



Tackling marine litter in the Atlantic Area

5th NEWSLETTER

August - November 2019



Secretaria Regional
do Ambiente e Recursos Naturais
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Editorial

Welcome [Read](#)

Mapping knowledge and stakeholders [Read](#)

Impact of marine litter in economic sectors [Read](#)

Monitoring of marine litter and data management [Read](#)

Modelling and mapping marine litter [Read](#)

The CleanAtlantic Knowledge Tool and e-booklets [Read](#)

Fishing for litter pilot actions [Read](#)

Awareness-raising activities [Read](#)

Ongoing activities

World Oceans Day [Read](#)

Rencontres nationales Polymères & Océans [Read](#)

Journées Plastiques & Environnement [Read](#)

CRETUS: III symposium. Research and environment technologies [Read](#)

Ecological Summer Camp Club Marítimo de Panxon [Read](#)

Conference "*Por un mar de vida e oportunidades*" [Read](#)

2nd Portuguese Conference on Marine Litter and Microplastics [Read](#)

European Researchers' Night [Read](#)

Training Course in the Lourizán Forestry Research Centre [Read](#)

IV Encontro Internacional do Lixo Mariño – Crebeiros no mundo [Read](#)

External Events

External Events

Conference "Plastic invasion: the environmental threat of plastic materials" [Read](#)

47th CPMR General Assembly [Read](#)

Workshop on Plastics & the Seafood Supply Chain [Read](#)

OSPAR – ICG ML [Read](#)

Business to sea – ASPC 2019 - Interreg annual event
- CPMR Atlantic Arc Commission General Assembly [Read](#)

Ciencias de la Tierra'19 [Read](#)

1 | Editorial



Welcome to the fifth issue of the CleanAtlantic project newsletter reporting the latest advances and progresses on the CleanAtlantic activities during the last period from August to November 2019. During this period, interesting research results within all the work packages have been delivered, and further technical work as well as dissemination and capitalization activities have been carried out by the CleanAtlantic partners towards the accomplishment of the project objectives.

This newsletter will inform you about the latest CleanAtlantic news and events, and on relevant project activities and achievements during this period.

Please note you can also follow CleanAtlantic in our social media networks ([Twitter](#), [Facebook](#) and [Instagram](#)) and our project website with sections dedicated to news, events and project results developed up to date.

If you have any comments or suggestions, please feel free to contact us at cleanatlantic@cetmar.org.

We would like to thank you for keeping up with our project's developments and for being part of our community.

The CleanAtlantic Coordination Team

2 | Ongoing activities

Mapping knowledge and stakeholders

Since the beginning of the project, partners have been collecting and analysing available data on marine litter to get a comprehensive overview of its presence in the different marine compartments and identify knowledge gaps. Basing on this data review and collection, partners are currently in the process of elaborating reports reviewing on existing knowledge of seabed, beached and floating marine litter. Data will be also showed on an online map viewer developed by CEFAS and IEO. In addition to this, Cedre is assessing past and ongoing initiatives in the Atlantic Area that aim at tackling this environmental challenge. This information have been gathered through online surveys run in Ireland, UK, France, Spain and Portugal.

Impact of marine litter in economic sectors

An extensive literature review of economic sectors impacted by marine litter was carried out by CEFAS, USC, and the MI, and it is expected to be finished by December this year. Basing on this work, partners run surveys focused on different economic sectors, namely fishing, tourism, and aquaculture. CEFAS is leading the study to estimate the reduction in total welfare benefit - accounting for the lost recreational enjoyment of the coastal and marine environment in economic terms- related to the presence of litter on South West and East England coasts. This same study is being run in West Ireland with the collaboration of the MI and the Irish government (Department of Housing, Planning and Local Government). In Galicia, the USC is running a survey that targets fishermen guilds in Galicia (Spain) to study the impact of marine litter on fisheries. Besides, the USC is working with ARDITI and DROTA to launch a survey targeting the aquaculture sector in Madeira.

