



BLUEISLANDS

Seasonal variation of waste
as an effect of tourism

Interreg
Mediterranean



BLUEISLANDS



BLUEISLANDS : Seasonal Variation of Waste as an effect of tourism

**Minimizing the hidden costs of tourism in
Mediterranean Islands
Waste prevention Actions and Circular Economy
prospectives**

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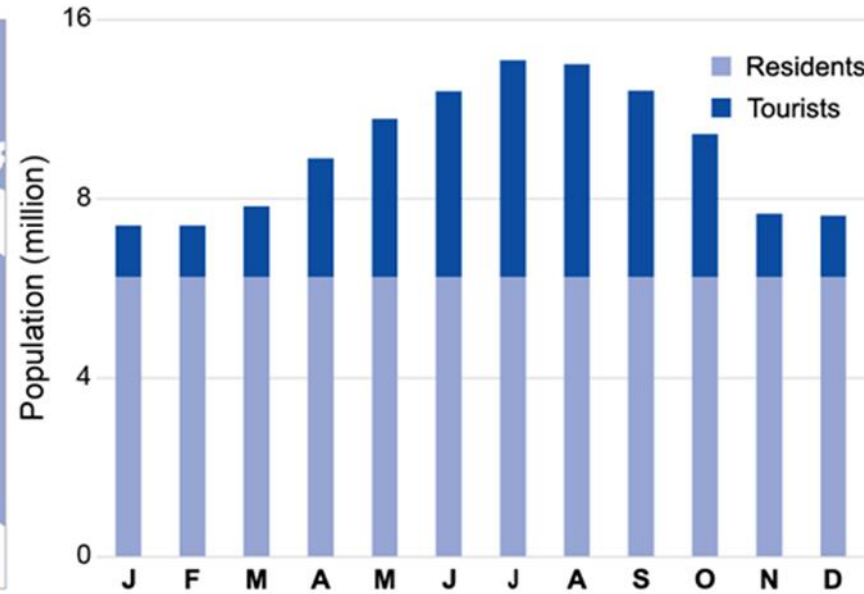
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Mediterranean



 **BLUEISLANDS**

BLUEISLANDS project:

Why there is a need of “Blueislands” ?



In 2017 the eight islands involved in the BLUEISLANDS project (Mallorca, Sicily, Rab, Malta, Crete, Mykonos, Rhodes and Cyprus) welcomed **45.069 million tourists** while their population was of **8.351 million residents**.

This issue has been a vexing problem for years but it has never before been approached methodically!!!

BLUEISLANDS IN A NUTSHELL

- 14 partners from 8 countries (CY, GR, IT, ES, MT, HR, BE, FR)
- 9 islands
- 2 economic operators (Ea-eco, Insuleur)
- 2 research Institutes (UAB, Conisma)
- 1 international Association specialised in Resource Management (ACR+)
- systematic effort to properly **identify, address** and **mitigate** the Effects of the **seasonal variation of waste generation on MED islands**
- 42 months (30/10/16 – 30/04/2020)
- 2.75 M€, of which 2.34 M€ financed by the European Regional Development Fund



Ultimate goal

The establishment on each one of the participating islands the necessary conditions following **their unique social, economic and environmental characteristics** so that the waste generated will serve as a resource bank which will be used to fuel local circular economies **while preserving and encouraging sustainable tourism**.

Respective research and quantification (methodologies for marine litter, quality of sea water, characterization studies) delivered the tools (building scenario tool for action plans, on-line tool for decision makers) that are supporting decision makers in this transition towards an integrated and eco-systemic approach.

A **final report entailing all derived data and experience** has been prepared proposing the most effective means to deal with the issue.



