ZERØ BEACH

LET'S RECOVER THE QUALITY OF OUR BEACHES

Rezerø

Fundació prevenció residus i consum

eco-union

ZERO BEACH: PROTOCOLS FOR THE PREVENTION OF MARINE DEBRIS ON BEACHES

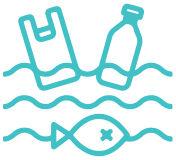
In the Mediterranean, 80% of marine debris is derived from terrestrial sources, principally from tourism and ludic activities carried out at the beach. Of this debris, only 15% accumulates in the beach, 70% is found on the seabed and the remaining 15% floats on water. Plastics, including cigarette butts, constitute more than 80% of the total of residues found on the beach, and more than half of these are single-use items (drink bottles, food packaging, bags, cups and straws.) Marine debris is a growing problem, and it is even found in virgin, protected areas of the Mediterranean. These residues significantly impact ecosystems, affecting marine biodiversity and, potentially, human health.

In the summer, beaches are overcrowded spaces and an important source of marine debris. It has been calculated that, in summer, the generation of residues increases by 40% in the Mediterranean due to mass tourism. The beaches of the Metropolitan Area of Barcelona received more than 8.2 million of users during the summer of 2018[1]. Therefore, we consider that the measures taken for the prevention of residues on the beaches, besides protecting the environment and human health, should also contribute to the improvement of the aesthetic qualities of beaches, creating cultural value, which is of great importance for tourism and recreation.

Zero Beach is a project co-organised by the Foundation Rezero and the association Eco-union with the aim of promoting the application of zero waste strategies at the beaches along the coast of Catalonia. During the summer of 2019, in collaboration with public administrations, we tested three pilot studies at the Metropolitan Area of Barcelona (AMB, according to its initials in Spanish) on the simulation of a deposit return system for drink containers, a smoking ban and on raising awareness among beach users of the good practices they can follow to prevent sea and ocean contamination. Subsequently, these strategies for the prevention of waste were legally evaluated to facilitate their implementation on the AMB.

1 Àrea Metropolitana de Barcelona (2019) Survey aimed at users of beaches belonging to the Metropoliltan Area of Barcelona (AMB)

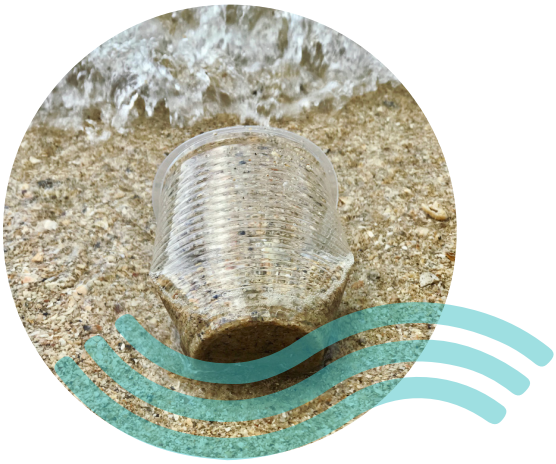
THE MEDITERRANEAN: AT RISK OF BECOMING 'A SEA OF PLASTIC'



The Mediterranean Sea is exposed to many anthropogenic pressures (mass tourism, maritime transport, urbanisation of the coast, overfishing, etc.) that have generated a high accumulation of marine debris, particularly persistent due to its semi-arid climate and the limited exchange between water bodies. It is estimated that the Mediterranean Sea accumulates between 21% and 54% of the world's plastic particles and between 5% and 10% of the world's mass of plastic[2]. Nowadays, plastic represents 95% of the waste floating in the Mediterranean and found on its beaches[3]. The majority of this plastic is released in the sea by Turkey and Spain, followed by Italy, Egypt and France.