Monitoring of marine litter and data management

Partners are working on the improvement of protocols for marine litter monitoring: 1) for seabed marine litter, ARDITI is developing a protocol for opportunistic sampling with divers –which eventually will be transformed into an app for citizen science-based data collection, IEO developed a sampling template to be used by ICES trawl fisheries campaigns, and CEFAS is developing an app to facilitate data recording by researchers; 2) concerning floating litter, partners are testing different techniques such as drones, manta trawls, during marine surveys to



develop protocols, and analysing different satellite images for assessing their potential for marine litter identification and quantification. Finally 3) to monitor marine litter on beaches, INTECMAR and ARDITI are working on the development of algorithms for the detection of coastal accumulations through the processing of image data gathered by drones. INTECMAR is performing drone flights in Sálvora Island (Galicia, Spain), and in Portugal ARDITI has collected imagery in Selvagens Islands and will start working in Madeira coastline very soon.

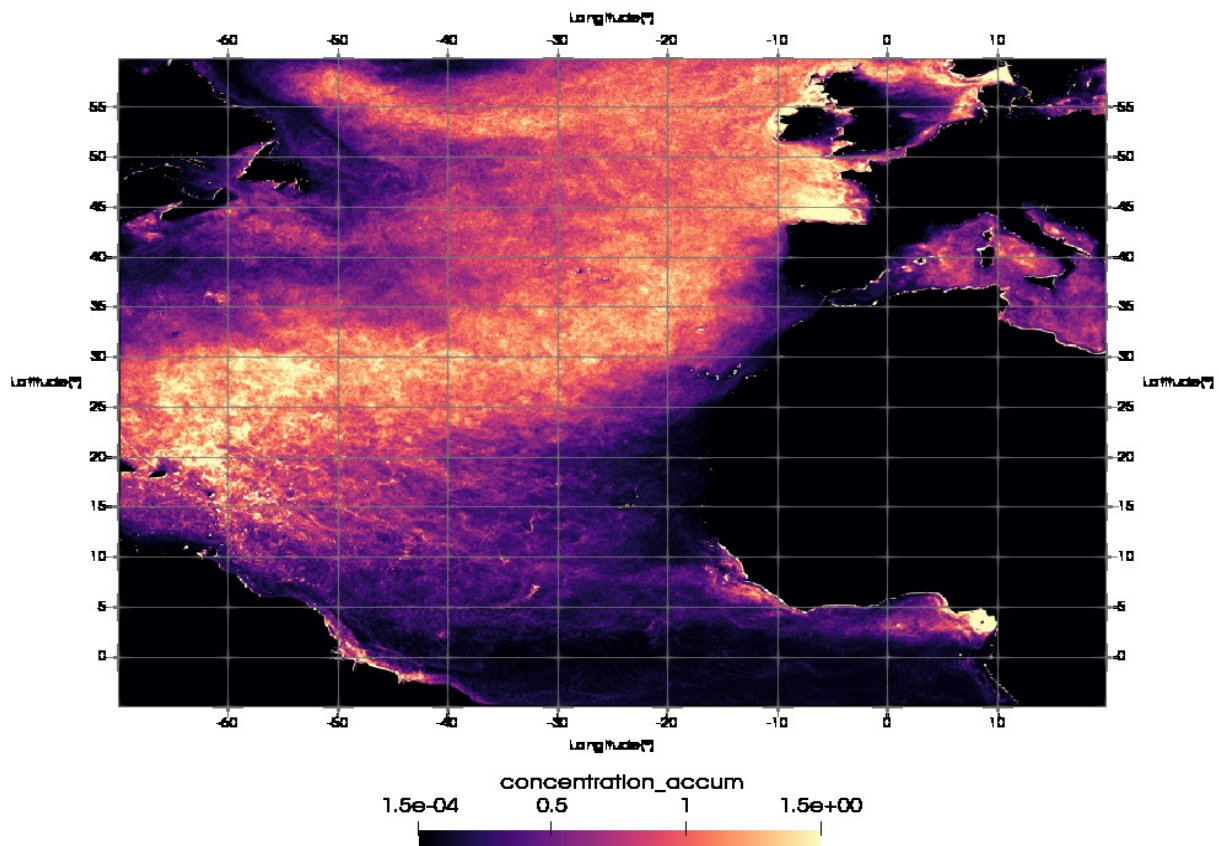
In addition to this, INTECMAR is developing a methodology to locate litter accumulations in the Galician coastline. For doing so, INTECMAR counted on the collaboration of the Illa de Arousa High School whose students monitored the Arousa Island coastline (Galicia, Spain) and provided information from October 2018 to June 2019. Weekly they recorded accumulations of litter as well as the number of a specific item, mussel pegs, which are being used as tracers by the CleanAtlantic modelling team. For facilitating the collection of data, INTECMAR developed a specific app that is currently being used for monitoring this area.



