

The importance of subsistence fisheries during the COVID-19 pandemic: a case study from queen conch in The Bahamas

La importancia de la pesca de subsistencia durante la pandemia de COVID-19: un estudio de caso del caracol rosado en las Bahamas

L'importance de la pêche de subsistance pendant la pandémie de COVID-19: une étude de cas sur le lambi aux Bahamas

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EXTENDED ABSTRACT

Subsistence and artisanal fisheries have played a vital role in sustaining human populations of the Caribbean for hundreds of years, particularly in times of hardship. The onset of the coronavirus pandemic earlier this year led to a dramatic rise in unemployment throughout the region and fears around food-security. The Bahamas ranks 2nd in the region for food insecurity and subsistence fishing was one of the few activities permitted during the emergency curfew restrictions, leading many to turn to the marine environment for food. During the Subsistence fishing was one of the few activities allowed during the COVID-19 lockdown restrictions in the Bahamas, leading to an increase in the number of fishers engaging in small-scale fishing.

To better understand this phenomenon, I undertook a study of queen conch landings at previously documented sites near the Cape Eleuthera Institute in The Bahamas during the weeks following the implementation of COVID-19 lockdown. This consisted of weekly shell collections from approximately 1 mile of shoreline adjacent to a shallow bank, where fishers wade to collect conch. All shells deposited by fishers within each week were measured to obtain information about the catch.

This survey revealed a sharp increase in small scale fishing activity at this site during the first 3 weeks of the lockdown period, when all businesses were closed and there was great uncertainty about food security. During the 4th week of the lockdown, some measures were lifted, and limited commercial activity resumed. This coincided with a drop in catch rates, which remained low for the rest of the 12 week study period. Over this time period there was a 16% decrease in the median size of conch being taken. Additionally, only 11% of conch were legal sized individuals.

When compared with previous surveys in 2003 (Clark *et al.*, 2005), there was an overall decline in the proportion of legal sized catch and an increase in the proportion of small juvenile sized conch (Figure 1), suggesting serial depletion of larger conch within the fishing grounds.

Overall, this work highlights the role of marine subsistence fisheries as a safety-net during times of crisis, particularly for small islands. Further social science work will need to be completed to fully understand the dynamics of this socio-ecological system and the specific drivers behind these trends

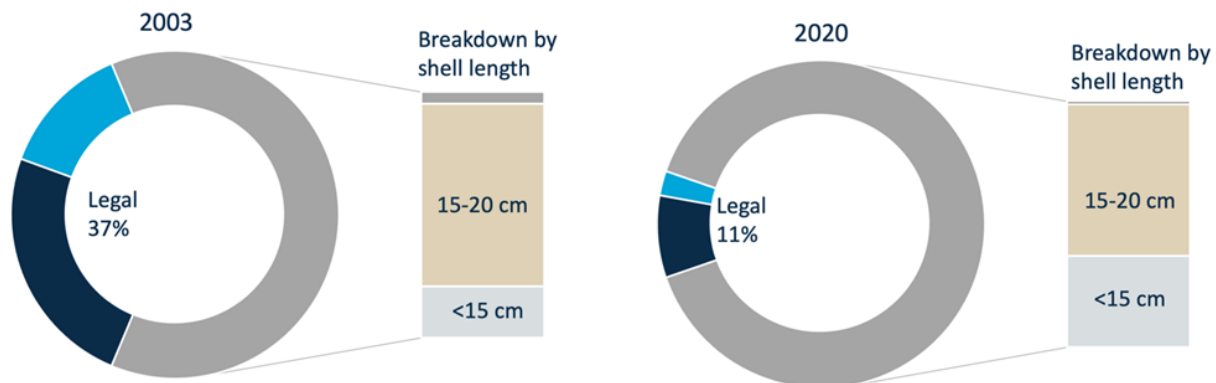


Figure 1. Breakdown of catch from a subsistence conch fishery in 2003 compared to catch during the COVID-19 pandemic lockdown. Blue sectors show the proportion of legal sized catch, while illegal sized catch is in grey. The illegal-sized catch is further broken down by size category based on shell length.

KEYWORDS: conch; small-scale fisheries; natural capital; ecosystem services

LITERATURE CITED

Clark S, Danylchuk AJ, Freeman B 2005. The Harvest of Juvenile Queen Conch (*Strombus gigas*) off Cape Eleuthera, Bahamas: Implications for the Effectiveness. Proceedings of the Gulf and Caribbean Fisheries Institute 56:705–713