Coral Reef Recreation and Tourism in the Eastern Caribbean

Dominica, Grenada, Saint Lucia, St. Kitts & Nevis, and St. Vincent & the Grenadines

EXECUTIVE SUMMARY

Mapping Ocean Wealth (MOW) and Caribbean Regional Oceanscape Project (CROP)

OECS — Organisation of Eastern Caribbean States

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The Nature Conservancy

MAPPING OCEAN WEALTH

ABOUT THIS PROJECT

The Global Environment Facility (GEF) and the Organisation of Eastern Caribbean States (OECS) Commission, in partnership with the World Bank, is implementing the Caribbean Regional Oceanscape Project (CROP) to improve systems and put relevant structures in place in an effort to foster a Blue Economy and to promote greater consideration of the ecosystem functions and services which the ocean provides for member states. The project timeline was October 2017 - December 2021. Under this project, The Nature Conservancy used the Mapping Ocean Wealth approach to develop ecosystem service models and maps for the five CROP countries in the Eastern Caribbean.

Photo: ©Lily Haines

Introduction

The Mapping Ocean Wealth (MOW) project aims to develop ecosystem service models and maps at the scale of the Eastern Caribbean in support of the Caribbean Regional Oceanscape Project (CROP). The theory of change behind the MOW approach is that developing and improving access to accurate and spatially explicit metrics of the value of natural ecosystems could provide a critical tool in encouraging efforts to use nature sustainably, and work towards its protection, maintenance or restoration. The CROP countries (Dominica, Grenada, Saint Lucia, St. Kitts & Nevis, and St. Vincent & the Grenadines) have all made strong commitments to developing and enhancing their Blue Economies and are in the process of developing strategies and governance approaches, including spatial plans, to build a sustainable future centered on their marine and coastal resources. The MOW data, with its provision of detailed information on ecosystem service values, particularly relating to fisheries and nature-based tourism, together with tools and training, will be a critical component for these activities.

The Caribbean is more dependent on the travel and tourism sector than any other region worldwide, accounting for over 10% of GDP, and 15.2% of jobs in the region. The CROP countries are among the most dependent in the Caribbean, with tourism contributing to between 32% and 68% of GDP pre-pandemic. **This sector is almost entirely focused on coastal areas, notably through beach-based activities, cruise tourism and in-water activities including sailing, and diving.** Coral reefs encircle most islands and make a critical contribution to this tourism.

The data used to calculate these values were derived from a mix of large scale (global and regional datasets) and local sources, working with international partners and key collaborators within the OECS countries. This summary describes two models:

- On-reef recreation and tourism: data sets included underwater photos, dive shops, hotels, reef habitat, tourism arrivals and expenditures, cruise activities. "On reef activities" essentially cover diving and snorkeling and occasional other in-water activities such as glass-bottom boats or submarines

- Seafood restaurants: data were derived from TripAdvisor reviews

For each of these, a spatial model and map of "use intensity", showing the distribution of values associated were generated. These initial maps indicate relative value. For reef-dependent tourism, an additional step of assigning actual value, in terms of both visitation and expenditure was undertaken. Maps illustrating the importance of seafood restaurants show relative value. However, these values should not be interpreted as monetary, and no other units should be assigned.

