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blue wwater

CONTROL, TREATMENT AND REDUCTION OF MICROPLASTICS AND EMERGING POLLUTANTS IN URBAN WASTEWATER AND IN THE TRANSBOUNDARY COASTAL ENVIRONMENT

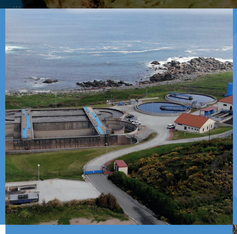
POLLUTION CAUSED BY DISCHARGES OF UNTREATED OR INADEQUATELY TREATED WASTEWATER INTO RIVER AND COASTAL WATER BODIES, AND ITS IMPACT ON THE ENVIRONMENT AND HUMAN HEALTH, IS A GLOBAL PROBLEM THAT NEEDS TO BE TACKLED FROM A HOLISTIC POINT OF VIEW. TO REDUCE THE ENVIRONMENTAL RISKS ASSOCIATED WITH THE PRESENCE OF CONTAMINANTS OF EMERGING CONCERN (CECS) AND MICROPLASTICS, A COMMON STRATEGY AND EFFECTIVE CROSS-BORDER COOPERATION ARE ESSENTIAL TO REDUCE THE EMISSION OF THESE CONTAMINANTS.

BlueWWater aims to improve the quality of river, transitional and coastal water bodies by controlling, monitoring, and assessing the emission of microplastics and CECs into the aquatic environment in Galicia and Northern Portugal, ensuring a sustainable use of water resources and contributing to the implementation of the European Community legislation.

objectives

The main objectives of the project are:

01 Detect and monitor contaminants of emerging concern (CECs) and microplastics in wastewater, river, and coastal waters.



02 Evaluate the efficiency of wastewater treatment plants (WWTPs) and advanced pilot treatments.

03 Assess the potential for reuse of treated water for agricultural purposes.

04 Promote collaboration, exchange of experience and transfer of knowledge.

05 Raise awareness about the risks and impacts of CECs and microplastics on the aquatic environment and human health.

activities and results

Development of tools for assessing microplastics and contaminants of emerging (CECs) concern in WWTPs and the aquatic environment

- High throughput methodologies for the determination of CECs and microplastics.
- Interlaboratory exercise for the validation of analytical methodologies.

Risks and impacts of contaminants of emerging concern (CECs) and microplastics

- Evaluation of the efficiency of WWTPs and tertiary/quaternary treatments at pilot scale.
- Potential for reuse of treated water for agricultural purposes.
- Environmental assessment using a life-cycle analysis (LCA) methodology.
- Modelling tool to support environmental risk assessment.

Dynamization and strengthening of the NOR-WATER Network

- Catalogue of capabilities and technological offer.
- Database of knowledge about CECs.
- Webinars, seminars, and Winter school.

Environmental education and awareness-raising activities

- Workshops, litter clean-up actions, exhibitions, videos and infographics, outreach publications, games, and educational kits.

consortium

- Centro Tecnológico del Mar Fundación CETMAR (Coordinator)
- Águas e Energia do Porto, EM
- Câmara Municipal de Viana do Castelo Centro Monitorização e Interpretação Ambiental
- Câmara Municipal Vila Nova de Cerveira Aquamuseu do Rio Minho
- Centro Interdisciplinar de Investigación Mariña e Ambiental (CIIMAR) Univ. do Porto
- Centro Tecnológico del Agua (CETAQUA)
- Instituto Español de Oceanografía Centro Oceanográfico de Vigo (IEO-CSIC)
- Universidade de Santiago de Compostela (USC)
- Instituto Tecnolóxico para o Control do Medio Mariño de Galicia (INTECMAR)
- LSRE-LCM, Faculdade de Engenharia da Universidade do Porto (FEUP)
- Faculdade de Ciências da Universidade do Porto (FCUP)

advisory panel

- Agência Portuguesa do Ambiente, IP - ARH do Norte
- Confederación Hidrográfica del Miño-Sil, CHMS
- Águas do Norte, S.A.
- Augas de Galicia
- LABAQUA, Laboratorio y Soluciones Ambientales S.A.U.
- Viaqua Gestión Integral de Aguas de Galicia

contact

Área de Control y Gestión del Medio y los Recursos Marinos
bluewwater@cetmar.org

Centro Tecnológico del Mar - Fundación CETMAR
C/ Eduardo Cabello S/N
36208 Vigo (Pontevedra)

www.bluewwater.eu

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