SINGLE-USE PLASTICS, THE MOST COMMON FORM OF MARINE DEBRIS FOUND ON THE BEACHES

The program Ocean Initiatives, by Surfrider Foundation, collects data obtained during beach clean-ups ran around Europe in 2017, through citizen science initiatives. Plastics represent a great proportion of the waste found on beaches (between 80% and 85%) and it is estimated that, at European level, single-use plastics represent 49%, on average, of the waste collected from the beach[4]. According to Ocean Initiatives, this percentage increases up to 78%[5]. Of the waste, cigarette butts represent 25,33% of the total waste collected in this part of the Mediterranean, whilst plastic bottles are 17,23% of this total.



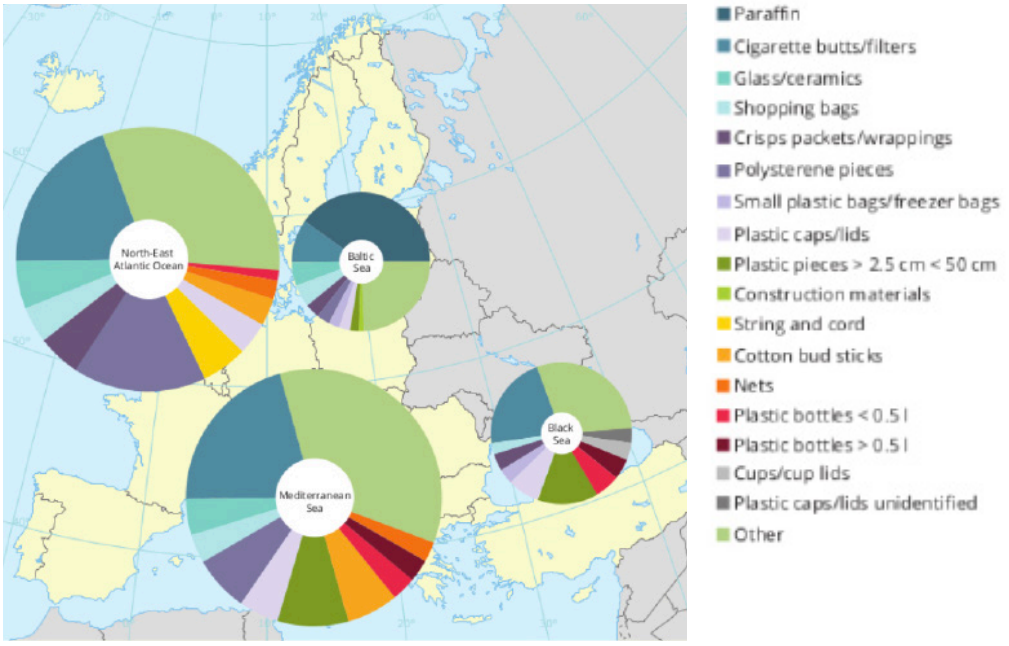
2 Suaria G. and Aliani,S. (2014). Floating debris in the Mediterranean Sea. Marine Pollution Bulletin, Volume 86, Issues 1–2, 15, Pages 494–504.

3 WWF (2018) Out the plastic trap: Saving the Mediterranean from plastic pollution.

4 Seas At Risk (2017). Single – use plastics and the marines Environment. Leverage points for reducing single-use plastics.

5 Ocean Initiatives (2017) Environmental Report of the Ocean Initiatives 2017.

Marine Litter Watch:
Citizens pick up waste and data to protect the European marine environment



LEISURE FACILITIES AND TOURISM ARE TWO OF THE MAIN SOURCES OF MARINE DEBRIS IN THE MEDITERRANEAN

It is estimated that, worldwide, 80% of the marine debris comes from terrestrial sources, while the rest is originated by offshore activities[6]. It is estimated that two of the main sources of marine debris in the Mediterranean are tourism and leisure facilities found on beaches. During the summer months, waste increases by 40% in the Mediterranean coast[3].

