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## **Response of soft-bottom macrobenthic assemblages to artisanal trawling fisheries in a subtropical estuary**

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### **Abstract**

Bottom trawling is one of the most harmful and widespread activities affecting benthic habitats and fauna. In this study, we analyzed the impact of shrimp trawling fisheries on the densities, assemblage structure and vertical stratification of the benthic macrofauna in shallow mudflats of the Patos Lagoon Estuary (Brazil). Experimental trawls of different intensities were performed during three shrimp fishing seasons (2015-2017), comparing macrofauna among before and after trawling, and a control zone. The changes in macrofaunal assemblages were more consistently related to natural variability than to trawling impact, being mostly influenced by sediment structure and salinity variation. The trawling impact was mainly detected in the area with higher percentages of fine sediments, with different macrofaunal responses in each month and stratum. Some non-significant

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