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Distribution and characterization of microplastics in the marine sediments from the Montenegrin coast

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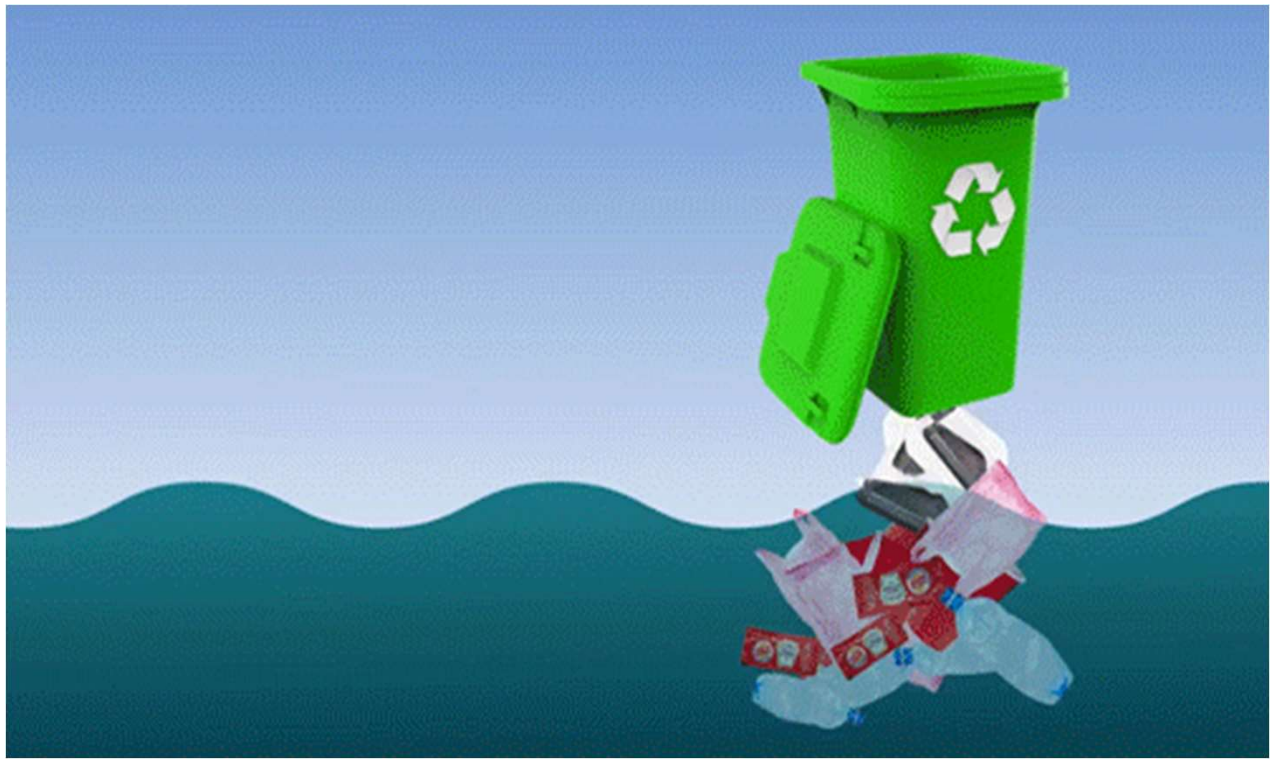
Plastic pollution



