

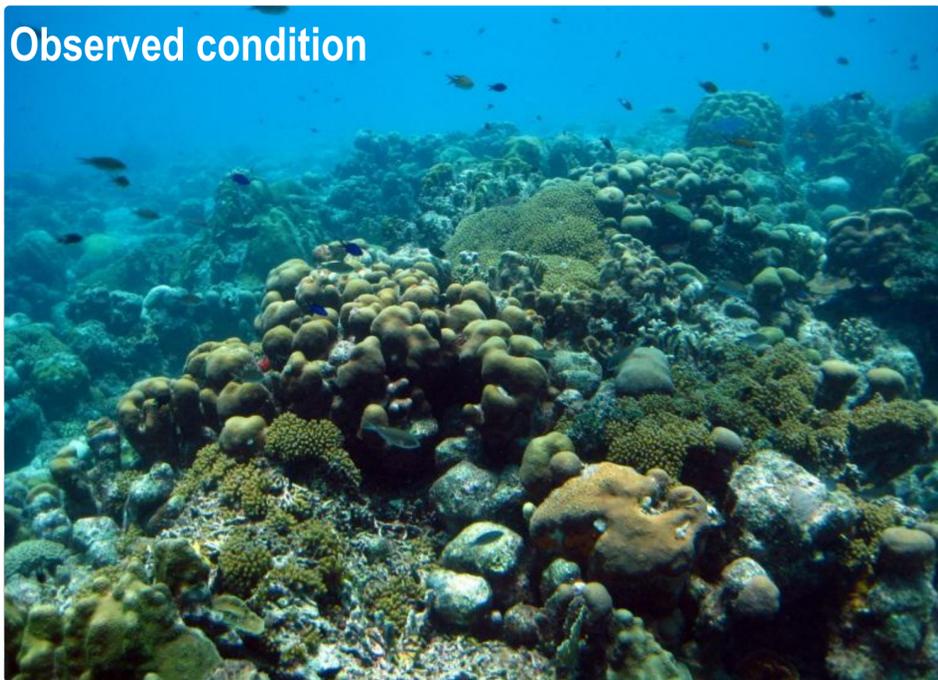
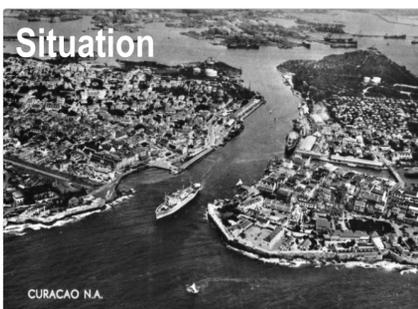


# WHERE STEREOTYPES DON'T WORK

*functional reefs in unexpected places reveal underappreciated aspects of coral community development*

Coral reef ecosystems often follow common trajectories of decline around the world. While stereotypical trajectories such as coral-to-algae phase shifts are certainly common and provide useful paradigms for reef conservation, generalizations about ecological trajectories might also inhibit deeper understanding of the processes that shape reef communities through time. Strict focus on reef decline takes attention away from unidentified dynamics and processes that could, when aided by appropriate management interventions, result in the recovery of degraded reef systems.

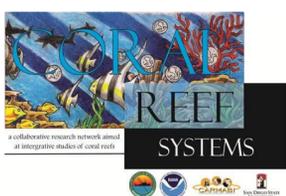
The fact that such processes exist is evidenced by a variety of reef communities that were observed on Curacao (Southern Caribbean) that has been urbanized for over 300 years. Two of these examples are described below. Research on coral reef communities as the ones below will reveal previously underappreciated aspects of reef ecology. Focusing on aspects of reef dynamics that could enable reefs to persist or recover will likely increase support for reef management efforts and reduce some of the 'doom-and-gloom' rhetoric that typifies communications about coral reefs around the world.



**100+ years of pollution** Since the early 1900's, a refinery and a major harbor have been present in Curacao's largest inland bay. In addition, the adjacent land has been urbanized since 1684. Because much of this pollution flows directly to the fringing coral reefs at the bay mouth, one might expect no remaining coral reefs to be present. Unexpectedly, coral cover ranges between 30-40% and all major species of coral are present. Macro algal cover is less than 10%.



**3 degrees above average** Since the 1950's, a desalination plant has been releasing brine and warm water (3°C above ambient) onto a shallow water reef community. Coral cover in this plume exceeds 60% and a shift to an algal-dominated system) has not occurred.



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