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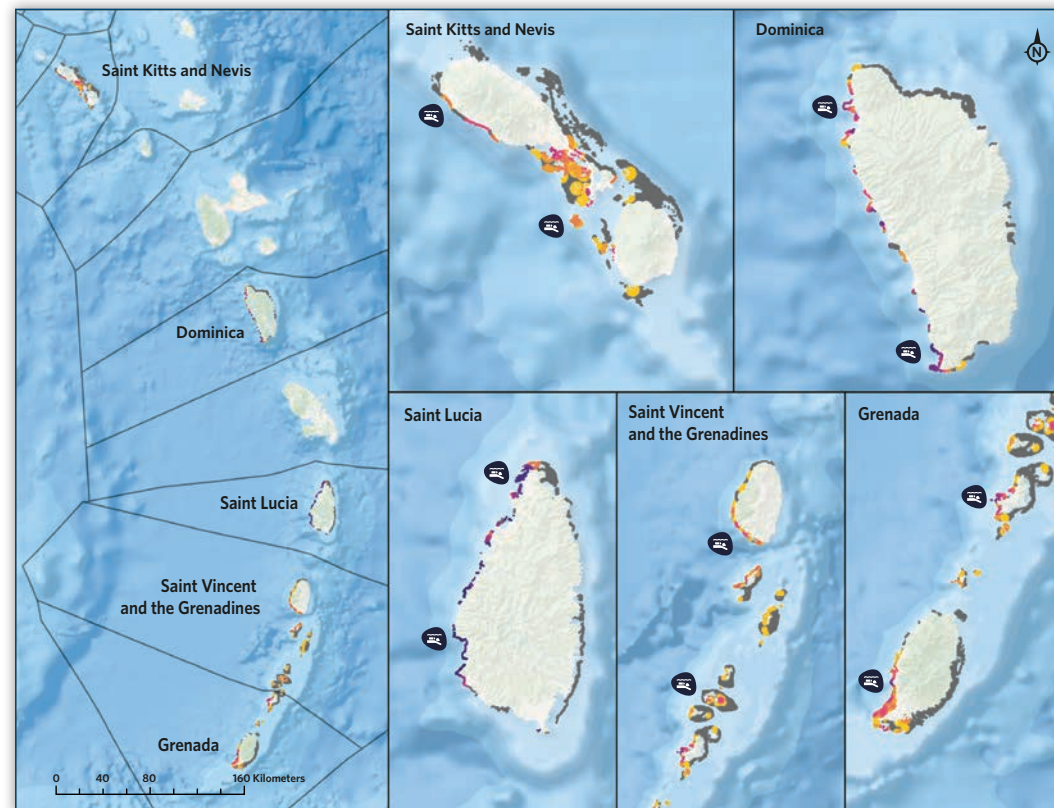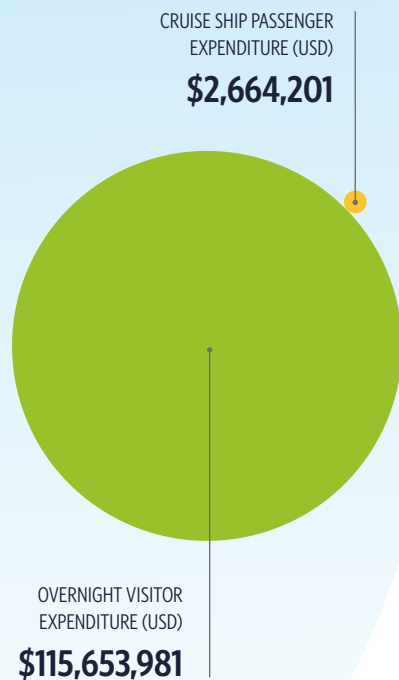
Main Findings

Across CROP countries, tourism expenditure directly linked to on-reef activities was estimated at US$118 million annually.