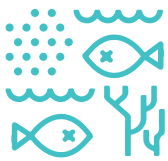
It is estimated that plastics and cigarette butts are the main problem in beaches of diverse Mediterranean islands, which accumulate a daily average of 250.000 waste items per squared kilometre in summer [7].

6 Jambeck, J.R., et al.(2015). Plastic waste inputs from land into the ocean. Science, Vol. 347:768–771.

7 Grelaud, M. (2018) Seasonal concentration and characterization of marine litter in selected beaches of 8 Mediterranean islands. Working document. Blue Islands, Interreg Med.

MARINE DEBRIS IS ONE OF THE GREATEST ANTHROPOGENIC PRESSURES IN MARINE AND OCEAN ECOSYSTEMS

- The majority of plastics are not biodegradable and remain in the sea hundreds of years.
- 700 marine species worldwide are threatened by plastics.
- 134 marine species of the Mediterranean have ingested plastics.
- 90% of seabirds have fragments of plastic in their stomachs.
- Global Economic Cost of plastic pollution: €13Bn a year to marine ecosystems. Economic damage to tourism and fishing industries.

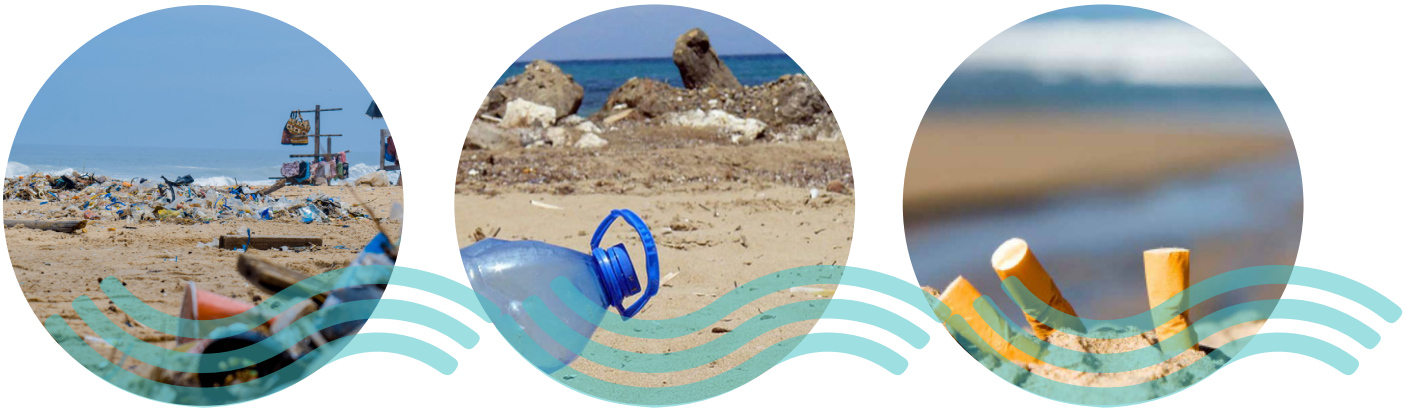


Biodiversity losss

Intoxication of animals and humans

Economic cost

Loss of cultural values linked to the environment



PREVENTION OF SINGLE-USE PLASTICS ON EURO-MEDITERRANEAN BEACHES: THERE IS STILL NOT ENOUGH EVIDENCE

ZERO BEACH has investigated various methods, launched by European public institutions, to prevent the generation of marine debris that originates from the recreational use of beaches. By consulting European networks of institutions and NGOs, together with the revision of practices adopted by European projects, some methods were identified for the prevention of marine debris on the beaches. 3 experiences on banning smoking (with the aim to promote) were selected along with 3 methods for the prevention of single-use plastics in establishments in the hospitality industry, all of them having been adopted recently. Three of the initiatives are shown below.

The Directive of the European Parliament on the reduction of certain plastic products is a framework that has to facilitate the reduction of single-use plastics, which are frequently found in the sea, but the actual deployment is not enough to put an end to this environmental issue.

