



Using resident perceptions of coral reef ecosystem services to contextualize small-scale fisher and fish dealer perceptions of COVID-19 impacts in the U.S. Caribbean

The [Socioeconomic Component](#) of the [National Coral Reef Monitoring Program](#) (NCRMP) collects and monitors socioeconomic information, including human use of coral reef resources and knowledge, attitudes, and perceptions of coral reefs and coral reef management. Data are collected through residents surveys conducted in each U.S. coral reef jurisdiction approximately once every 7 years. The NCRMP surveyed Puerto Rico residents in [2015](#) and U.S. Virgin Islands (USVI) residents in [2017](#). These surveys enable the [Coral Reef Conservation Program](#) to monitor changes in U.S. coral reef communities over time to improve programs designed to protect coral reefs. While long-term trends are captured through NCRMP monitoring, short-term changes are often missed, such as impacts from hurricanes, earthquakes, and more recently, global pandemics.

When acute events occur, the [National Marine Fisheries Service](#) (NMFS) deploys rapid assessments to understand the socioeconomic consequences to local and regional fisheries. In [2020](#), NMFS's Southeast Fisheries Science Center (SEFSC) conducted surveys of small-scale commercial and charter/for-hire fishers in Puerto Rico and the USVI to understand the impacts on fishing practices, income, and employment 6 months into the COVID-19 pandemic. Fish dealers in Puerto Rico were also surveyed. While the NCRMP and NMFS surveys targeted different populations, these findings underscore the importance of coral reef ecosystems and vulnerability of communities dependent upon those ecosystems in the U.S. Caribbean.

In 2015 and 2017, U.S. Caribbean residents:

- Participated in marine recreational activities** - 87% of Puerto Rico residents & 89% of USVI residents
- Consumed seafood at least once a week** - 58% of Puerto Rico residents & 64% USVI residents
- Fished or gathered marine resources** - 16% of Puerto Rico residents & 38% of USVI residents
- Fished or gathered to sell their catch** - 15% of Puerto Rico residents who fished or gathered & 16% of USVI residents who fished or gathered

U.S. Caribbean residents also believed coral reefs:

- Attract tourists** - 91% of Puerto Rico residents
- Provide food for coastal communities** - 80% of USVI residents
- Are important to local culture** - 75% of Puerto Rico residents & 92% of USVI residents



**In 2020, U.S. Caribbean
small-scale fishers and fish dealers
perceived that COVID-19
had a negative impact on:**

The economy - 92% of Puerto Rico fishers, 98% of Puerto Rico fish dealers, & 81% of USVI fishers

Tourism - 88% of Puerto Rico fishers, 88% of Puerto Rico fish dealers, & 82% of USVI fishers

Food for coastal communities - 33% of Puerto Rico fishers, 26% of Puerto Rico fish dealers, & 31% of USVI fishers

Culture - 63% of Puerto Rico fishers, 70% of Puerto Rico fish dealers, & 51% of USVI fishers

Recreation - 78% of Puerto Rico fishers, 72% of Puerto Rico fish dealers, & 73% of USVI fishers

Key Takeaways

Results highlight that residents of Puerto Rico and the U.S. Virgin Islands believe coral reefs are important for providing an array of ecosystem services, including recreational opportunities, food, and cultural and economic benefits. But many of these services are at risk as corals remain vulnerable to climate change and other human impacts.

Results also show the immediate impacts of the COVID-19 pandemic on small-scale fishers and fish dealers in these regions. The cumulative impacts of the pandemic, recurrent earthquakes, and aftermath of Hurricanes Maria and Irma are more complex and influence islands and user groups differently. Together, this underscores the importance of protecting coral reef ecosystems in the U.S. Caribbean to support and sustain the livelihoods of coastal communities as they recover from these unexpected events.



Credit: NOAA



This product resulted from cross-line office collaboration among NOAA's Coral Reef Conservation Program, National Centers for Coastal Ocean Science, and National Marine Fisheries Service. For more information on these surveys, please contact:

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