Reef-dependent Tourism

A combined total of 83,000 overnight visitors and 60,000 cruise visitors chose to vacation in these islands due to the availability of on-reef activities.
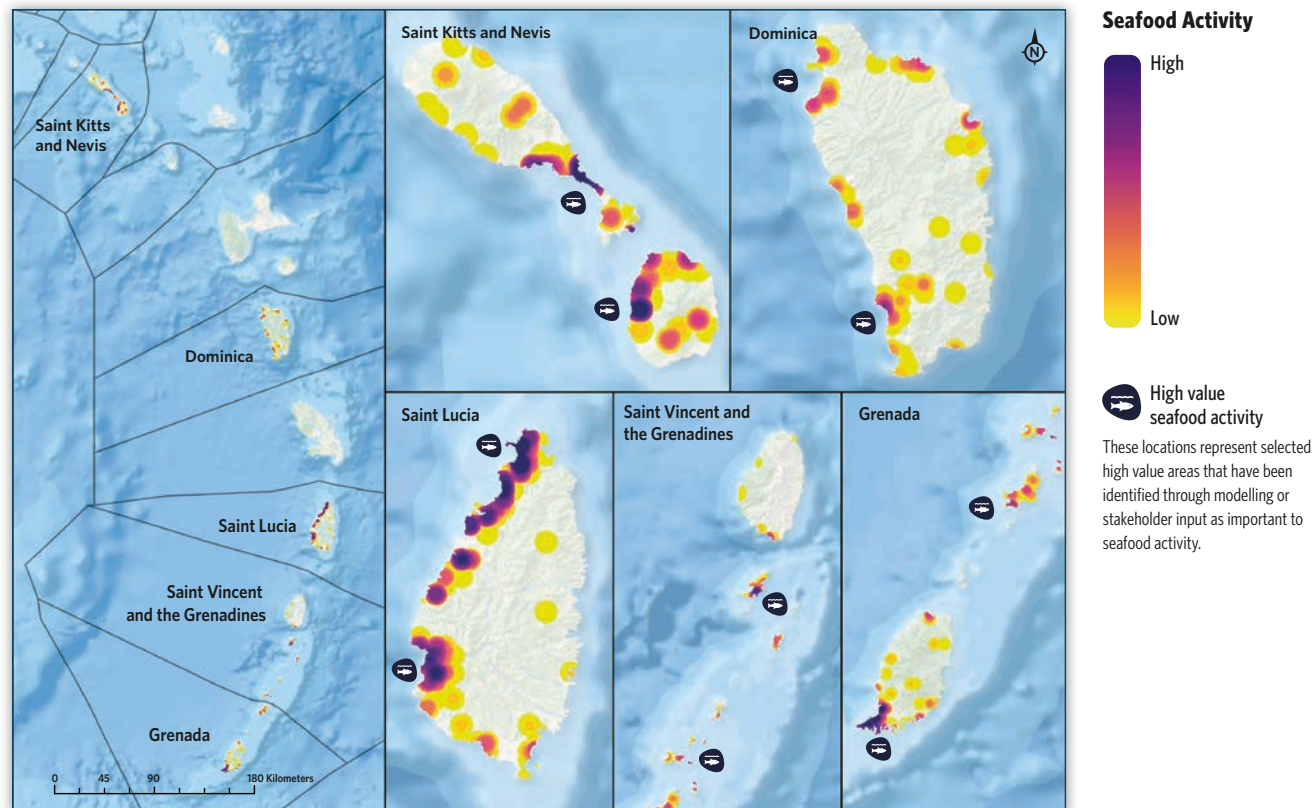
On-reef activities are widespread across most reefs, but the most frequently visited/high value reefs are those on the leeward side of each island, where there is calmer water. Though there are extensive reefs on the windward side of the islands, these areas are usually inaccessible due to the level of wave energy.

CRUISE SHIP PASSENGER
EXPENDITURE (USD)
$2,664,201

OVERNIGHT VISITOR
EXPENDITURE (USD)
$115,653,981

Coral Reef Tourism

Total Expenditures

Modelled expenditure for on-reef activities per year (US$)

- No Modelled Value
- ≤ $1,229
- ≤ $2,457
- ≤ $3,686
- ≤ $4,914
- ≤ $7,371
- ≤ $11,057
- ≤ $18,428
- ≤ $36,857
- ≤ $72,485
- ≤ $313,284

High value reefs

These locations represent selected high value areas that have been identified through modelling or stakeholder input as important to coral reef tourism.