PRAIAS SEM FUME

The smoking ban campaign in the beaches of Galicia. It does not exclude smokers; it is an educational initiative, of voluntary compliance. More than 70% of beach users approve of this method.

Year of implementation: 2016

Results: 64 municipalities and 141 beaches free of smoke in Galicia.

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A LES PLATGES RESIDU ZERO

Deposit return system for takeaway for reusable cups for drink containers. It is mandatory for all beach bars located in the city of Barcelona. 83% of Barcelona's beach users approve of this method.

Year of implementation: 2017

Results: 16 beach bars with reusable cups; 120,000 cups saved.

ORDINANZA BALNEARI DE PUGLIA

Single-use plastic ban in beaches of the region of Puglia: cutlery, cups, plates, straws and bottles of water. It is only allowed to serve biodegradable plates, packages, cups, cutlery and straws that respect the environment.

Year of implementation: 2019

PILOT TESTING AT BEACHES OF THE METROPOLITAN AREA OF BARCELONA: CASTELLDEFELS, EL PRAT AND GAVÀ

In the summer of 2019, Rezero and eco-union, in collaboration with the Metropolitan Area of Barcelona and the municipalities of Castelldefels, El Prat de Llobregat and Gavà, carried out pilot studies on the prevention of marine debris on beaches, to demonstrate that these are viable, of easy implementation and that lead to the reduction of waste accumulated in the sand and sea, as well as to the improvement of the quality of the beach.

PREVENTIVE METHODS AND AWARENESS	DESCRIPTION AND EQUIPMENT	MONITORING AND RESULTS
PLATJA SENSE FUM	Each beach established a smoke-free area where users were told they could not smoke in this fragment of the beach for a week. Information signs and ashtrays were installed around information points to encourage citizen participation.	Characterisation of sand and containers before and after the pilot study. Number of people informed at each beach.
PUNT DE RECOLLIDA D'ENVASOS	Encourage beach users to return those drink containers consumed on the beach through an economic inventive of 5 cents (which simulates a deposit return system for packaging), handed manually at the information point.	Characterisation of sand and containers before and after the pilot study. Number of people informed at each beach.
PANELLS INFORMATIUS + SORTEIG	Installation of informative panels on each beach indicating the environmental problem caused by the most frequently found single-use items on beaches, as well as mentioning existing solutions to prevent their generation. Giveaway of 30 waste preventive kits with reusable items (Boc'n'roll, snack and go, lunch box and bag) among the beach users and online.	Raising awareness among beach users.

PILOT STUDY RESULTS – EL PRAT DE LLOBREGAT

EL PRAT DE LLOBREGAT

Beach Can Camins

70 m wide approx.

Influx: 526,002 people (2018), in all of the beaches of El Prat de Llobregat.

Density peak times: 12:30 to 13:30 and 17:00 to 18:00.

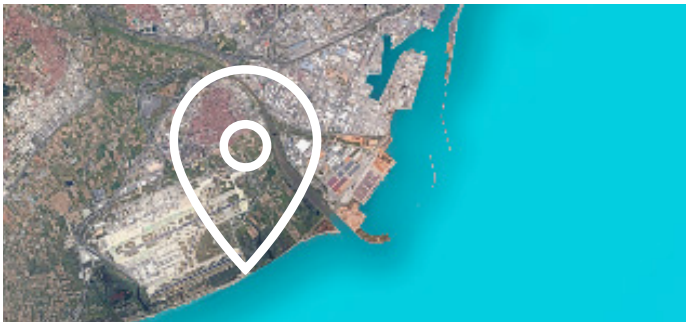
Services: showers, area with children's playgrounds, sports and beach bars 60 and 70m away from entry.