Modelling and mapping marine litter

The new version of the CleanAtlantic marine litter transport tool is ready. It has been developed by IST in close collaboration with the USC, and it is currently being tested by the rest of CleanAtlantic partners and external experts. You can have your go visiting the repository code at: <https://github.com/RBCanelas/MOHID-Lagrangian>

Aiming at the assessment of the fate of marine litter and the prediction of the localisation of hotspots, different simulations for the North Atlantic and the Iberian area were performed. As an example of the work in progress, the figure below shows the concentration of particles accumulated after one year. Yellowish areas have 150% more particles than those in dark purple.



In Ireland, two types of drifters were deployed in late May 2019 on the shelf in the west of Ireland to validate the particle tracking model. Extensive validation was carried out. A wind-exposed drifter was re-deployed at the wave energy test site in Belmullet (north-west of Ireland) in October 2019 for further validation of the particle tracking model. The drifter was recovered c. 2 weeks later. Future plans include a deployment of same drifter in Galway Bay at Corrib river mouth, which represents a potential land-based source of marine litter and will help to study drifter trajectories under various river inflows, wind conditions, tides for further validation of the particle tracking model.

In Galicia, INTECMAR carried out the deployment of drifters and mussel pegs tagged with GPS at the Ría de Arousa (Galicia, Spain). The results are currently being analysed and new tests will be carried out with other objects (e.g plastic bottles) before the end of the year.

Partners are also working on modelling the influence of river and land-based sources of marine litter, and carried out simulations with the discharges of three rivers in Portugal and Spain. In Ireland river simulations were performed in 29 Irish rivers that were implemented in the North East Atlantic model.

The CleanAtlantic Knowledge tool and e-booklets

CETMAR and CPRM with the collaboration of all partners built an online database named the CleanAtlantic Knowledge Tool that compiles the outcomes produced by past and ongoing R&D projects and public/private organisations addressing marine litter at national, EU and international level.

Partners are currently in the process of validating the information in the database by contacting

project coordinators and organisations included in the inventories. The tool will provide a user-friendly repository of marine litter knowledge that will be publicly available by the end of the project.

Basing on the information gathered in the CleanAtlantic Knowledge tool, CETMAR is working in the development of electronic booklets that will gather a selection of resources, protocols, best practices and other available resources focused on: 1) waste management by the fishing, aquaculture and port sectors 2) fishing for litter and 3) management, impact and retrieval of ALDFG.

Fishing for litter pilot actions



In the framework of the CleanAtlantic fishing for litter activities planned in Galicia, CETMAR, performed the trial of a special trawl net that was designed by Tecnopesca to remove seabed litter. The tests were carried out on-board the Training Vessel Valentín Paz Andrade (kindly provided by the Galician Coastguards for this purpose). Test were running during September and October in the Ría de Vigo (Galicia, Spain) to study the performance of the trawl net. In addition to the net, a ROV will be soon tested for supporting the identification of marine litter hotspots on the seabed.

