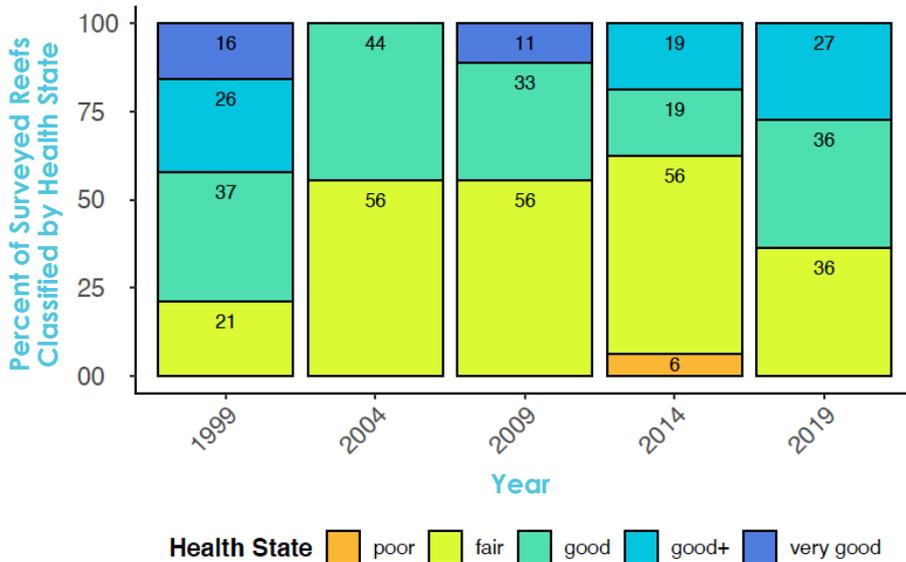


# 2019 Little Cayman Reef Report Card

CENTRAL CARIBBEAN MARINE INSTITUTE



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## CORAL HEALTH STATE 20-YEAR COMPARISON

There has been a gradual decline in coral cover over the last 20 years, going from roughly 24% to 20% average coral cover. However, this change is not statistically significant. The slow rate of decline indicates that the reefs of Little Cayman are more resilient than reefs in other parts of the Caribbean where declines were rapid and have not rebounded.

The 2019 average coral cover of 20% is classified as "good" in terms of reef health. Over time, the health state in Little Cayman has fluctuated with more sites classified as "poor" and fewer sites classified as "very good". However, in 2019, none of the surveyed sites were "poor", and the majority were either "good" or "good+", indicating a relatively healthy reef system overall.

## CORAL REEF SPECIES COMPOSITION

Composition of the coral community on the reef has changed over time, from reefs dominated by massive boulder corals, such as *Orbicella* spp, to smaller corals such as *Agaricia* spp and *Porites* spp.

*Orbicella annularis*



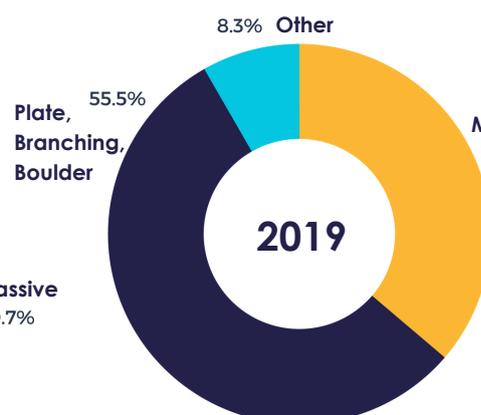
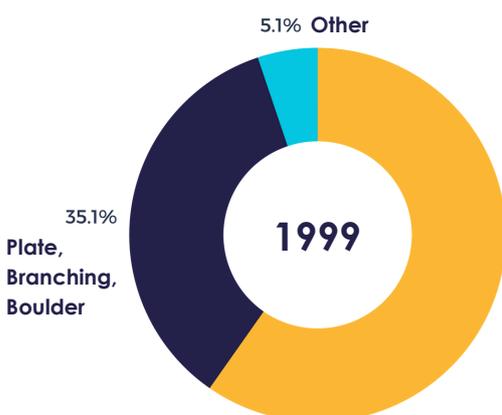
*Porites astreoides*



