



Center for Responsible Travel



Balancing Sustainable Tourism & Commercial Fishing In The Turneffe Atoll Marine Reserve¹

Executive Summary

The Belize government's official declaration on November 22, 2012 of the Turneffe Atoll Marine Reserve marked the successful culmination of nearly two decades of highly participatory efforts to put the last remaining atoll in the Belize Barrier Reef System under significant protection. Turneffe Atoll is an integral part of Belize's reef system as well as a global "hot spot" for marine biodiversity. This analysis, by the Center for Responsible Travel (CREST), examines key issues facing the new 325,000 acre Marine Reserve and the Reserve's two main economic sectors: commercial fishing and tourism. The study was funded by Turneffe Atoll Trust to better understand these issues.

The purpose of this analysis is twofold: 1) to determine measures for building a successful Turneffe Atoll Marine Reserve that ensures sustainable tourism development and a sustainable commercial fishery, and 2) to analyze the potential for synergies between the Atoll's tourism and commercial fishing sectors. As part of its research, CREST visited all of Turneffe's tourism facilities and interviewed dozens of tourism, commercial fishing, research, and educational stakeholders from the Atoll. CREST also reviewed a wide range of pertinent scientific information from Turneffe, and elsewhere in Belize, as well as from other Marine Protected Areas (MPAs) around the world.

Our findings demonstrate that carefully managed ecotourism and well-regulated commercial fishing both contribute significantly to the success of MPAs. In contrast, large-scale, improperly-planned tourism development and poorly regulated commercial fishing damage fragile marine and terrestrial ecosystems leading to ineffective MPAs. The analysis concludes that Turneffe's ecotourism and commercial fishing sectors share common interests in protecting the Atoll's natural resources and that there is significant potential for synergy between these two key stakeholder groups. Active involvement of both commercial fishermen and ecotourism operators will be critical to the long term success of the Reserve.

¹ The full report, released in January 2013, is available on the CREST and Turneffe Atoll Trust websites: www.responsibletravel.org and <http://www.turneffeatoll.org/>.

A Sustainable Turneffe Atoll is Economically Important

As the largest and most biologically diverse coral atoll in the hemisphere, Turneffe contributes significantly – some US\$62 million per year – to Belize’s economy. Approximately US\$38 million of this amount is related to protection from hurricanes for mainland Belize, particularly Belize City, provided by Turneffe Atoll. The remainder of Turneffe’s economic activity is generated by tourism and commercial fishing.

Turneffe Atoll has historically been a major contributor to Belize’s commercial harvest of conch, lobster and finfish. Over the past decade, Turneffe’s production of conch and lobster has declined, both in total catch and as a percentage of Belize’s total catch. In 2009, commercial fishing at Turneffe generated approximately US\$500,000 while the social benefits of Turneffe’s fishery remain very significant with 180 to 200 fishermen supporting their families from the Atoll. The Atoll’s other major industry, tourism, has largely focused on marine-based ecotourism with Turneffe earning an international reputation as a highly prized tourism destination for scuba diving, catch-and-release sport fishing, and ecotourism. Tourists stay either at one of Turneffe’s three “all-inclusive” resorts or visit on day trips from elsewhere in Belize. Turneffe’s tourism generates approximately US\$23.5 million per year in Turneffe-specific expenditures and nearly US\$37 million in total expenditures in Belize. An important component of tourism’s economic impact is the number of jobs created. Tourism expenditures from Turneffe supported approximately 1,220 full-time jobs in Belize in 2011.

Tourism activities (diving, snorkeling, sport fishing, and ecotourism) from Atoll resorts generate significantly more per tourist than do these same activities offered as day excursions from other locations. Scuba diving from Turneffe resorts, for instance, generates an average of \$232 per tourist, while day excursions to Turneffe from elsewhere in Belize generate \$182 per diver and those offered by cruise ships generate on average only about \$88 per passenger. This does not mean that Scuba diving day excursions to Turneffe do not provide significant economic benefit – they do; however, the impact per visitor is not as significant as it is for tourists staying at Turneffe’s resorts.

Most catch-and-release sport fishing at Turneffe is done from its three resorts generating an average daily expenditure of \$327 per person. In contrast, day excursions from other locations for catch and release sport fishing generate approximately \$150 per visitor per day.

While expanding the number and size of resorts may appear financially promising, this must be handled carefully. Turneffe’s value as a tourism destination is directly tied to a healthy marine environment, and protecting Turneffe’s fragile marine and terrestrial environments is critical to the Atoll’s economic future. At present, Turneffe’s tourism, emphasizing marine-based ecotourism, appears to be sustainable and compatible with its commercial fishing. Future development must be approached in a manner that assures sustainability of both Turneffe’s environment and its commercial fishery. There is reason for concern. Under construction at Ropewalk Caye, in the Southern part of Turneffe, is a new hotel which includes nearly 100 rooms, a 200 foot swimming pool, a marina for large yachts, condos, and a supermarket – a scale of development which is inappropriate for an environmentally sensitive atoll. This project has included a massive dredge and fill operation as well as the destruction of many acres of mangroves and littoral forest. A

proposal for another large resort project includes a golf course, vacation homes, condos, and a marina.

