

Effet Spillover d'une Aire marine Protégée estuarienne en Afrique de l'Ouest : le cas de l'AMP de Bamboung (Saloum, Sénégal)

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Abstract

The efforts to conserve biodiversity has been stimulated by the creation of large marine protected areas at sea, in addition to small sites in the coastal waters of many countries. The objectives of creating MPAs are diverse and may appear to be conflicting. Scientists and managers are interest in their effectiveness as tools for restoring biodiversity and tools for fish stock management. Many AMP were evaluated worldwide and the results are in the main part positive. Then, MPAs are predicted to benefit adjacent fisheries through net emigration of adults and juveniles across borders, termed "spillover". This phenomenon is favored by high density in MPAs, species mobility and habitat connectivity. MPAs can contribute to an increase of abundance and biomass due to the Spillover effect, especially near a reserve. The objective of this work is to verify whether an MPA can contribute to the improvement of fisheries yields near its borders. The question is whether fishing parameters such as abundance, biomass, average size and maximum size decrease with distance to Bamboung MPA. It means to examine spatial patterns of these fishing parameters across the boundary of Bamboung MPA. The present study is conducted in a part of Diomboss area, located in the estuary of Saloum, near the border of Bamboung AMP where fishing activities are banned. The data were collected during 3 fishing surveys in 2012, carried out during the three main hydro-climatic seasons of the region in March (end of the cool dry season), June (end of the h t dry season) and October (end of the wet season). Samples were fished with a baited longline. The results show in the cool season, an increases of abundance away from the MPA border, whereas in the dry season, it decreases away from the MPA. The biomass did not evolve with the distance to the MPA. The average size of fish decreases when moving away from the MPA in both the cool and wet seasons. The maximum size decreases away from the MPA in the wet season. The spillover effect in Bamboung MPA is not clearly demonstrated according to our results. A downward trend of biological indicators according to the distance to the MPA has been observed especially in hot season and wet season. These results would



reveal the possibility of an improving artisanal fishery yields near the boundaries of the Bamboung MPA in dry and wet seasons.



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