

2020 Little Cayman Reef Report Card

CENTRAL CARIBBEAN MARINE INSTITUTE

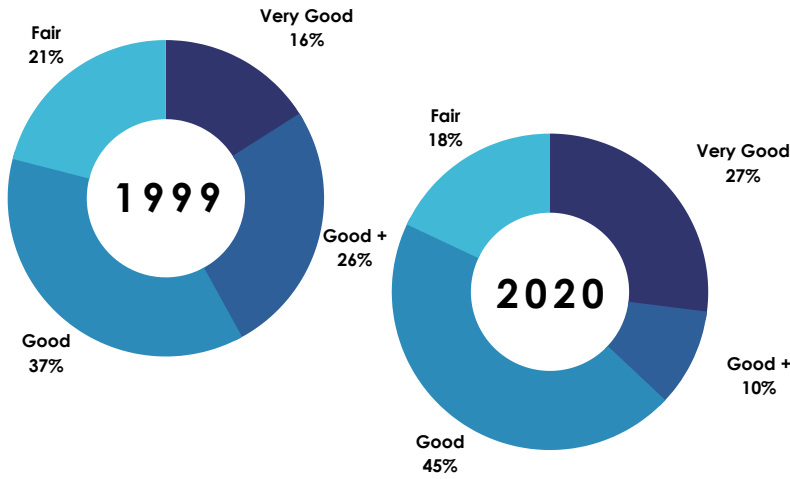


Figure 1: Coral Reef Health State 1999 vs 2020

CORAL REEF HEALTH STATE

In August 2020, the surveyed reefs were in a period of recovery, with their health status improving overall compared to 2019. Of the reefs surveyed, 27% were in “very good” health in 2020, versus only 16% in 1999 and 17% in 2010. At the bottom end of the health spectrum, we had no surveyed reefs listed as in “poor” health, and only 18% of the reef classified as “fair”, compared to 36% the year before.

CORAL REEF SPECIES COMPOSITION

Composition of the coral community on the reef has shifted over time, from reefs dominated by massive boulder corals, such as *Orbicella spp.*, to smaller corals such as *Agaricia spp.* and *Porites spp.* (see Figure 2). The size of corals surveyed has decreased overall, which may indicate that the reefs are less structurally robust and capable of providing some of the important services we depend upon them for, such as storm protection and complex habitats for a variety of marine life.

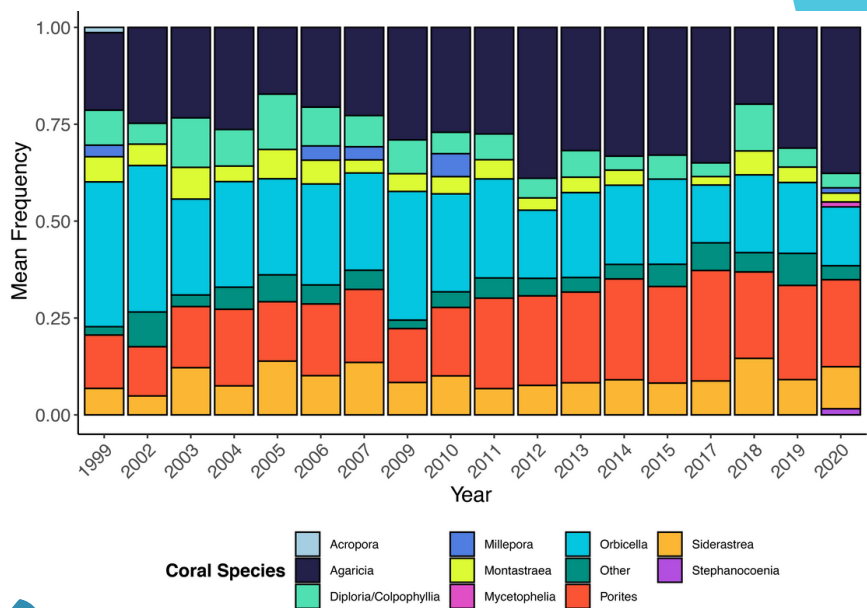


Figure 2: Coral Species Composition 1999 - 2020

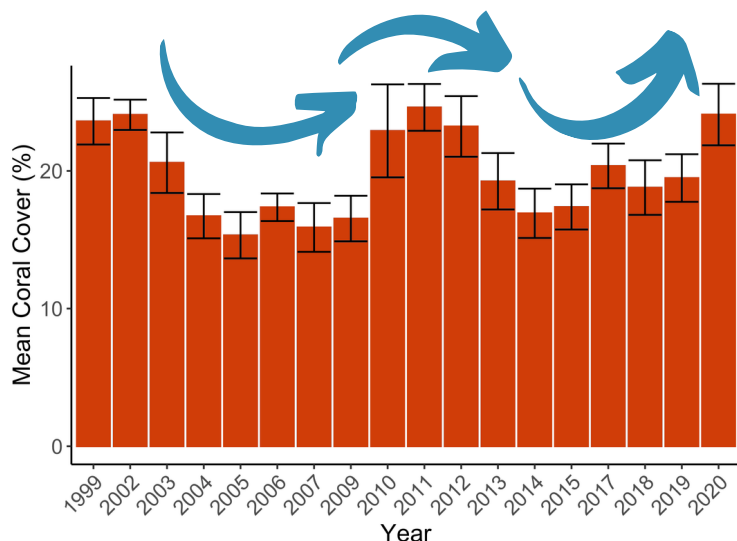


Figure 3: Percent Coral Cover 1999 - 2020

PERCENT CORAL COVER

There is a cyclical pattern of decreasing and increasing coral cover from 1999 to 2020, which may represent periods of disturbance, recovery, and recruitment. However, the current trend is towards increasing abundance, which suggests the reefs of Little Cayman are in a period of recovery.

