

demonstrate for the first time the negative effects of PAs on coral-reef organisms, and specifically, the significant effect found during exposure to environmental concentrations of DBP and 4-NP on reef-building corals. This study is an alarm call for future investigation on the effects of PAs on coral reef organisms.

#### **6.08.P-Mo267 Citizen Observation of Plastic Pollution in African Coastal Ecosystems to Address Data Gaps in Marine Litter Distribution**

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The accumulation of plastic litter in coastal environments has become an issue of high priority for policymakers around the globe, due to the potential hazardous effects to biota and human health, and the impact on ecosystem services and in local economies. To develop effective mitigation measures, it is critical to acquire knowledge on the distribution and levels of plastic litter. However, in many regions, such as West Africa, the exact quantity of plastics reaching coastal areas is still poorly known. To address the data gaps in marine plastic litter distribution worldwide, citizen science programs are instrumental in complementing shoreline assessments, and are effective in increasing public awareness of plastic pollution. The Citizen Observation of Local Litter in coastal ECosysTems (COLLECT) project is a citizen science initiative which aims to acquire distribution and abundance data of coastal plastic debris in seven countries, in Africa (Benin, Cabo Verde, Côte d'Ivoire, Ghana, Morocco, Nigeria) and Asia (Malaysia). The project consists of training local students (15-18 years old) from secondary cycle institutions on sampling and analysing macro, meso and microplastic in beach sediments, using scientific procedures. The project will also measure the impact of the citizen science intervention by assessing shifts in ocean literacy and pro-environmental behaviour, while simultaneously considering gender differences. The COLLECT project contributes to the United Nations' Sustainable Development Goals by focusing on #11 the sustainability of communities and #14 the sustainable use of the ocean. Besides, the project relates to #3 the impact on good health and wellbeing and #5 gender equality, while #12 promoting a responsible disposal of consumer goods. COLLECT also reaches to the UN Ocean Decade challenges #1 understanding and beating marine pollution, #9 skills, knowledge and technology for all, and #10 change humanity's relationship with the ocean. The results from COLLECT will contribute to establishing baseline information on coastal plastic debris, with citizen science being an enabler of open science, allowing data to be freely available to the public, academics and policymakers. Results will further contribute to the identification of hotspots of plastic coastal litter, and bring awareness to local communities on the potential consequences of plastic pollution.

#### **6.08.P-Mo268 Integrated Assessment of Chemical Contamination and Its Biological Effects Through Monitoring of Sediment, Mussels and Flatfishes**

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A program to monitor chemical contamination and its effects in the marine environment (SELI) has been implemented in France within the European Marine Strategy Framework Directive context. Campaigns organized around estuaries of major French rivers, Seine and Loire, have provided measurements of various ecotoxicological parameters including contaminant concentrations in three matrices (sediment, mussels and soles) and biomarkers (in mussels and soles). The large number of these parameters complicates the overall ecotoxicological assessment and the comparison of different marine areas. The integration of the parameters in the form of synthetic indicators enables the information to be condensed in a comprehensible manner. Two approaches based on the comparison of parameters to thresholds were used. The first one counts the threshold exceedances of the parameters (derived from ICES 2012 method) while the other one calculates an average ratio of the values of these parameters on their environmental threshold (derived from HELCOM CHASE method). Graphical representations of the results and the use of quality classes allow for a quick visualization of the impacts of contamination over several sites. Between Loire and Seine, despite different levels of contamination, preliminary results suggested that biological effects were similar. This integrated multi-matrix approach, chemical and biological, could be extended to other marine regions to monitor the evolution of marine ecosystems with respect to chemical contamination.

#### **6.08.P-Mo269 Critical Review of the Risk Based Approach for Produced Water Discharges From Offshore Oil Production**

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Produced water constitutes the largest wastewater stream associated with offshore oil extraction. In 2018 the estimated discharge from offshore activities in the North East Atlantic was 300 million m<sup>3</sup>. Produced water is a complex mixture of chemicals potentially causing adverse effects on the receiving marine environment if not managed properly. The compounds of specific concern includes metals, benzene, toluene, ethylbenzene and xylene, polycyclic aromatic hydrocarbons, phenol, alkyl phenol,