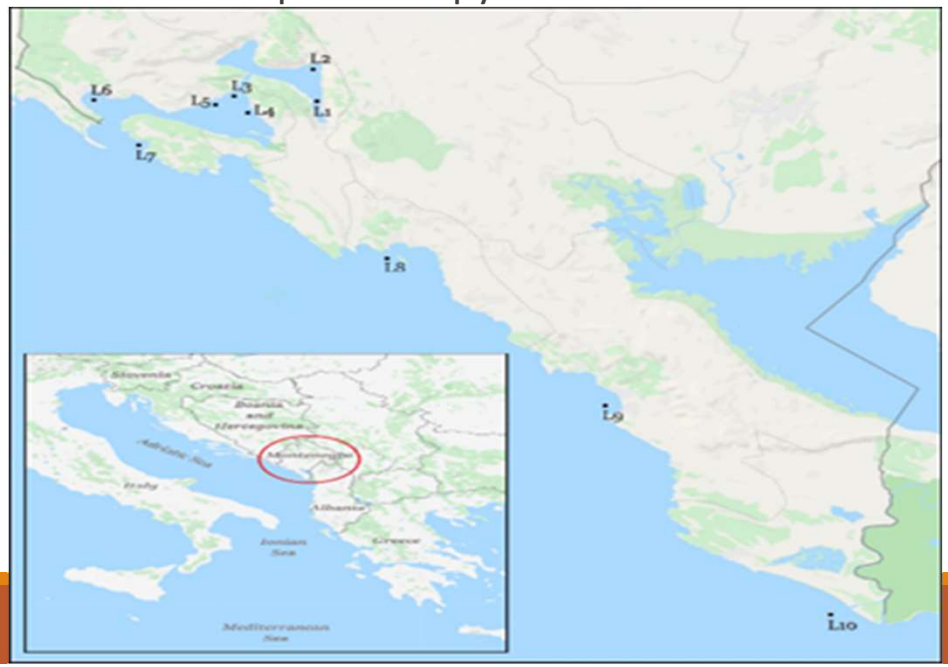

WHAT IS A
MICRO-PLASTIC?

- **Microplastics** are ubiquitous plastic particles smaller than five millimeters (5 mm) in size
- Depending on the origin, microplastics can be **primary** or **secondary**
- Worldwide reports of **MPs in marine sediments**

- The purpose of this study was visual and chemical identification MPs in sediments collected during the autumn of 2019 on the Montenegrin coast.

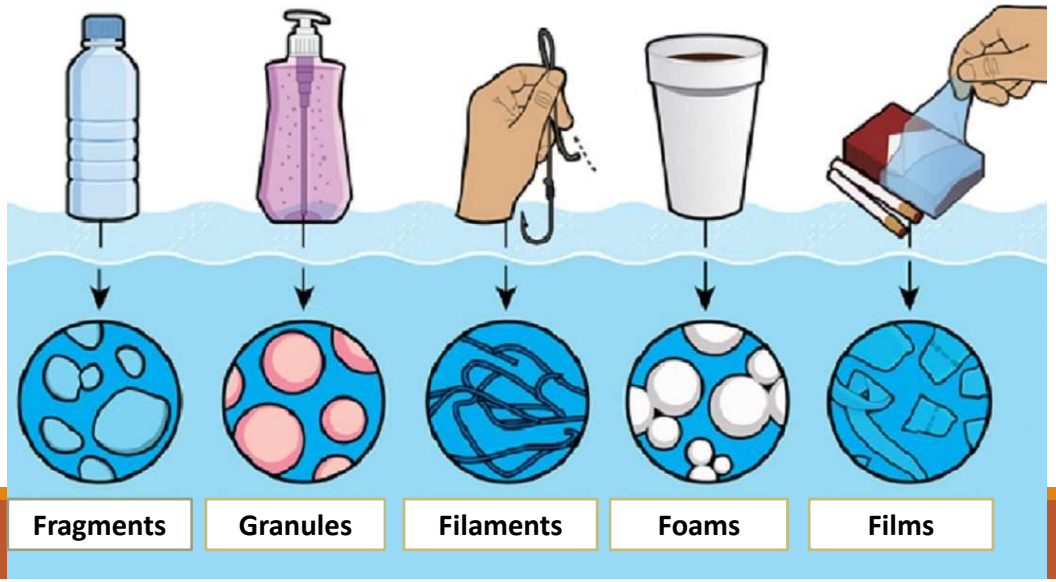
Materials and Methods

- For MPs density separation → NaCl
- Visual analysis → Olympus SZX16 imaging microscope
- Chemical identification → ATR-FTIR and micro FTIR spectroscopy
- Study area and sampling stations →



Results and discussion

- MPs were found in all sampling sites on the Montenegrian coast
- Results indicate that marine sediments in the present study are moderately or very high polluted with MPs compared with literature data
- The primary MPs shape types by number were: filaments > fragments > granules > films.



- The most common types of polymers in the studied sediment were:

Conclusion

Microplastics were identified in the sediments at all 10 locations on the Montenegrin coast. The results of this research are preliminary and require further and more detailed analysis and represent the basis for future research in this field.

Thank you for your attention