The highest value reefs should be a particular target of conservation attention. These include many reefs near the diving centers in southern St. Vincent, southern Grenada, the Tobago Cays, Monkey Shoals (St Kitts and Nevis). Some of the highest values of all are recorded in places where overall reef area is limited, and diving is popular—small areas of reef in Dominica and Saint Lucia are generating expenditure of over one quarter of a million dollars per hectare every year. Not only should such areas be afforded the best possible management, governments would be wise to consider options to spread such value, both to provide alternative areas in event of damage, but more positively as opportunities to replicate such benefits through careful and sustainable investment.

Seafood restaurants

1,074 seafood restaurants were found across all CROP countries, with the highest concentration of activity located on the leeward coast of Saint Lucia. The second highest concentration of restaurants was found on the south coast of Grenada and the third highest in southern mainland St. Kitts and north western Nevis.

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Seafood Activity

High

Low

High value seafood activity

These locations represent selected high value areas that have been identified through modelling or stakeholder input as important to seafood activity.
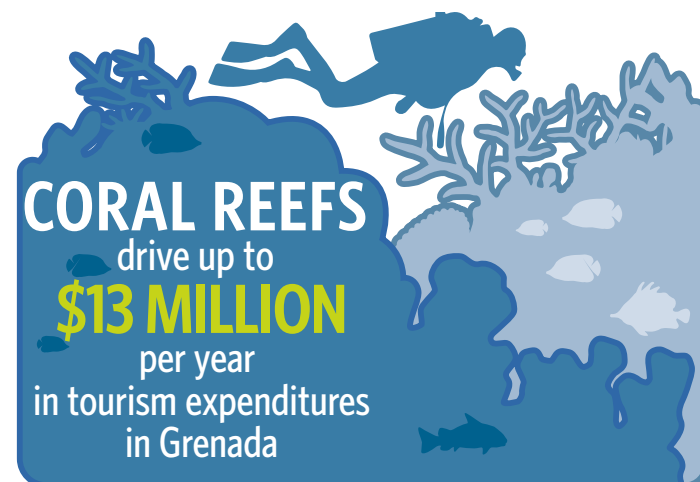
While the data do not permit the quantification of monetary value for seafood activity, they give a valuable indication of the popularity of various seafood eateries specializing in options from reefs across the CROP countries. When compared alongside analyses done on reef fishing, this could be useful in linking tourist activity to fishing impacts on reefs.

Conclusions

For the first time, these components of nature-based tourism associated directly to coral reefs have been extensively mapped and analyzed. The results highlight the importance of nature-dependent tourism for the economy in CROP countries. Many persons are employed in these sectors and revenue generated span in the millions annually, comprising a significant portion of overall GDP attributable to tourism.

