

# VALUATION OF ECOSYSTEM SERVICES PROVIDED BY COZUMEL REEFS NATIONAL PARK AND COZUMEL ISLAND FLORA AND FAUNA PROTECTION AREA

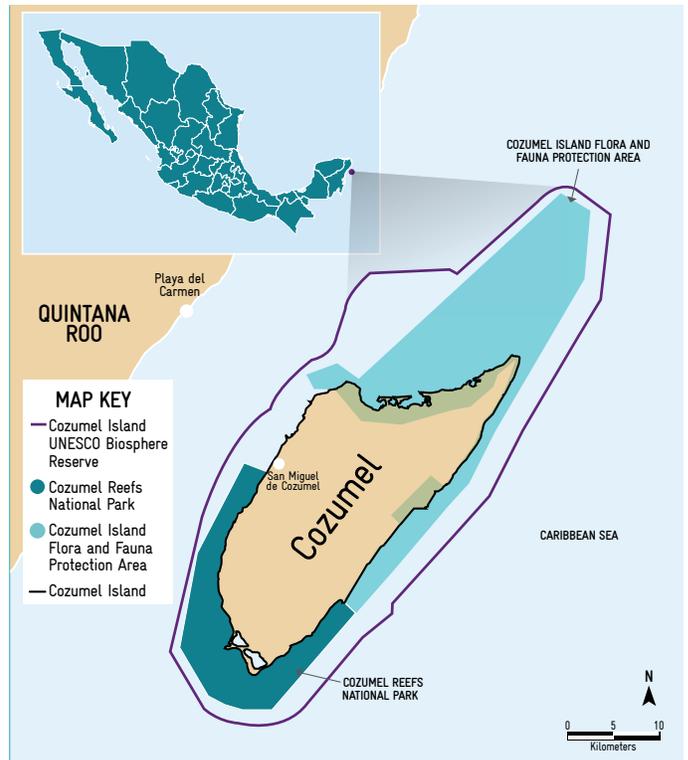


Photos: CONANP

Natural Protected Areas (NPAs) benefit society by providing a range of ecosystem services. These include the provision of food, clean water, climate regulation, pollination, protection from storms and places for recreation. Nonetheless, the value of these services is not broadly understood. Benefits tend to be dispersed or are wrongly considered infinite. As a result, they are "invisible" within the economic system, and are therefore not valued.

In Cozumel, the lack of information regarding the economic and social benefits that the area generates has kept it from being valued as a key contributor to human wellbeing and development at both local and regional levels. This situation has created challenges for natural resource management, as well as for promoting well-planned and sustainable coastal development in a context characterized by mass tourism. Additionally, the Park has limited resources for management, which makes it difficult to adequately address threats.

The purpose of this document is to effectively communicate the benefits that Cozumel Reefs National Park and Cozumel Island Flora and Fauna Protection Area generate for society and the economy. In order to do so, a study was carried out to quantify the economic values of several important ecosystem services provided by these NPAs.



Cozumel Reefs National Park, which covers an area of 11,988 hectares, is characterized by its biodiversity. It is home to numerous marine species, many of which have been identified as endangered. Cozumel Island Flora and Fauna Protection Area covers 37,829 hectares, and is characterized by its diversity of coastal ecosystems, including coastal lagoons and mangrove swamps. In 2016, UNESCO incorporated Cozumel Island to the World Network of Biosphere Reserves as part of the Man and Biosphere Program, which covers a total of 134,624.17 hectares (1,346.24 km<sup>2</sup>).

Por encargo de:



de la República Federal de Alemania



Recreation based around coral reefs, which sustain tourism on the Island.



The economic value of ecosystem services provided by mangroves and coral reefs.



The ecosystem service of protecting the Island's population from storms, hurricanes, and other meteorological events.

## MAIN FINDINGS



Ensuring the conservation of Cozumel's reefs is worth **5,493 million pesos** (USD 304 million) on average per year, for the 1.8 million tourists who dive or snorkel each year on the Island's reefs



The economic value of the **3,654 hectares** of mangroves within the two Federal NPAs is **82.4 million pesos** (USD 4.5 million) per year.



The economic value provided by the coral reefs within the two Federal NPAs, in terms of coastal protection and nutrient cycling is **596 million pesos** (USD 32.8 million) per year.



**12%** less tourists would visit Cozumel if degradation of coral reefs continues. This would generate local economic losses of 1.5 billion pesos (USD 83 million) per year.



**65%** of Cozumel's population is less vulnerable to flooding and storms as a result of the presence of coastal-marine ecosystems (reefs, mangroves, dunes, and others).

### NATURAL PROTECTED AREAS PROTECT PEOPLE

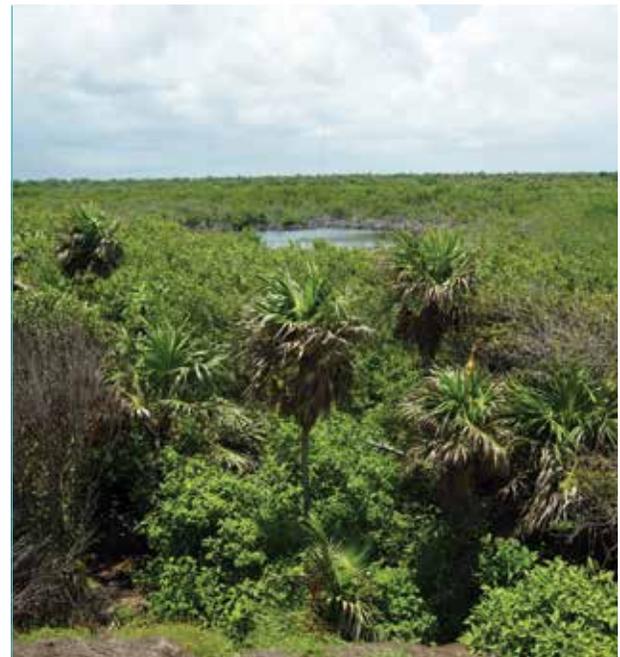


Photo: CONANP

## RECOMMENDATIONS

1. Inform and strengthen Quintana Roo State's Strategic Plan 2017 – 2022 as well as decision making regarding Environmental Impact Assessments.
2. Adopt appropriate means within the tourism industry to implement good practices aimed at maintaining the Island's ecosystems.
3. Increase management budget allocated to Cozumel's two Federal NPAs to ensure that users follow best practices, and to identify and report illegal practices more broadly.

Based on these results, a priority for decision-makers at all levels of government is to take actions to secure the ecosystem services provided by Natural Protected Areas, which are the foundation of regional and national economies. The solutions may seem complex, but the benefits for human wellbeing and economic activity are well worth the cost.