*Agaricia agaricites*



## Coral Species Composition 1999 vs 2019



### Coral Species Composition Classes

- Massive:** *Montastraea* spp, *Orbicella* spp, *Siderastrea* spp
- Plate, Branching, Boulder:** *Agaricia* spp, *Porites* spp, *Acropora* spp
- Other:** Fire coral, other

# 20 YEARS

of detailed site surveys,  
comprising a valuable  
long-term data set



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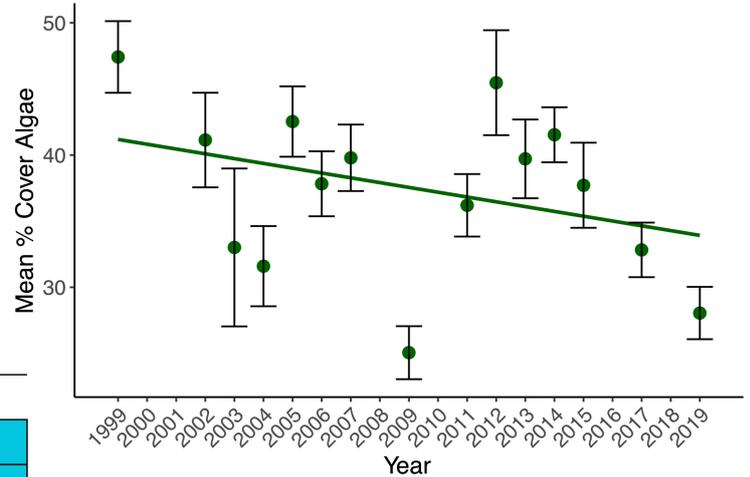
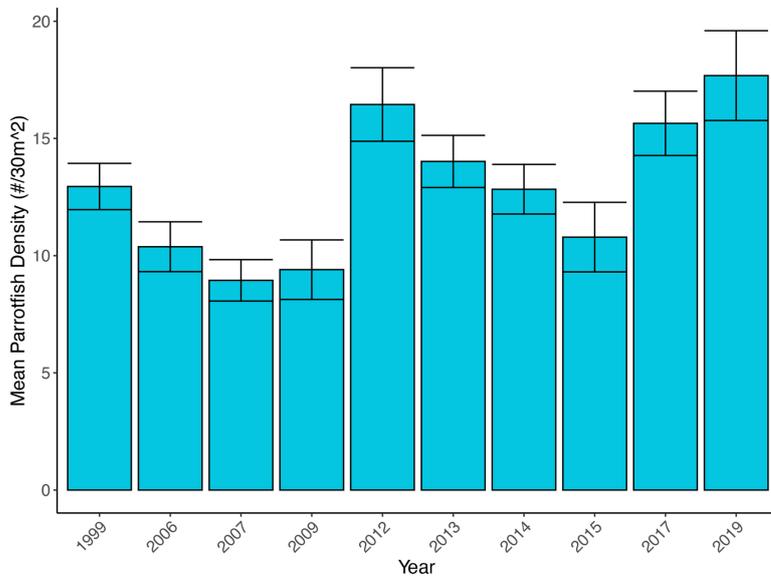


# 20%

average coral cover on  
Little Cayman sites  
surveyed in 2019

## MACROALGAE

There was a gradual decline in the percent cover of algae on the reefs in Little Cayman since 1999. This decline in algal cover again indicates a healthy reef that has not yet undergone a phase shift from coral to algae.



## FISH COMMUNITIES

We found no significant trend in density or biomass over the survey period. Relative to 2018, however, fish biomass and density was significantly higher in 2019. The data showed a significant trend of increasing density of parrotfish over the 20 years. Parrotfish density was shown to correlate positively with coral cover and negatively with macroalgal cover, demonstrating the importance of these key herbivores to healthy reef composition.

## CONCLUSION

Whilst Little Cayman reefs are not immune to the impacts of local and global change, they have remained stable over time and appear to be more resilient than other Caribbean coral reef systems.

### HEALTHY REEF SPONSORS



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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).