

# SEVENSEAS

MARINE CONSERVATION & TRAVEL

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## Dry Tortugas



VOTE!!!

Lionfish

Cocodrilo

Magnificent Maldives

Pacific Marine Mammal Center

# SEVENSEAS

MARINE CONSERVATION & TRAVEL

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# The Magnificent Maldives

## conserving an underwater gem

Andrew Bruckner and Georgia Coward, Coral Reef CPR





In the center of the Indian Ocean, southwest of India and Sri Lanka, is a chain of twenty six ring-shaped atolls that make up the Republic of the Maldives. The atolls are grouped in a double chain and are positioned on top of a vast submarine mountain range that stretches in a north-south direction over 9 degrees of latitude (1°S and 8°N). The Maldives is quite large, encompassing an area of roughly 90,000 square kilometers. Nevertheless, it the one of the world's most geographically dispersed countries: even though there are over 1190 islands, more than 99% of the country is underwater. In fact, the total land area of the Maldives is only about 1.7x the size of Washington DC, yet it boasts a total coastline of 644 km, most of which is fringed by coral reefs. Alarmingly, the Maldives is also one of the lowest lying countries on earth, having a maximum elevation of only 2.4 m and an average of just 1.5 m!

As an island nation, Maldivians are entirely dependent on healthy ocean habitats for their livelihood and survival, while simultaneously being one of the most vulnerable to climate change. The 372,000 citizens reside on about 200 islands, but most of the population inhabits the overcrowded capital island of Malé. Only five islands having a population over 3000, and nearly half of the 200 islands are developed only as a tourist resort. However, much of the Maldives remains uncharted and unsurveyed by scientists.





It is no wonder there has been such a rapid rise in tourism since the 1990s, given the long stretches of beautiful white sand beaches, stunning aquamarine-colored lagoons, hundreds of uninhabited and isolated islands, vibrant marine life and rich marine resources. Containing more coral reefs than anywhere else in the Indian Ocean, and their geographic position in the central Indian Ocean makes Maldivian reefs highly important from a conservation standpoint. These reefs are perhaps the most complex reef systems in the world, and the word 'atoll' is derived from the local language, Dhivehi: in addition to typical fringing reefs surrounding many of the islands, spur and groove reef systems on the outside of each atoll, elongate barrier reefs, and

thousands of lagoonal patch reefs, many of the atolls have unusual ring-shaped reefs within the lagoon. Locally referred to as a "faru", each has its own outer and inner reef community and a sandy lagoon. The largest fish communities and the healthiest corals are often found on the channel reefs; one type is known locally as a "thila", an elongate submerged pinnacle reef where there are often strong currents that reverse direction with the tides. Supporting over 250 species of corals, more than 1200 fish species, and countless other invertebrates, Maldivian reefs serve as a stepping stone between African reefs and reef systems surrounding Indonesia.







Yet these tropical gems are severely threatened by climate change, and impacts are being compounded by localized human impacts. As sea level rapidly rises and human populations expand, efforts to reclaim land, develop coastlines, and build barriers to the encroaching sea have increased, often at the expense of the reefs. Other pressures on reef resources, to supply a growing demand for protein, building materials, export revenue, and increasing tourism are all contributing to the loss of these precious ecosystems. Concurrently, since 2015, outbreaks of crown of thorns starfish have devastated numerous reefs in the central atolls, and this past April/ May high numbers of corals perished during the El Niño-related bleaching event.

Recognizing the critical importance of shallow marine environments to the Maldives, and vulnerability of these ecosystems, Coral Reef CPR began focusing their conservation efforts here over one year ago. Through partnerships with local resorts, dive operators, and a live-aboard company, we've implemented a new, groundbreaking conservation program called HARP – the Holistic Approach to Reef Protection. Our Program involves four components: scientific research and monitoring, reef clean-up and mitigation of manageable threats, coral rehabilitation, and citizen science. In future issues, we will highlight different aspects of HARP, provide regular updates on our conservation activities, and discuss some of the changes we have witnessed to the magnificent Maldivian reefs.

Learn more about our programs, partners and activities, and donate to the cause at [coralreefcpr.org](http://coralreefcpr.org) and follow us on Facebook: Coral Reef CPR.