More information:

<https://www.youtube.com/watch?v=BPvGQecLxYI&feature=youtu.be>



- <https://blueislands.interreg-med.eu/>

BLUEISLANDS **WORKPLAN**



A. STUDYING PHASE (8 islands)

3 beaches in each island (touristic, local, remote)

Monitoring plastic pollution in MED islands

Monitoring wastewater and anthropogenic nutrients impact

Waste characteristic study

Building Scenarios-Design of tools for anticipating the seasonal variation of waste



B. DEVELOPING ACTION PLANS – TESTING PHASE

Develop of Action Plans-one for each island after testing its efficacy –report proposing the most effective means to deal with the issue



C. TRANSFERRING PHASE

Examine the financial sustainability of the tested model; transfer sustainability patterns in the tourism industry and authorities; online tool for decision makers responsible for waste management

Research and study phase

Systematic identification, quantification and characterization of waste. Development of scientific protocols, methods and tools for the characterization of the municipal waste, and for the analysis of both marine litter and anthropogenic nutrients.



Design and implementation of pilot actions

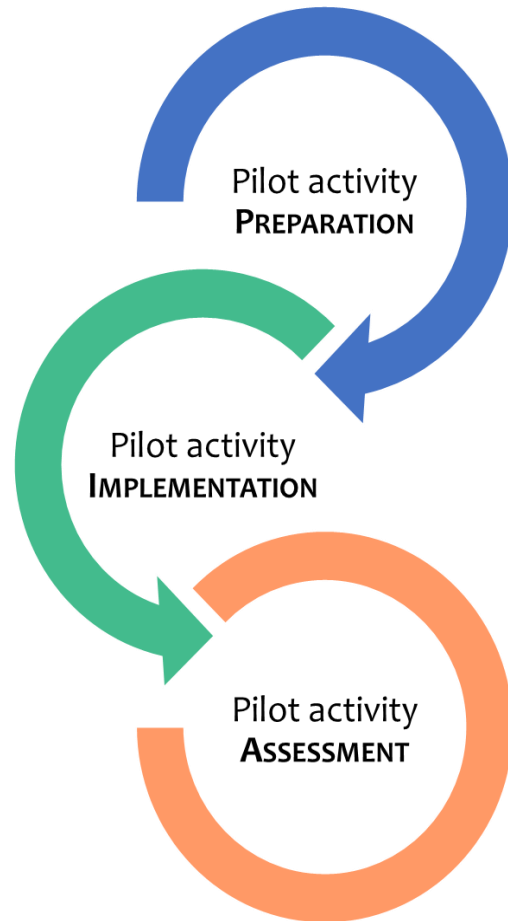
For the reduction of waste, to raise the awareness of a large audience, to encourage the development of innovative technologies and to provide decision support for effective public policies.



Results and good practices dissemination

Promotion, transmission and dissemination of the tools, good practices and innovative solutions that have been identified and / or tested in the islands during the project. These actions (workshops, conferences, seminar, handbook) were targeting experts, citizens, NGOs, professionals and decision-makers

Pilot Activities



WASTE MANAGEMENT DECISION SUPPORT TOOL

FOR NATIONAL AND LOCAL AUTHORITIES



GOAL

1 Waste Management

2

3

4

5

CRITERIA

1 Tackling Waste Generation

2 Waste Management Improvement

3 Maintaining Clean Image for the Destination

4

5

6

7

8

9

10

OPTIONS

1 National plans to reduce waste generation

2 Public awareness campaigns

3 Provide waste collection services

4 Managing total waste collected in destination areas

5

6

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no 4

CRITERIA ANALYSIS

1 < [] >

5 < [] >

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CRITERIA SELECTION

Tackling Waste Generation

OPTIONS ANALYSIS

rating from -9 to 9

OPTION:

1 National plans to reduce waste generation [2]

2 Public awareness campaigns

1 National plans to reduce waste generation [6]

3 Provide waste collection services

1 National plans to reduce waste generation [9]

4 Managing total waste collected in destination areas

2 Public awareness campaigns [9]

3 Provide waste collection services

2 Public awareness campaigns [9]

4 Managing total waste collected in destination areas

3 Provide waste collection services [1]

4 Managing total waste collected in destination areas

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1	National plans to reduce waste generation	5.11%
2	Public awareness campaigns	6.53%
3	Provide waste collection services	42.10%
4	Managing total waste collected in destination areas	46.26%