Other methods implemented in the municipality: Beach bars have introduced reusable ashtrays belonging to the city hall, Maravillas beach bar serves biodegradable and compostable single-use cups, and upon request, paper straws. Calamar beach bar serves returnable cups. Lifeguards organise awareness-raising initiatives.

59% reduction in cigarette butts

167 containers recovered

654 people informed



GAVÀ

Beach Gavà Mar

100 m wide approx.

Influx: 1,237,535 people in 2018.

Density peak times: 12:30 to 13:30 and 17:00 to 18:00

Serveis: Dutxes i Guingueta a 100 m

Other methods implemented in the municipality: Aloha beach bar serves paper cups and biodegradable straws.

27%

127

1.062

CASTELLDEFELS

Beach La Pineda (Franja CF28)

119 m wide approx.

Influx: 1,042,971 people in 2018, in all of the beaches in Castelldefels.

Density peak times: 10:30 to 11:30 and 17:00 to 18:00

Services: Showers and beach bars 200 m away

Other methods implemented in the municipality: Ananda beach bar serves biodegradable cups and straws.

81%

600

870

#ZEROBEACH IN THE MEDIA

+ 6000 reactions to digital content.

elBaix·cat
LA INFORMACIÓ DEL BAIX LLOBREGAT

Gavà, Castelldefels i El Prat se sumen al projecte Zero Beach

http://www.elbaix.cat/2019/07/12/gava-castelldefels-i-el-prat-se-sumen-al-projecte-zero-beach/

elCastell.org

El proyecto ZeroBeach para preservar la salud de la playa finaliza hoy en Castelldefels

http://www.elcastell.org/es/index/13918/El-proyecto-ZeroBeach-desde-hoy-a-Castelldefels-para-.html

Castelldefels.news
las noticias de tu ciudad.

En marcha el proyecto Zero Beach en las playas de Castelldefels, Gavà y El Prat para liberarlas de plásticos y colillas

http://castelldefels.news/2019/07/10/en-marcha-el-proyecto-zero-beach-en-las-playas-de-castelldefels-gava-y-el-prat-para-liberarlas-de-plasticos-y-colillas/

el bruguers DIGITAL

Accions per a la prevenció de residus a les platges metropolitanes

Es tracta de mesures com, fomentar els espais lliures de fum o el sistema de dipòsit i retorn d'envasos de begudes

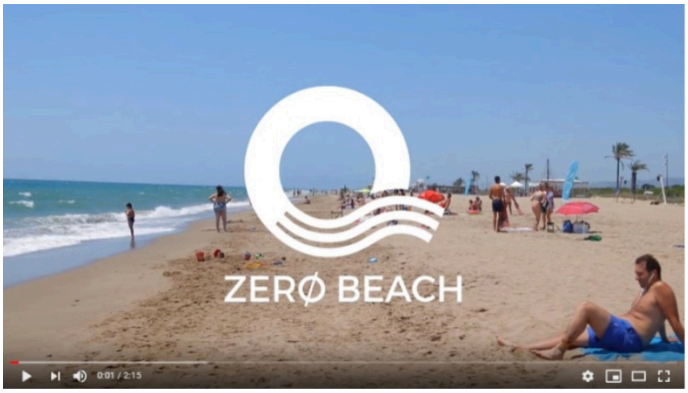
https://elbruguersdigital.cat/projecte-zero-beach/

el Periódico

Gavà establece un tramo de playa libre de humo e incentiva el uso de vasos reutilizables

https://www.elperiodico.com/es/gava/20190710/gava-escenario-de-una-prueba-piloto-para-prevenir-los-residuos-en-las-playas-7548488

Vídeo promocional



RECOMMENDATIONS FOR ZERO WASTE BEACHES

Marine pollution, from single-use plastics and other forms of waste, is produced, partially, by the lack of effective waste prevention policies and due to low public awareness of the fact that beaches are vulnerable natural spaces. Producers do not fully comply with the practice 'extended producer responsibility', which hinders the implementation of waste prevention policies. Governments of the coast of Catalonia can introduce very efficient, low-cost measures that would prevent waste from getting to the beach and in the sea. These measures have a direct impact on tourism, public health and on the environmental quality of beaches. At Zero Beach, we propose some measures that the municipalities of Barcelona's metropolitan coast and the Government of Catalonia can implement immediately.