With at least 190 parcels – 23% of total land – privately owned, Turneffe Atoll faces increasing conflict between user rights and its fragile ecosystem. There is a need for improved environmental assessment prior to development and more thorough oversight during construction. Of particular concern are dredging and widespread clearing of mangroves for tourism projects.

Case Studies Suggest that Collaboration among Local Stakeholders is Critical

An impressive amount of research, planning, and stakeholder consultation has generated widespread support for the Turneffe Atoll Marine Reserve. The comprehensive *Turneffe Atoll Marine Reserve Management Plan, 2012-2017* is considered to be the most comprehensive management plan written in Belize to date. It contains concrete management targets and integrated conservation planning to improve the Atoll's biodiversity, develop sustainable commercial fishing, provide effective enforcement, and ensure adaptive management based on stakeholder engagement, scientific research, and careful monitoring.

While the Management Plan provides a solid framework, the new Marine Reserve can also learn from the experiences of successful MPAs around the world. In this report, three case studies are examined which demonstrate collaboration and synergy between ecotourism and commercial fishing.

The first case study is of the **Chumbe Island Coral Park**, located off the island of Zanzibar in Tanzania. Chumbe is home to the country's most successful MPA and Zanzibar's most celebrated eco-lodge. In 1991, the government approved the Coral Park as a "no-take" marine reserve. Local fishermen initially complained that they had not been consulted and that they were suddenly excluded from their traditional fishing grounds. Opposition gradually diminished, however, as managers of the Coral Park and eco-lodge proactively provided jobs as park rangers and lodge staff to former fishermen. Most importantly, illegal fishing decreased four-fold between 1994 and 2004 and commercial fishing improved significantly within the MPA, as well as in its surrounding waters. These measures have demonstrated to fishermen the economic benefits of the Marine Protected Area.

While Chumbe demonstrates the need to engage and earn the support of commercial fishermen, **Cabo Pulmo National Park (CPNP)**, in Mexico's Baja California Sur, illustrates the importance of stakeholder support in both the establishment of a reserve and ongoing vigilance to prevent inappropriate tourism development. Hailed as "the world's most robust marine reserve," fish stocks, which had been declining before the MPA, increased 4.6 fold between 1999 and 2009. Scientists credit this impressive increase to a large "no take zone" and the active engagement of local residents, a number of whom shifted from fishing to ecotourism businesses. Stakeholders are also waging an ongoing, high-profile campaign against a mega-resort development adjacent to the reserve. The coalition contends that this massive tourism development will significantly damage the fragile coastal ecosystems and the commercial fishery, as well as the MPA.

In 2012, **the Maldives**, a cluster of sea level atolls in the Indian Ocean, created the world's largest Marine Protected Area which includes all of its islands and the surrounding waters. This nationwide reserve marked a capstone on a series of impressive actions the Maldives government has taken to promote sustainable fishing and tourism development.

These case studies provide lessons that are relevant for the new Turneffe Atoll Marine Reserve which faces the twin challenges of declining commercial fishing and unsustainable tourism development. The case studies demonstrate that commercial fishing and ecotourism interests can work together and find synergies. Fish stocks can be increased with proper management, including adequate enforcement; and, good sustainable jobs for displaced fishermen can be generated through low-impact, environmentally sensitive tourism.

These case studies also emphasize that successful MPAs require the active and ongoing involvement of local stakeholders, particularly the commercial fishermen and eco-resorts, to maintain the MPA and prevent unsustainable, environmentally damaging activities. Tourism businesses can also play an important role in creating, monitoring, and financing MPAs and in educating visitors about their importance. These case studies demonstrate that commercial fishing and tourism stakeholders can work together for their mutual benefit. A well-functioning MPA should be a "win-win" for commercial fishing and environmentally sensitive tourism.

High Value Tourists Demand Eco-responsibility

Tourism based on sun, sand, and sea is the world's largest and fastest growing travel sector, with high-value, low-volume, nature-based tourism growing rapidly. Consumer trends project strong, long-term demands for ecotourism and educational tourism, and market studies over the last decade have documented sustained consumer interest in tourism that protects the environment and respects local culture.

