

of marine protected areas (MPAs). A multi-area bulk biomass model was used to design MPAs off the east coast of Sri Lanka and spatial management through marine reserves is seen to have potential to rebuild the highly depleted sea cucumber populations. Apart from the management of local sea cucumber resources, the information gained through this study is important for updating the regional and global sea cucumber catch statistics as well as to contribute information for the implementation of regional management programmes.

Master's thesis

Estimation des stocks d'holothuries commerciales dans le lagon de Moorea et recommandations de gestion associées

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Holothurians are eaten by Asian populations since ancient times and are therefore fished in many Pacific islands. In the lagoon of Moorea, five species are now harvested and have been studied to get an estimation of their stock size. Sea cucumbers were surveyed in the lagoon, the reef crest and passes, along transects. In order to correlate the number of individuals and the biomass, size-to-weight relationships from the literature were used, except for *Bohadschia argus*, for which the relationship was established in collaboration with the wholesaler from Moorea. Ecological preferences for each species were also studied. The data set provides management advices to sustainably preserve this marine resource. As a result, recommended quotas (kg of gutted weight/year) and minimum harvestable sizes (cm) are as follow: *Bohadschia argus* (11,430 kg, 35 cm), *Thelenota ananas* (6 kg, 30 cm), *Holothuria fuscogilva* (241 kg, 35 cm), *Holothuria whitmaei* (52 kg, 30 cm) and *Actinopyga mauritiana* (75 kg, 17 cm). These recommendations could be included in the Management Plan of the Maritime Area of Moorea. Fishing gear restriction and regulation for all actors of the sea cucumber's fishery are also recommended.

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Original text: English

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