SMOKE-FREE BEACHES

Cigarette butts are the most common form of litter on the Mediterranean beaches. Pilot studies have demonstrated that preventive measures have immediate effects.

At the municipal level

- Drive changes in municipal ordinances, classifying the act of leaving cigarette butts in the sand. In this way, beach users would understand that, by leaving cigarette butts in the sand, they can face a fine of up to 750€ in all three municipalities.
- Launch awareness campaigns and use equipment to designate specific smoking areas.
- Implicate all of the customer service agents in the prevention of cigarette butts in the sand.

Public Health Agency - Government of Catalonia

- The new addiction law will designate new smoke-free areas. This law should make beaches, which are public spaces with play areas, smoke-free. This measure would protect public health, specifically of vulnerable groups, and would improve the environmental quality of beaches.

BEACH BARS WITHOUT SINGLE-USE PLASTICS IN THE AMB

As we have seen in the region of Puglia, l'ordinanza de balneari has banned single-use plastics in the establishments found at the beach. The reusable cup initiative in Barcelona avoids the massive consumption of use-and-throw plastic cups and prevents waste from being scattered along the beach. It is a measure that implies a direct reduction of the plastic that gets on the sand and in the sea.

At the municipal level

- Adopt municipal ordinances to include obligatory measures for the prevention of single-use plastics at beach bars: returnable cup, plastic bottle ban, plates and cutlery, straws, single doses, etc.
- Implicate all of the customer service agents in the prevention of single-use plastics.
- Develop campaigns on the beaches to promote habit changes in users.

Government of Catalonia

- Drive the necessary measures to facilitate the implementation of a deposit return system (DRS) within the context of the evolution of the current legislation around the prevention and management of waste along with the adoption of measures that make possible the achievement of objectives set by the recent EU directive regarding the reduction of the impact of certain plastics on the environment. The deployment of this system would stop a significant proportion of plastic packages from ending on the sand, in the sea or in other natural surroundings, and would allow the recovery of the reusable drink containers.

WE ARE LOOKING FOR NEW ZERO WASTE BEACHES

Zero Beach is an initiative launched by Rezero and eco-union with the aim of promoting environmental quality standards set in beaches linked to the prevention of marine debris. We would like to support the implementation of strategies, set by the administrations of the Mediterranean coast, to achieve Waste Zero beaches.

We are looking for new candidates to participate in Zero Beach campaigns that can help with the following

- Drive collaborative projects with other municipalities or regional governments.
- Develop waste prevention campaigns on the beaches.
- Provide assistance in driving strategies and/or municipal and/or regional regulations towards zero waste beaches.
- Drive collaborative projects with other municipalities or regional governments to implement zero waste strategies on the beaches, through local and/or European funds (Life+, Interreg, etc.).

The importance of environmental entities on the path towards a zero waste society

- We promote the transition towards sustainability
- We are a team of experts with scientific and technical skills, from science to policy.
- With the aim of implementing innovations and policies on environmental sustainability.
- Launch campaigns to promote behavioural changes.

ZERØ BEACH

Contact us

Rezero: info@rezero.org / eco-union: info@ecounion.eu

ZERØ BEACH

A BEACH FREE OF RESIDUES

Organized by

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eco-union

With the collaboration

AMB Àrea Metropolitana de Barcelona

Ajuntament de Gavà

With the support

Generalitat de Catalunya
Departament de Territori i Sostenibilitat

Agència de Residus de Catalunya

Ajuntament del Prat de Llobregat

BEYOND PLASTIC MED

Ajuntament de Castelldefels