



Contaminants of Emerging Concern in the Marine Environment: An Integrated Effects Assessment Approach (CONTRAST)

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The Horizon Europe project, CONTRAST, will develop an integrated assessment and effect-based monitoring framework (IAF) to measure the impacts of contaminants of emerging concern (CECs) on the marine environment, which will contribute to the assessment of Good Environmental/Ecological Status for application in EU policy (MSFD/WFD). The IAF will involve chemical measurements together with biological effects endpoints optimised to detect the presence and effect of CECs in the marine environment. Chemical prioritisation schemes will identify the CECs that pose the greatest threat to marine life and select which CECs to target in the laboratory experiments, where the effects on organisms and biodiversity will be assessed. *In silico*, *in vitro* and *in vivo* bioassays will be used to determine the mechanisms of toxicity of selected CECs. Providing information on how CECs interact with organisms at environmentally relevant concentrations and which biological effects tools should be used in the IAF to cover the range of toxicity mechanisms that CECs produce. A series of European-wide case studies will be used to test the suitability of the IAF to measure the effects of chemicals including CECs on indicator species and biodiversity and to model fate of CECs in marine environment. The knowledge gained from field testing and laboratory studies will form the basis for guidance documents and policy briefs on best practices for performing an IAF on CECs in the marine environment and help to provide the necessary protection of marine ecosystems.