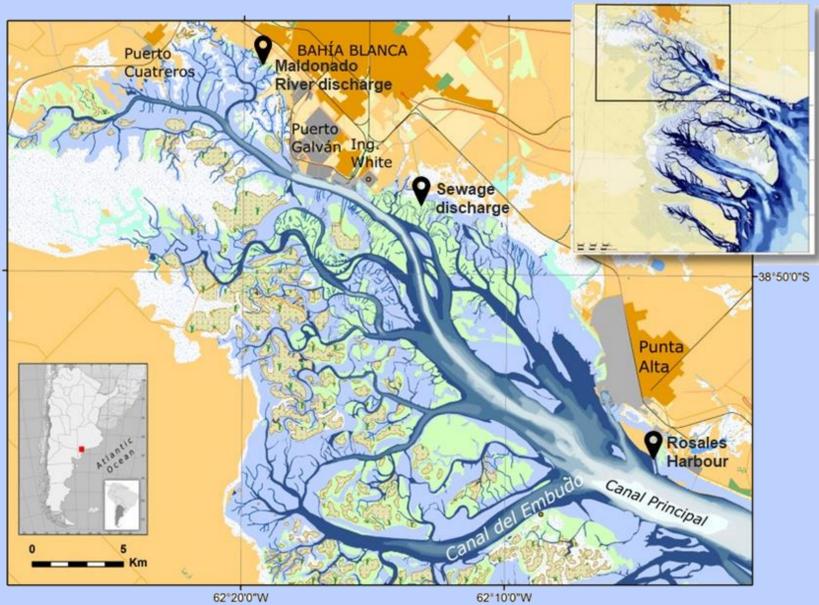


Introduction

Microplastics (MPs) are ubiquitous particles that accumulate in natural environments, being estuaries one of the most impacted in-between marine coastal ecosystems. Although there is a growing amount of literature available on the abundance and distribution of microplastics in estuarine environments, there is little information concerning the role of salt marshes in these processes. The objective of this study was to assess MPs abundance and distribution in coastal sediment in the Bahía Blanca Estuary (BBE), as well as to evaluate the effect of sediment with and without vegetation.

Methodology



Three sediment samples were taken both in vegetated (*Spartina alterniflora*) and not vegetated mudflat. Physicochemical parameters were also measured.



50 grams of sediment

Was digested with 30% H₂O₂ at 45°C

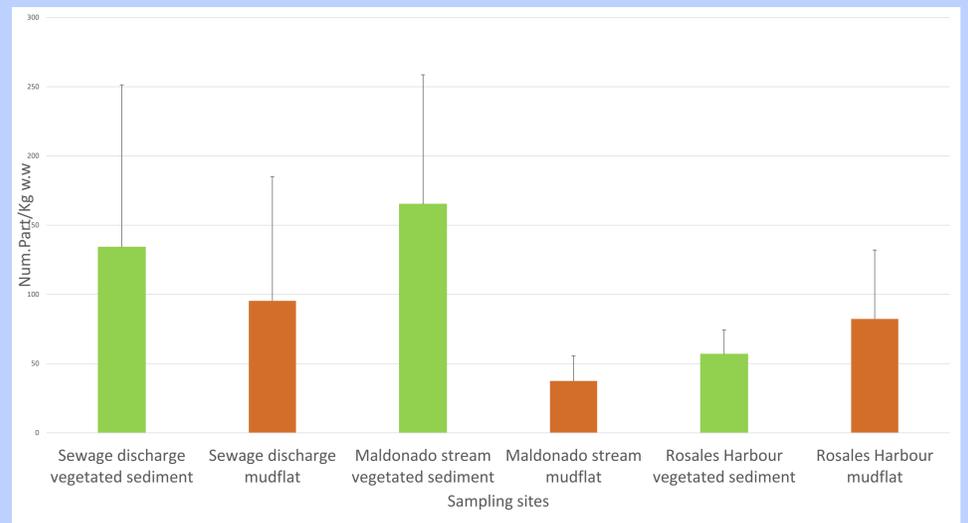
The supernatant was then filtered through pre-burned GF/F filters (0.45 µm)

Flotation separation was performed with saturated NaCl solution

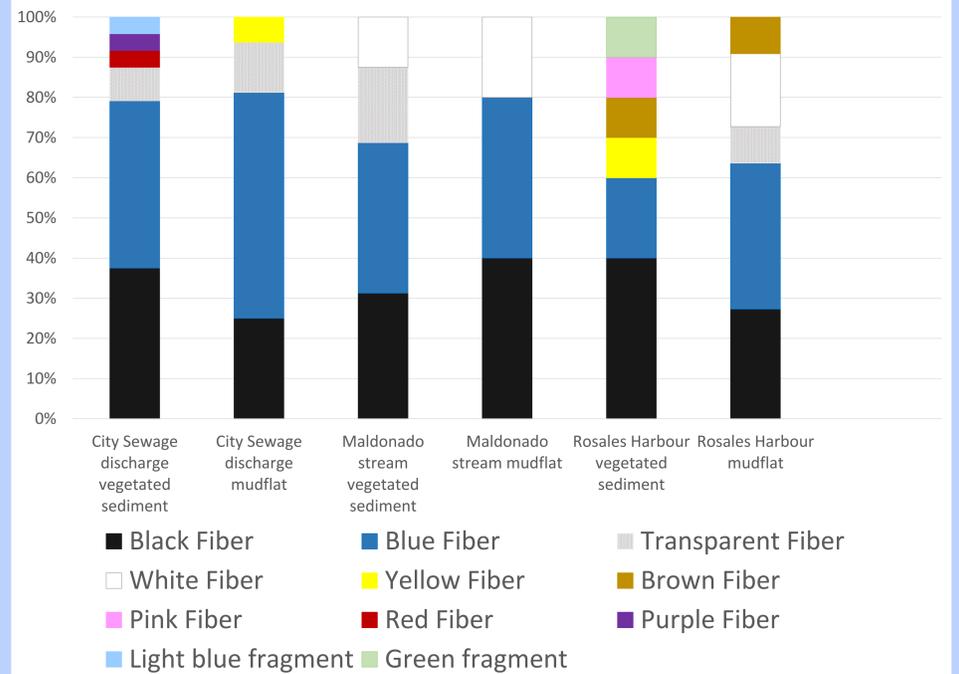
The retained particles were visually inspected under a stereomicroscope.



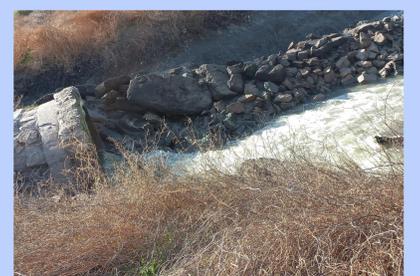
Results



Percentage of distribution of MPs by color



For instance, an open garbage dump has been characterized at the outlet of the Maldonado stream while the sewage discharge receives sewer outlet with after pre-treatment (no filtering or microparticles retention systems).



Conclusions

Vegetated areas at these locations show a relationship between the density of vegetation and the number of MPs present, indicating a clear MPs retaining effect of the salt marshes.