III CONVEGNO PLASTAMINATION
ISTITUTO EURO-MEDITERRANEO DI SCIENZA E TECNOLOGIA (IEMEST)
VIA MICHELE MIRAGLIA N.20, PALERMO
13 FEBBRAIO 2026

FROM MACRO- TO MICROPLASTICS IN THE SOUTHERN TYRRHENIAN SEA: AN INTEGRATED ANALYSIS OF MONITORING, IMPACTS ON BIOTA, AND MITIGATION STRATEGIES

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Marine plastic pollution represents a growing threat to coastal and pelagic ecosystems. In this context, a synthetic overview of research conducted on macro- and microplastic pollution in the Southern Tyrrhenian Sea, the Strait of Messina, and the transitional environments of the Capo Peloro Oriented Nature Reserve is presented. Analyses carried out on beaches, brackish lakes, and marine species show widespread contamination, with a strong prevalence of microfibers and plastic fragments deriving from fishing, domestic discharges, mariculture, and coastal anthropogenic activities. Organisms such as macroalgae, anemones, and sea cucumbers have proven to be effective bioindicators, while various fish species—including those of commercial interest and juvenile stages—exhibit microplastic ingestion with possible ecological and health implications. The results highlight the need for integrated monitoring and mitigation strategies, as well as further research into the effects along the food chain.