Inconsistency Ratio

CR= 0.0668

NEW CALCULATION

interreg
Mediterranean
BLUEISLANDS

Blueislands project

Locations

- Croatia
- Cyprus
 - Sunrise (Paralimni)
 - Faros (Pervolia)
 - Timi (Timi)
- Greece
- Italy
- Malta
- Spain

Senarios

☒ Marine Litter ☐ Nutrients ☐ Solid Waste

Month	Year	# Pieces	CCI	Characterization
January	2018	0	0,00	N/A
February	2018	0	0,00	N/A
March	2018	112	1,04	Very Clean
April	2018	0	0,00	N/A
May	2018	1.400	12,98	Dirty
June	2018	515	4,78	Clean
July	2018	533	4,94	Clean
August	2018	900	8,34	Moderate
September	2018	765	7,09	Moderate
October	2018	0	0,00	N/A
November	2018	1.588	14,72	Dirty
December	2018	0	0,00	N/A

Details - AI - Scenarios

Type	AI	Accumulation Index
Mesoplastics	5,11	Very high
Cigarette butts	4,88	High
Pellets	4,81	High
Microplastics	4,54	High
Other paper items	4,04	High
Macroplastics	3,68	Moderate
Caps/lids	3,62	Moderate
Cups	3,30	Moderate
Other sanitary items	3,00	Moderate
Cutlery / trays / straws	2,85	Low

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Building Senarios
the tool for
compiling action
plans

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Mediterranean
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Senarios

☒ Marine Litter ☐ Nutrients ☐ Solid Waste

Month	Year
June	2018
August	2018
October	2018

Details - AI - Scenarios

Characterization
Moderate, High, Very High, Extremely High

Scenarios (type) Scenarios (all)

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Senarios

☐ Marine Litter ☐ Nutrients ☒ Solid Waste

Year - Month	Was
2018-June	
2018-July	
2018-August	
2018-September	
2018-October	

Details - Sunrise (Paralimni) N/A

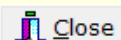
Category - Type	Waste Quantity (Kg)
Glass-Glass	274,159
Metals-Other metals	102,347
Metals-Small metals	20,408
Other-Aerosols	8,506
Other-Batteries	1,698
Other-Beach equipment	21,951
Other-Candles	0,926
Other-Cigarette butts	2,701
Other-Clothes	20,269
Other-Cosmetics	8,459
Other-Kitchen cleaner	1,405
Other-Medicine package	0,942
Other-Mixed municipal waste(includes sanitary)	256,546

Indicators

Sunrise (Paralimni)

2018

Waste Volume Kg/pax/month	71,038	(50,000)	Scenarios
Waste attributable to tourism Kg/pax/day	2,587	(1,750)	Scenarios
Percentage of recycled waste	1,97%	(55%) (<35% >60%)	Scenarios
Percentage of BioWaste	48,22%	35%-60%	Scenarios



Close

Code	M14	4	Description	Support local pilot projects phasing out, replacing, and reducing single-use plastic bags. Strive for voluntary agreements with retailers and supermarkets to set an	Code	M17	7	Description	Establish ashtrays in public areas such as beaches and outside restaurants, bars, public buildings (inland and along the coasts, ferries).
Notes					Notes				
Code	M18	8	Description	Public Awareness and education (increase of budget for marine litter education) on : consumer habits – circular economy – etc.	Code	M19	36	Description	Awareness campaigns targeting food establishments regarding reduction of single-use plastic items, such as plastic straws, food containers and drinking cups
Notes					Notes				
Code	M210	18	Description	Awareness and education at Municipal / Local Authorities level (increase of budget for waste management education)	Code	M219	44	Description	Implementation of Environmental Management System under EMAS in relation to beach operations (Municipal level)
Notes					Notes				