While Turneffe now attracts conscientious, high-value consumers, there is a danger of losing this lucrative market if the Atoll does not follow international standards for sustainability. A recent report by the United Nations' World Tourism Organization (UNWTO) states that "the build-up of consumers' socio-environmental awareness in tourism development is leading to increased scrutiny on the part of the public and a growing requirement for new tourism developments to be sustainable." Only by protecting both the Atoll's marine and terrestrial ecosystems will Turneffe continue to prosper as an attractive destination for high-value tourism. The new Marine Reserve is an important step forward, but it must be accompanied by standards for sustainable tourism construction as well as well-enforced best practice guidelines for the operation of tourism facilities. The project under construction at Ropewalk Caye is ill advised: it is too large, is damaging the Atoll's fragile terrestrial and marine ecosystems, and is likely to damage the appeal of Turneffe to high value conscientious travelers.

We feel that Turneffe's best option for maximizing economic benefits, sustaining its sensitive environment, and protecting its fishery is to expand its high-value, low-impact, overnight capacity and also to increase day visitors from other parts of Belize. Additionally, we feel there is potential

to expand educational and volunteer tourism at Turneffe's two research institutes and to create stronger links between these scientific centers and the Atoll's eco-resorts.

The Turneffe Atoll Marine Reserve would do well to establish a "green" certification program that measures tourism's environmental, social, and economic impacts. Certification is increasingly recognized as an important tool for ensuring sustainable tourism practices. And certification of Turneffe Atoll as a sustainable (green) tourism destination, for instance, would be a logical complement to the new Marine Reserve and would help to provide a framework for ongoing protection of the Atoll's land and marine ecosystems.

It is important to determine how much Turneffe's tourism can be expanded and still protect the Atoll's fragile terrestrial and marine ecosystems. While careful analysis is needed to determine the optimum number, size, and location of new tourism developments, our analysis expects that the total number of operating resorts probably should not exceed six high-value, low-impact resorts. These larger resorts could be complemented by a small number of more basic overnight guest houses, possibly built at fishing camps or at the two scientific research stations.

In conclusion, this analysis seeks to answer the following four questions:

- ***Question 1: What types of MPAs have been most successful in increasing fish stocks and improving commercial fishing?***

While reasons for MPAs improving commercial fishing are complicated, one common denominator for success is stakeholder participation; and, this has been most effective when both commercial fishing and nature-based tourism actively support, and benefit from, the MPA. The initiative to create the Turneffe Atoll Marine Reserve involved collaboration between the fishing and tourism communities which bodes well for the long term success of the reserve. It is vital that Turneffe's commercial fishermen and tourism businesses continue to be actively involved in monitoring and administering the new reserve.

- ***Question 2: What types of tourism are compatible with a healthy commercial fishery?***

Turneffe Atoll's non-extractive, marine-based ecotourism, including catch-and-release sport fishing, Scuba diving, and nature-based tourism, has proven to be compatible with commercial fishing for several decades. Catch-and-release sport fishing and commercial fishing target different species. Therefore, sport and commercial fishing coexist rather than compete with one another. In addition, ecotourism provides commercial fishermen with alternative employment as fishing guides, boat captains, and dive instructors.

Both commercial fishing and ecotourism require a healthy marine ecosystem and the ability for these two sectors to work together provides powerful synergies for protecting Turneffe's marine environment.

- **Questions 3: *What are the economic, social, and environmental pros and cons of different types of tourism?***

Research in Belize and elsewhere demonstrates significant differences in the impacts and benefits of various models of tourism. CREST research in Costa Rica, for instance, documented that small-scale, higher-end nature-based tourism generates more for the local economy and creates more permanent, good paying jobs for local residents than do either large-scale resorts or cruise tourism. On Costa Rica's Osa Peninsula, local residents working at eco-lodges make on average double the income of workers in other local jobs. Small-scale, nature-based tourism offers local economic benefits while protecting the environment and the local communities.

- **Questions 4: *What types of tourism are most suitable for Turneffe, given the Atoll's realities and current consumer trends in tourism?***

Tourism destinations must choose between high value and high volume tourism. If the objective is, as we think it should be, to simultaneously maximize local economic benefits and protect Turneffe's commercial fishing, the choice is clear. High value, low impact tourism provides economic benefits, including good jobs, environmental stewardship, and sustainable utilization of resources. A modest increase in the number of low-impact resorts at Turneffe appears to be warranted and the number of day visitors from elsewhere in Belize can be increased. There is also significant potential to expand Turneffe's educational tourism.

This strategy benefits from a growing interest in high value tourism appealing to discriminating international travelers. Recent consumer surveys find travelers are increasingly interested in holidays that impact local communities responsibly, and this market has been strong even in tough economic times. A 2013 meta-analysis by CREST found "increasing recognition among both travel professionals and consumers of the importance of responsible travel." The new Marine Reserve enhances Turneffe's appeal to discriminating travelers.