

Interreg Mediterranean



MITOMED+

Models of Integrated Tourism in the MEDiterranean Plus

D.3.4.1 The Green Beach Model



3.4.1 The «Green Beach» model

Work package: WP3 Testing

Type of deliverable: Method

Dissemination level: PU - Public

Document history

Date:	Author:	Version:	Text:
22th May 2017	Eudokia Balamou	V1.	First draft created
22 Sept 2017	Maria Luisa Mattivi & Rovenia Xhaferi	V2	Second Draft with Comments
24 October 2017	Eudokia Balamou	V3	Third Draft
7 February 2019	Eudokia Balamou	V4	Forth draft

E-mail: mitomed@regione.toscana.it

Web site: www.mitomedplus.interreg-med.eu

MITOMED+ Project is co-financed by the European Regional Development Fund within the Interreg Mediterranean Programme

1. Introduction

The Mediterranean is the world's leading tourist region that is combining land and sea offering amenities such as clean waters, beaches, scenic beauty, rich terrestrial and marine biodiversity, diversified cultural and historic heritage and healthy food. Sun, sea and sand are continuing to be the main ingredients of coastal tourism until today, especially in the second half of the 20th century, which was marked by the development of mass tourism.

Historically beaches have played an important role as locations for recreation and as attractions upon which tourism development has been based. The use of beaches for recreation and tourism has had significant impacts on environment as well as social impacts. Beaches have also a high value for the coastal municipalities since they attract a considerable stream of tourists that contribute with this way to the economic development. Tourism is a major industry in terms of employment and income and consists mainly of a seasonal seaside resort model.

Tourism is the third economic activity in Europe. Similarly, the coastal tourism sector in the Mediterranean regions is increasingly growing in importance regarding its magnitude and contribution to national economies as well as to the wellbeing of local communities.

At the same time tourism development in coastal areas shows a very high dependence on the physical, environmental, cultural and socio-economic features of the receiving coastal environment.

Beaches as core element of coastal tourism, have played an important role as locations for recreation and attractions upon which tourism development has been based, producing also a high value for the coastal municipalities because they attract a considerable stream of tourists. But the attraction of economic profit from the tourism industry, brought by huge sums of capital and seen as an easy way to strengthen national economies, has led in many coastal areas to the constant and often very uncontrolled growth of tourism activity. This growth, which has reached its peak in recent decades, exerts pressures on the environmental and cultural resources of coastal areas, and negatively affects the social, economic and cultural patterns of tourist destinations.

Today, the demand for high quality and sustainable beaches is continuing to grow. Clean beaches, easily accessible and safe are a key concern not only for all tourists but also for the coastal municipalities. On the other side, the discontinuity in policies and the lack of sustainable planning and proper management of coastal tourism development creates the need to improve the multiple impacts that the tourist activity has on environmental, on the economy and on the socio-cultural characteristics of the Mediterranean area.

As a result, many beaches have not been developed or managed in a sustainable way. This causes a loss of the natural beauty of the site and has also a negative effect of the beach user experience.

The aim of the “«Green beach” model” is to help beach operators to make better-informed decisions about managing their beaches using a consistent approach based on best practice. Every beach is unique, and it has its own characteristics therefore the «Green Beach» model seeks to provide guidance in helping to establish benchmarks for beach management and safety. The “Green Beach” model is closely related to

sustainability, therefore a green beach can be defined as an eco-beach or a sustainably managed recreational beach, embedding aspects of sustainability into its planning framework, allowing for leisure and economic development and, at the same time, preserving natural and cultural heritage (CSTI, 2012, Costa Nostrum 2016).

In doing so, one must consider the variety of the Mediterranean beaches. This is not only due to the physical conformation, the geomorphology of the places, the different modes of meeting between land and sea, between sandy and rocky coasts, but also to the multiplicity of historical presentations and traces of civilizations past. There are also numerous beaches that are located within protected areas that have special conservation needs and at the same time respond to new sustainability issues.

2. What is a Green Beach and why do we need it

According to the World Tourism Organization "Sustainable tourism development responds to the needs of tourists and regions that welcome them, protecting and improving opportunities for the future. It must translate into an integrated management of all the resources needed to meet the economic, environmental and social needs and at the same time preserve cultural integrity, ecosystems, biodiversity and basic living conditions".

According to Costa Nostrum standard (Costa Nostrum, 2016) and the Cyprus Sustainable Tourism Initiative (CSTI) (2012) a sustainable or green beach can be described as a beach that is incorporating in its management plan the principles of sustainability. With this way it preserves and protects the natural resources and the environment, it favours the economic development of the locals to which the beach belongs as well as encourages social cohesion and the prosperity of the people living along its periphery.