Regarding the activities planned that tackle fishing for litter passive schemes, CETMAR is collaborating with two fishermen guilds in Galicia, namely those corresponding to the Illa de Arousa and Cambados. The members of these associations, small-scale fishers, are provided with bags to bring to port the litter found during their fishing activity. The collaboration with the Arousa Island guild started in May 2019 and will be running until the end of the project. However the collaboration with the Cambados guild was concentrated during the first week of the queen scallop season, in which CleanAtlantic provided the fishers with big bags and hired a boat to store the litter recovered by the fishers during their activity at sea.

In the UK, CEFAS is assessing the projects Fathoms Free & Odissey Innovation to learn about the magnitude of the initiatives, protocols used, data available, costs, waste management, etc. Complementary to this deskwork, CEFAS has also funded dives in recreational fishing areas.

Awareness raising activities

The CleanAtlantic Awareness Raising Strategy includes the organisation of events in every participating country. Therefore, partners have already started working on the preparation and some activities have already taken place.

For instance in Spain, in connection with the fishing for litter actions, CETMAR has contacted the educational centres in Illa de Arousa (high school and primary school) to carry out joint training and awareness activities. They have also contacted A Guarda Primary School and provided them with dissemination materials addressing some relevant facts around the presence of single-use plastics in the marine environment.

In Ireland, the Marine Institute have developed an interactive educational tool to raise awareness among students and the general public on how long it takes, for a selection of marine litter items, to degrade in the environment. The tool was used at the Mayo Science & Technology Open Day on the 17th of November 2019 in Castlebar in the west of Ireland and generated a lot of interest and a very positive feedback from children, adults and the organizers of the event.



Ifremer, in France June 27th carried out an awareness raising activity with students from a Primary school (about 10 years old) on a beach from Pouldu town. After an introduction on the marine litter topic, children were invited to apply the MSFD monitoring protocol and collect, classify and analyse the marine litter items found on the beach. The activity finished with a presentation about the Top-ten single use plastic items found in litter in European beaches ([Cleanatlantic factsheets](#)).

Our partner In Madeira, DROTA, is channelling the contribution of CleanAtlantic through their participation in the beach-cleaning actions that took place during the summer in the scope of the MaRaM strategy and the EcoSchools programme. Regarding the tourist sector, DROTA is also preparing a specific CleanAtlantic event for next year Green-Key National Annual Awarding Ceremony.

Still in Portugal, the DGRM keeps on collaborating with Docapesca fishing-for-litter project “A Pesca por um Mar sem Lixo”. The final objective of this liaison is encouraging collaboration between different groups, such as fishers and students, to achieve a greater good. Thus in the frame of this joint initiative the fishers are sharing their knowledge on this issue with the students in the Escola Básica do Castelo (6^ºE) and vice versa.

4 | External Events

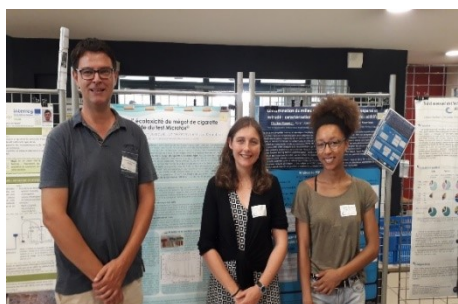
During the last months CleanAtlantic attended numerous events and was presented in a number of international and national forums, workshops, conferences and symposiums that organised special sessions dedicated to marine litter. Below it is the list of events where CleanAtlantic was presented:

Celebrating World Oceans Day



The Workshop "[Celebrating World Oceans Day](#)" was organized by Coastwatch and Cork Environmental Forum as part of World Oceans Day and adjacent to Seafest festival in Cork, 8th June 2019. Dr Jeff Fisher, Director at the Marine Institute delivered a presentation that was titled 'Marine Litter in Ireland's Seas'. This presentation showed the activities carried out in the CleanAtlantic project.

Rencontres nationales Polymères & Océans



[This event](#) is an annual national scientific conference on plastic behaviour, fate and impact in the marine environment organised by the French research group on polymers and oceans ("GDR Polymères&Océans") in Créteil, France. This time it was held on the 24-26 June 2019. Cedre participated in this event to promote the CleanAtlantic project and to present the study on cigarette filters on a poster exhibited during the 3 days of the conference.

