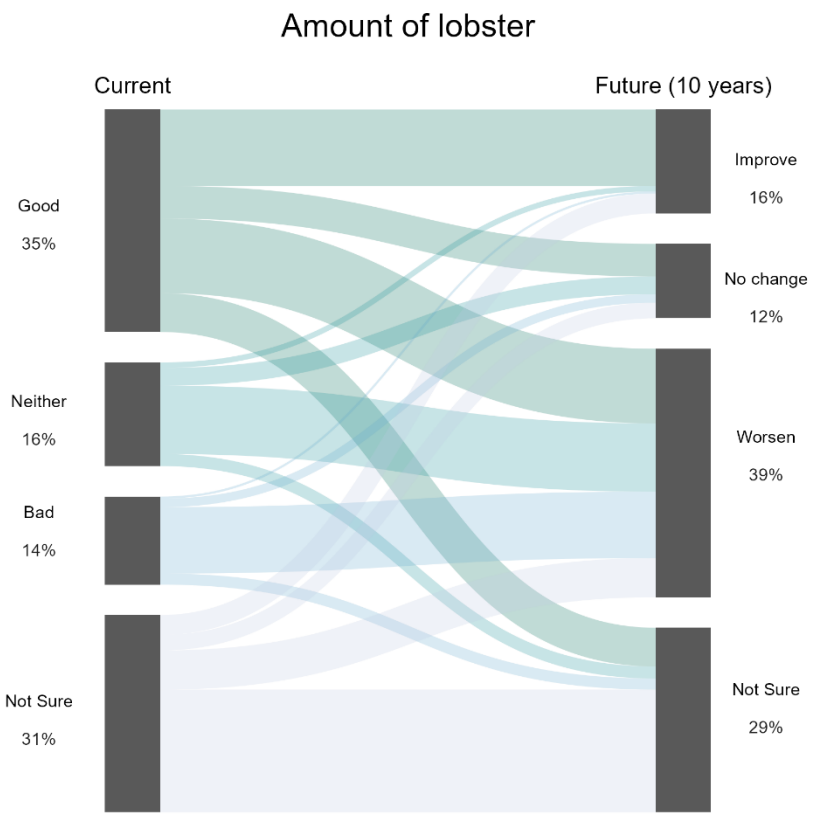


Figure D4. Relationship between current and future perceived amounts of lobster in USVI.

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