

Coral Conservation

Global evidence for the effects of actions



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CONSERVATION EVIDENCE SERIES SYNOPSES



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3. Threat:

Aquaculture & agriculture

Background

Marine aquaculture (also known as mariculture) is the farming of fish, crustaceans, molluscs, algae and other organisms under controlled conditions in the marine environment. Aquaculture facilities can cause increased levels of nutrient pollution and microorganisms (Becker *et al.* 2017). Practices such as sea cage farming are often sited close to reefs (Hedberg *et al.* 2015, Hedberg *et al.* 2017) and have been associated with reduced coral cover and increased coverage of turf algae (Hedberg *et al.* 2015).

Land agriculture can lead to nutrient-rich and pesticide-rich run-offs reaching the marine environment through rivers, and negatively impacting coastal areas due to the increase in nutrients such as nitrogen and phosphorous (Falace *et al.* 2018; Gabric & Bell 1993). These increases in nutrients often lead to diminished water quality and eutrophication events including hypoxia or anoxia, creating “dead zones” (Breitburg *et al.* 2018).

Much of the conservation effort related to threats from aquaculture and agriculture has been directed at reducing the impacts of pollution and impoverished water quality, as well as reducing the threat from non-native and invasive species. Actions related to these threats are described in *Threat: Pollution* and *Threat: Non-native, invasive and problematic species*

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