Journées Plastiques & Environnement

The objective of [this event](#) (held on Champs sur Marne, France, on the 27th-28th June 2019) was to provide the most recent scientific knowledge on litter pollution from the land to the sea to diverse operational stakeholders. It was organised around five round tables followed by a time of discussion with the public. CleanAtlantic was presented by Camille Lacroix (Cedre) during a round table on knowledge about marine litter pollution through several slides showing project work on characterization of beach litter pollution and hotspot identification in the Atlantic area.



CRETUS: III symposium. Research and environment technologies

CleanAtlantic and the role of the USC within the project, was presented in the III Symposium of [CRETUS](#), a strategic aggrupation founded in 2018 by eight research groups in the University of Santiago de Compostela. The goal of CRETUS is evaluating and developing sustainable technologies to minimize environmental impacts and risks, and to recover resources throughout economic, social and environmental sustainable processes. The event took place on CERSIA, San Lázaro, Santiago de Compostela, Spain, on 4th July 2019.

Ecological summer camp Club Marítimo de Panxón



CleanAtlantic participated in the 1st ecological summer camp organised by the [Club Marítimo de Panxón](#) (5th – 9th August 2019). The Summer Camp consisted in taking advantage of training activities in nautical sports to raise awareness in marine protection issues. CleanAtlantic participated on the 2nd day of the camp, which was dedicated to marine litter. On this day CETMAR gave a short talk around marine litter (origins, potential effects, etc.) and accompany the children in their visit by kayaks to two local beaches for collecting litter. Back in the club, children learnt how to classify and measure the

litter found. The day was closed with a game in which children came to know more about single-use plastics in terms of their sources and degradation time in the marine environment.

Conference "*Por un mar de vida e oportunidades*"



GALP Artabro Sur invited CleanAtlantic to participate in the [Conference "*Por un mar de vida e oportunidades*"](#) (For a sea of life and opportunities) that was held on the 30th August 2019 in Sada, (A Coruña, Spain). This conference was divided in three different sessions: 1) Knowledge and challenges for the reduction and elimination of marine plastics, 2) Experience table and 3) Marine debris and plastics as an opportunity for entrepreneurship.

CleanAtlantic participated in the first session where CETMAR presented a review of CleanAtlantic main objectives and expected results, and INTECMAR explained the activities related with mapping and modelling marine litter and the identification of hotspots, using as example the Galician Case Study (Ría de Arousa).

2nd Portuguese Conference on Marine Litter and Microplastics



The [2nd Portuguese Conference on Marine Litter and Microplastics](#), which took place in Setúbal (Portugal) on the 19-20th Sept 2019, gathered many stakeholders (researchers, retailers, recyclers, policy makers, municipalities, NGO's, etc.) related with the marine litter issue. Our partners from DROTA and DGRM attended the event and presented the CleanAtlantic project during a 5-minute flash talk.

European Researchers' Night

Our colleagues from the Spanish Institute of Oceanography (IEO) participated in the European Researchers' Night in Vigo (Pontevedra, Spain) on 27th September. This dissemination event, funded under the Marie Skłodowska-Curie actions, is celebrated simultaneously in some European cities to bringing researchers closer to public. IEO participated with different workshops and competitions, including a workshop focused on marine litter where the objectives and goals of the CleanAtlantic project were presented.

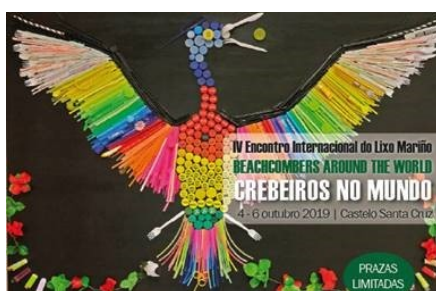


Training course in the Lourizán Forestry Research Centre



The Spanish Institute of Oceanography (IEO) in Vigo was invited to participate in a training course organised by the Official Association of Biologists of Galicia (COBGA). This course was held in Lourizán (Pontevedra, Spain) on 5th October to show the main actions that are being carried out in the frame of the project "II Rede para a Recuperación dos Ecosistemas mariños no PNMT Illas Atlánticas de Galicia". Our colleagues from IEO made a presentation to raising awareness about the marine litter problem among students and to show the activities carried out by the CleanAtlantic project.

