



Marine Litter

Marine litter is any persistent manufactured or processed solid material discarded, disposed of or abandoned in marine and coastal environments.

Sources of litter are as diverse and widespread as human activities. Like other pollutants, marine litter affects organisms in ecosystems, where it accumulates. It has a negative impact on fisheries, tourism and may pose a risk on public health. Over two thirds of the litter on beaches, on the sea surface or on the sea bottom is made up of different types of plastics.

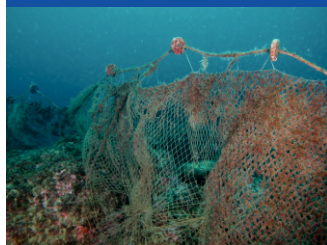
Reducing litter in the marine environment is a priority for preserving the ecosystems and human health. This complex problem is translated into policy actions by the Marine Strategy Framework Directive (MSFD), the EU Strategy for Plastics in a Circular Economy and the EU Waste Legislation.

In the Black Sea marine litter is a critical issue, intensified by significant pressure from land-based sources. The situation is aggravated by the basin's large catchment area of over 2 million sq. km, covering territories from over 20 countries.

Data on the abundance and distribution of marine litter in the Black Sea has been actively collected recently with support from the EU and other international donors. Marine litter studies and monitoring activities aiming to produce a baseline assessment are under way in the EU member countries. In the other coastal states there are ongoing actions to improve the availability and sharing of marine environmental data from the national and joint regional monitoring programmes, aligned under the Black Sea Integrated Monitoring and Assessment Programme (BSIMAP).

Main findings on marine litter in the Black Sea confirm that it is as much affected, as the world ocean, by the problem with plastic waste prevailing in beach, surface and shelf litter. Cigarette butts are the most often found items on beaches along the Black Sea coast along with plastic bags and single use plastic items.

Joint monitoring and data sharing help scientists, policy makers and managers to understand better the nature of marine litter pollution, establish reduction targets and design prevention and reduction measures with practical application in everyday life.



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Common borders. Common solutions.



Exchange of data, knowledge and management tools for marine litter reduction

Improved online public access to environmental monitoring data and data tools for the Black Sea Basin supporting cooperation in the reduction of marine litter

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About MARLITER

'Improved online public access to environmental monitoring data and data tools for the Black Sea Basin supporting cooperation in the reduction of marine litter' or MARLITER is a project employing information technologies for better environmental monitoring at regional scale and decrease of solid waste in the marine environment. The project enhances international knowledge-based cooperation, information exchange and innovative capacity building between five partners - NGOs, higher education and research institutions - from Bulgaria, Georgia, Greece, Romania and Ukraine. It addresses cross-border pollution with marine litter and its reduction in the Black Sea Basin.

The aim is to improve the availability of online public access data and data tools for environmental monitoring and adaptive management policies, supporting innovative non-formal education and joint measures on the reduction of marine litter across the region. To achieve this, the project partnership perform three groups of activities in the five countries: information exchange and integration, development of web-based tool and capacity building for youth and other regional stakeholder groups.

The overall objective of MARLITER is to promote stronger cross-border integration of information, knowledge and expertise on environmental monitoring and marine litter issues in the Black Sea Basin. The project aim is to improve the availability and conditions for effective use of online public access to monitoring data and data products for marine litter reduction. The project partners strive to achieve this with the accomplishment of three specific objectives:

- To provide, manage and integrate information and knowledge
- To develop, activate and promote an information technology-based tool and data products
- To raise the capacity of stakeholders to use information technology tools and data products

Activities

In order to address marine litter pollution, we need to understand the sources, movement, and impact of litter along the coasts and in the marine environment. Marine litter monitoring programmes seek to gain this understanding through the collection of data. These data can answer important research questions, such as where does marine litter come from, are there accumulation patterns, and what are the most common or most damaging types of litter. Answering such questions can inform the development of management and policy solutions that tackle the problems of marine litter on a local, regional, national as well as international scale.

The first group of activities includes preparatory information review and integration intended to support the development of an interactive tool. This helps to design and generate a flexible web-based tool kit that assists public authorities, businesses and non-governmental organizations in ensuring monitoring and reduction of marine litter, while being used as a means to translate the results into policy and management recommendations.

Central place is dedicated to the interactive map of the Black Sea, an online GIS data tool with free public access and interactive components with several functions, including provision of information support, decision making support, and implementation of innovative forms of non-formal education and training for representatives of various stakeholders.

The interactive web-based portal supports geospatial data for the Black Sea region, including digital maps of parameters of the marine environment and the coastal area, ecological and physical conditions for the wider region, maps of protected areas, current climate and projections of climate change. The tool further supports maps of marine litter distribution and patterns.

Three more data products for capacity and knowledge development are related to the ICT-based tool: an e-learning course for young people with a focus on citizen science and the monitoring of the beaches for marine litter; stakeholder regional training on the use of decision-making support tools for marine litter; and a manual to support regional policies and activities in the field and reduce marine litter.

Marine Data and Knowledge

The MARLITER project examples illustrate how sound science provides information of the sources, threats and solutions surrounding the problem of marine litter. Science highlights findings from the analysis of marine litter monitoring programmes and interprets data to demonstrate the behaviour, abundance, movements and impacts related to marine litter. Other examples demonstrate how data findings lead to the development of new management or policy strategies for communities, agencies and businesses.

Monitoring program data evaluates the effectiveness of existing marine litter related strategies, such as bans on plastic bags, by tracking the presence of plastic bags within seas and coasts over time. Developing policies and management procedures is arguably one of the most effective means for truly reducing marine litter in the environment. Learning about how data leads to the development of new, or improvement of existing strategies highlights the importance of monitoring programmes and guides marine litter reduction and prevention strategies in order to protect the future of marine resources.

We are at an important crossroad for European ocean observation and monitoring. More than a decade has passed since the launch of Europe's Integrated Maritime Policy in 2007. It provided a coherent framework to coordinate across sea-related policies. At a political level, there is growing recognition that ocean data are an enabler for the blue economy, crucial for assessing and achieving good environmental status of our seas and oceans, and indispensable for understanding and tackling major global issues such as climate change, marine litter, illegal fishing or marine protection.

Europe's marine data collection has become much stronger and more diverse, with efforts shared across many different actors and stakeholder groups. There has been substantial progress in the infrastructures used to routinely monitor the seas and oceans, as well as in the ones used to deliver and assemble marine data and create knowledge in a way that is findable, accessible, interoperable and reusable.