Although individual highest value is of interest, in many settings across the CROP countries it is low density, more exclusive tourism that provides a critical attraction for on-reef and reef dependent tourism. **There is a strong risk in seeking to build towards the highest values, and over-tourism is a growing concern both for destinations and for the industry as a whole.** For this reason, overall values may be more valuable metrics and indeed maps showing a well-distributed spread of values across a country may be more indicative of a healthy industry with distributed benefits, and indeed distributed impacts.
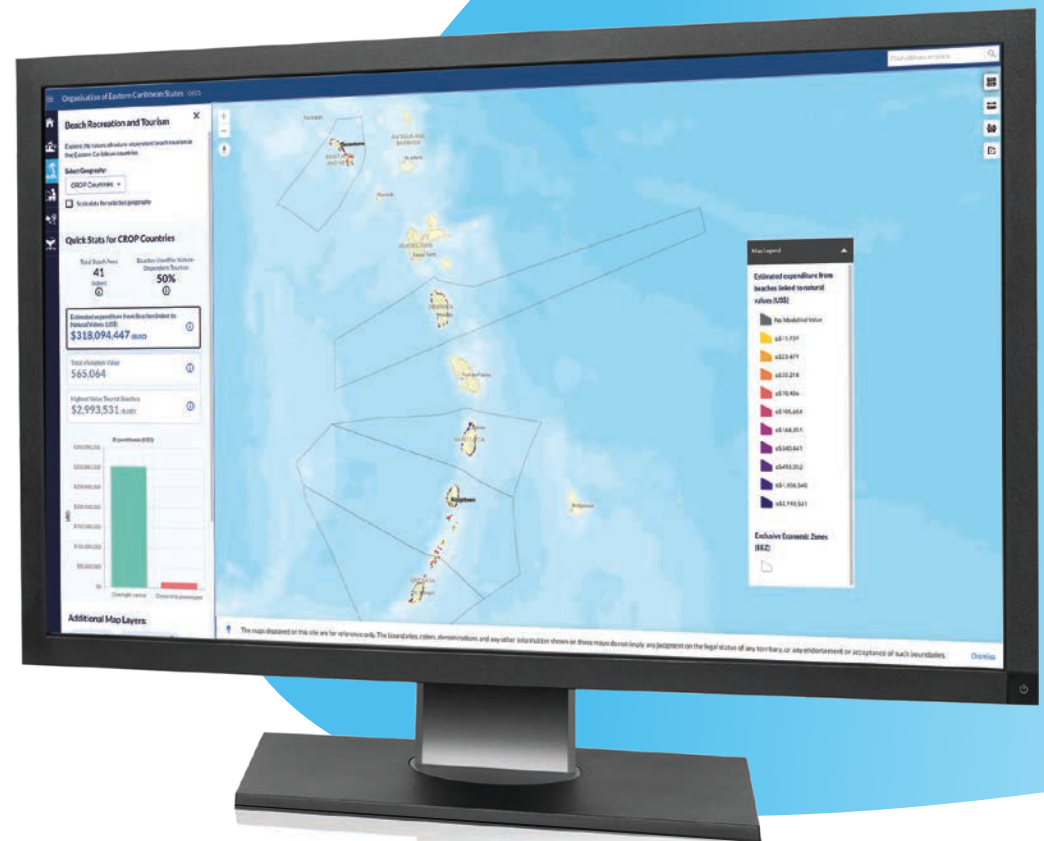
The use of user-generated content from very large crowd-sourced datasets such as Flickr and TripAdvisor is clearly a very powerful tool for understanding relatively fine-scale patterns in tourism. Concerns have been raised about accuracy and bias, and it is clear that any public sourced datasets have a high ratio of errors. In reality it is the high volume of data that is what makes these datasets so valuable, enabling us to smooth over the occasional errors. Considerable efforts were also made to clean the data. Additionally, the high degree of local engagement which has enabled us to greatly enhance the data from these more international sources, and to proof, corroborate or correct the final models and output maps.

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CORAL REEFS drive up to **$13 MILLION** per year in tourism expenditures in Grenada

Given the current impact of Covid-19 on tourism in the Caribbean, and especially the likely changes in demands coming from a recovering tourism sector it is highly likely that future tourism will have, if anything, a greater dependency on natural values and lower density locations and so our sites of high natural value will likely show an increasing proportional relevance for the recovering sector.

You can use this data to:

- Further understand the economic importance of preserving reefs and associated environments, as the health of the tourism sector is largely dependent on natural values being in good condition.

- Help to support management decisions in favour of preserving high value beaches and reefs, with understanding the varying levels of economic dependency on various marine and coastal systems. High value reefs should be a particular target for effective management and conservation activities.

- Support government decisions to spread value and develop activities across other coastal and marine areas to replicate similar benefits which provides alternative areas in the event of damage to high value reefs and beaches, and continue supporting community development and sustainable investments.

FIND OUT MORE HERE

For access to the high-quality maps and the full technical report, please visit the Mapping Ocean Wealth platform https://oceanwealth.org/project-areas/caribbean/crop/coral-reef-recreation-and-tourism/.

Map viewer on Mapping Ocean Wealth Platform

*Models and statistics were built to reflect values for the period immediately preceding Covid-19 (2019). Models have been built from multi-year summaries up until this date. See technical reports for details.

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