IV Encontro Internacional do Lixo Mariño – Crebeiros no mundo



The [IV Encontro Internacional do Lixo Mariño – Crebeiros no mundo](#) (IV International meeting on marine litter - Beachcombers around the world) was held in Oleiros (A Coruña, Spain) on the 4th-6th October. CleanAtlantic was invited to participate on the session held on 5th October, as part of the presentation "Initiatives of collaboration with the fisheries sector for the prevention and mitigation of marine litter in Galicia" that was presented by our colleague Xoán Loureiro from CETMAR.

Conference “Plastic invasion: the environmental threat of plastic materials”

[MUNCYT](#) museum invited Jesús Gago from The Spanish Institute of Oceanography (IEO) to participate in the Conference “Plastic invasion: the environmental threat of plastic materials” held in A Coruña (Spain) on 7th October. Jesús presented the impacts of plastics on the marine environment to raise awareness among the general public. This conference was also an opportunity to present the activities carried out in the CleanAtlantic project.



47th CPMR General Assembly

The [47th General Assembly of the Conference of Peripheral Maritime Regions \(CPMR\)](#) was held in Palermo, Sicily, on the 17th-18th October. The CleanAtlantic project had a stand where it publicised the project to CPMR’s 150 member regions. On 16th October, back-to-back with the CPMR General Assembly, the CPMR organised a seminar on circular economy during which the project outputs were showcased by a representative.



Workshop on Plastics & the Seafood Supply Chain



CleanAtlantic was invited to participate on the [Workshop on Marine Plastics and the Seafood Supply Chain \(Brussels, 7th November 2019\)](#), organised by the Market Advisory Council (MAC) and the North Western Waters Advisory Council (NWWAC). Our colleague Patricia Perez presented CleanAtlantic, dedicating more time to the actions that are being carried out regarding passive and active schemes of fishing for litter, and participated in the final panel discussion.

OSPAR – ICG ML

The CleanAtlantic partners Cedre, DGRM, DROTA and IEO, attended the last OSPAR Meeting of the Intersessional Correspondence Group on Marine Litter (ICG-ML) that was held in Wexford, Ireland, on the 12th – 15th November 2019. Camille Lacroix, from Cedre, presented the CleanAtlantic progress and the potential inputs of the project to the actions of the OSPAR Regional Action Plan on Marine Litter.

Business to sea – ASPC 2019 - Interreg annual event - CPMR Atlantic Arc Commission General Assembly



Under the umbrella of the International event [Business2Sea](#), organised jointly by Sea Forum and CETMAR, the [6th Atlantic Stakeholder Platform Conference](#) (ASPC2019) and the [Interreg annual event](#) took place on 12-13 November in Porto.

Marisa Fernández, the CleanAtlantic coordinator, presented the CleanAtlantic project and the activities carried out in the project up to date. CleanAtlantic dissemination materials such as the project poster and leaflets were exhibited in the CETMAR and INTERREG stand during the

three-day Business2Sea event.

The Atlantic Week in Porto was concluded by the [General Assembly of the CPMR Atlantic Arc Commission](#), one of the partners of the CleanAtlantic project. This event was the occasion to share information and exhibit the project to the 15 Atlantic member regions.

Ciencias de la Tierra '19



The “[Lecture series on Earth Sciences](#)” was organised by the University of Vigo (Vigo, Spain) and was held in its campus facilities on 27th November. Jesús Gago from IEO, presented CleanAtlantic as part of its presentation “Un mar de plástico”.