MACROALGAE

There was a gradual, significant decline in the percent cover of algae on the reefs in Little Cayman from 1999 to 2020. This decline in algal cover indicates a healthy reef that has not yet undergone a phase shift from coral to algae. The decrease in algae cover also is an indicator that herbivorous fish populations on the reef are thriving.

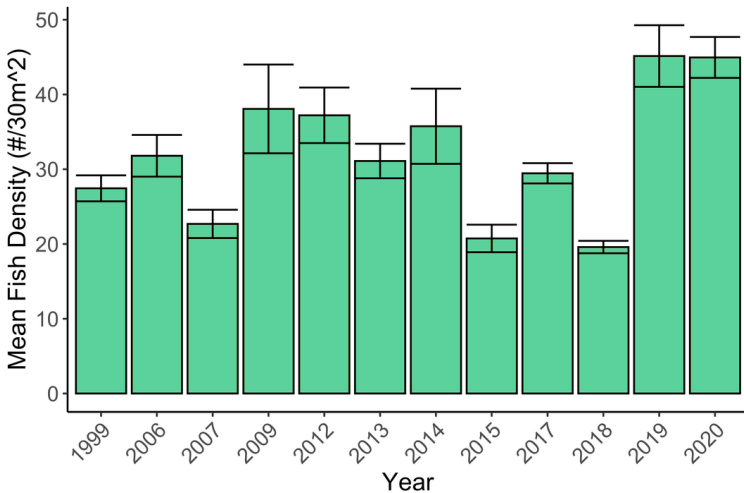


Figure 5: Mean fish density 1999 - 2020

CONCLUSION

Little Cayman's coral reefs show positive traits of resiliency, with continued high coral and fish abundances. However, shifts in species contributions and colony size indicate that while coral cover remains high, Little Cayman is not immune to human impacts and global climate change.

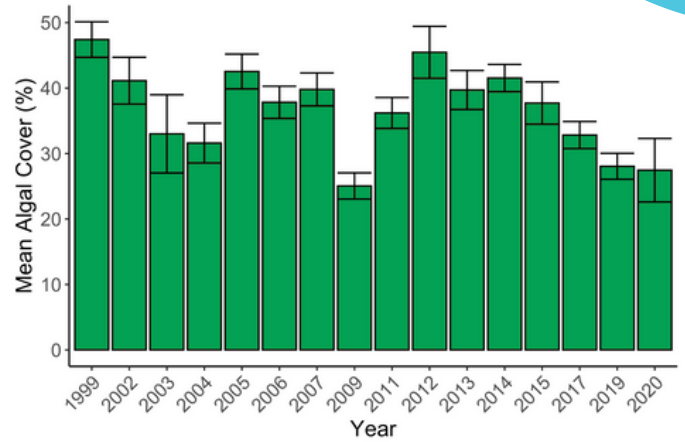


Figure 4: Mean Macroalgal cover 1999 - 2020

FISH COMMUNITIES

Fish abundance has increased overall since 1999, indicating a rebounding fish population. This is a positive sign of the efficacy of protections enacted by the Cayman Islands Department of Environment. Specifically, we've seen a significant trend of an increase in parrotfish populations across all sites surveyed.

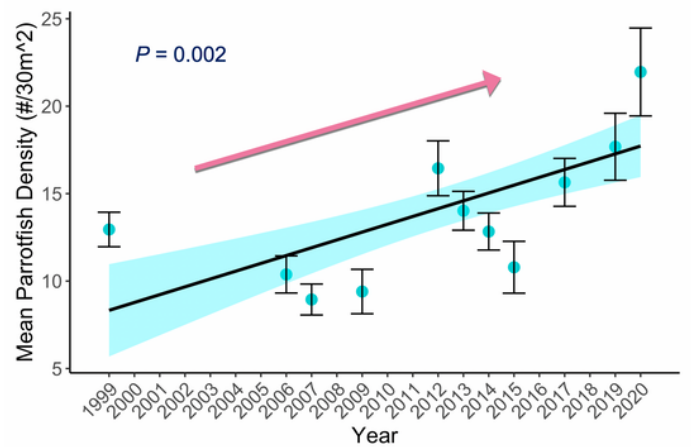


Figure 6: Mean parrotfish density 1999 - 2020

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ABOUT CCMI

Our vision is a world with vibrant oceans and healthy coral reefs. We will make this vision a reality by undertaking cutting edge, impactful research and transforming this research into conservation and education initiatives which will serve to bridge the gap between knowledge and action. CCMI maintains an active field research and educational facility on Little Cayman with satellite offices in Grand Cayman, the US, and the UK. CCMI is a US 501(c)3 nonprofit organization (ID# 22-3609293), a UK charity (#1104009) and Cayman Islands nonprofit (NP-03).



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