Next step plan- waste generated on the coasts of the Mediterranean islands as an effect of tourism

RESULTS OVERVIEW: FEEDBACK AND RECOMMENDATIONS FOR IMPLEMENTING ACTIONS

Axis I: Monitoring of waste (scientific and technical approaches for a better knowledge / comprehension of the situation-marine litter, quality of sea water)

Axis II: Source reduction of waste - awareness campaign had a clear positive effect to the generation of marine litter

Axis III: Waste collection and sorting – to face the seasonal wave of waste (Pilot Activities)

Axis 4: Toward a circular economy – how the treatment, recycling, recovery and reuse of the waste can be beneficial to the local economy?



The Capacity Building Webinars

The BLUEISLANDS project offered to its partners and other interested stakeholders four free capacity building webinars focusing on:

Circular Economy

Integrated Coastal Zone Management (ICZM)

Life Cycle Assessment (LCA)

Sustainable Tourism

Among the conclusions of the webinars were the need to act on three main pillars for more sustainable tourism and better waste management:

Social level: to raise awareness of the population by involving local actors and working together with a territorial intelligence approach; to change the consumers' habits and demands.

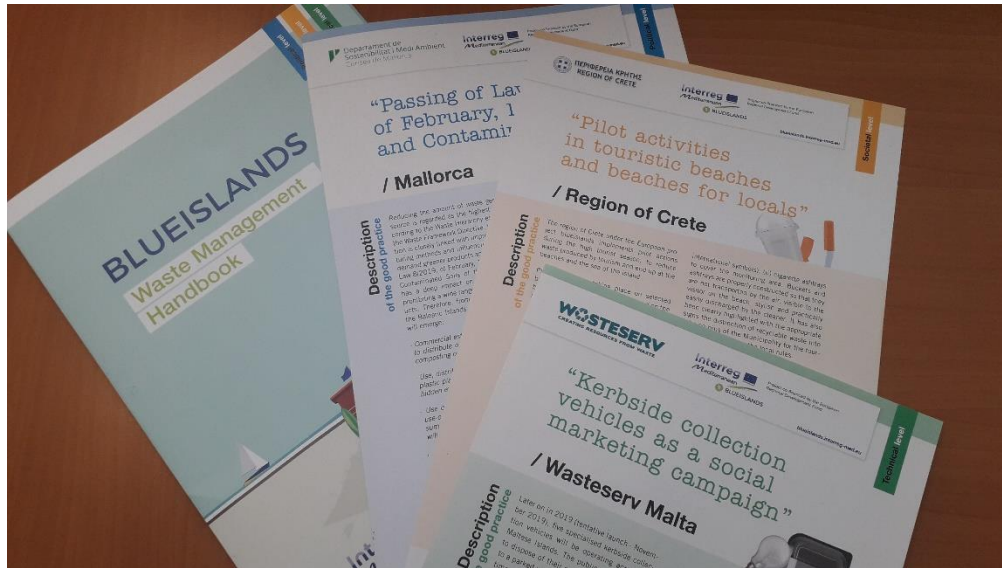
Political level: to ban some practices such as plastic bags, plastic straws, etc.

Innovation approach: to implement innovative technologies in waste management which can contribute to the circular economy.

Watch the video recordings here: https://www.youtube.com/playlist?list=PL6w0ffhdaTg4GiR_fxEsEADjqUOCWS8TP

The Waste Management Handbook

The Handbook proposes and showcases existing practical solutions to be implemented by **public authorities** and/or professionals in order to deal with waste management issues. The **societal** aspect, aiming at rising public awareness for waste management, is highlighted, as well as relevant **technical** and **innovative** solutions and services provided by the private and research sector.



We are all part of the problem but also part of the solution...!

Everything depends on me, on you and us...!

(We all have responsibility in sustainability)



Don't leave your future unattended



we





BLUEISLANDS project

PROJECT PARTNERS