A beach that is managed in a sustainable way, in other words a green beach, has environmental benefits to the locale that belongs. It protects and preserves the environment and the natural resources, it contributes to sustainable waste management and sustainable management of special waste, it encourages the use of renewable energy resources, and, it helps to reduce urban sprawl at the coastal zone.

Also, a green beach protects and conserves the species of the beach. Many beaches have rich flora and fauna that attracts many visitors. Unfortunately, most ecosystems are becoming increasingly degraded as sea water is being polluted and the marine environment is being destroyed. Having set up suitable and protective management measures a green beach can serve as a protector of the biodiversity and endure that the beaches can still attract visitors interested in the rich ecosystem.

Green beaches are also stimulators of economic activity since their visitors spend money in the local community, hence they create income and employment for the residents as well as a positive image for the local business.

Further, a green beach has social benefits for the locals since it can help to promote and preserve the cultural characteristics of the area. Also, it increases the satisfaction of beach users since it has better service quality and control of costal area and better safety measures.

Finally, a green beach gives a better-quality consumer experiences for the tourists and the local people. Holidays are eco-friendlier and more sustainable in the sense of clean water and sand, safety, accessibility,

local food, well maintained and eco-beach furnishing, local culture and biodiversity. With this way, it creates memorable and quality holiday experience that makes people happy and satisfied.

3. Method

Review of existing sustainability initiatives

For defining the nature, main characteristics and the criteria of the «Green Beach» model the analysis started with the review of existing best practices that manage beaches in a sustainable way, meaning that they embed the principles of sustainability in their planning framework. The literature review process included the following standards, awards, best practises:

- i. **Cyprus Green Beaches:** a handbook developed as a result of a pilot project in Cyprus beaches (2012). It has been designed to support local authorities, hotel managers and beachfront property owners to manage beaches in a sustainable way based on a list of 10 criteria that cover sand quality, water quality, green facilities, noise pollution, eco beach furnishing, vegetation and planting, public environmental information, “green” signage, sustainable transport and local food and drink.
- ii. **Blue Flag Programme:** The Blue Flag programme promotes sustainable development in freshwater and marine areas. It challenges local authorities and beach operators to achieve high standards in the four categories of water quality, environmental management, environmental education and safety. The criteria are categorised as either imperative or guideline.
- iii. **ISO 13009:2015:** Tourism and related services — Requirements and recommendations for beach operation. It provides guidance for both beach operators and users regarding the delivery of sustainable management and planning, beach ownership, sustainable infrastructure and service provision needs, including beach safety, information and communication, cleaning and waste removal. This International Standard includes other important aspects, such as providing education and information on beach safety, signage, access and zoning, supervision and rescue, water quality and beach facilities.
- iv. **Green Destinations Standard:** is a tool that was created by a non-profit organization for sustainable tourism that has a global partnership of expert organisations, companies and academic institutions as well as the Green Destinations Community of destination representatives and stakeholders. The tool measures, monitors and improves the sustainability of destinations and regions. The Green Destinations Standard consists of 118 criteria, covering 6 main themes which is 1) Destination Management, 2) Nature & Scenery, 3) Environment & Climate, 4) Culture & Tradition, 5) Social Well-being and 6) Business & Hospitality.
- v. **Quality Coast Award:** Quality Coast is an international certification programme for sustainable tourism destinations. Quality Coast only awards holiday destinations that are assessed on 20 criteria and measured through 120 indicators. The criteria area divided to the following categories: 1) Nature, 2) Environment, 3) Identity and Culture, 4) Tourism and Business and 5) Host Community and Safety.
- vi. **Q for Quality Award (Spain):** a standard that focuses on the tourism sector, with specific emphasis placed on the needs of the end user. It does not only mean that the beach in question meets the necessary quality standards, but also that its facilities and services are constantly being improved to

ensure customer satisfaction. The Q for Quality Award assesses what affects the end user that is management, safety, rescue and first aid, information, cleaning and collection, selective waste disposal, maintenance of facilities and equipment, access, hygiene and leisure services, as well as environmental aspects.

- vii. **The Certification Standard for Sustainable Management and Development of the Mediterranean Beaches - Costa Nostrum:** a tool to manage beaches in a sustainable way giving emphasis to the environment, the financial development of the area surrounding the sustainable beaches and ensuring social cohesion and prosperity of the citizens of the wider region. It also constitutes an online tourist information portal for visitors regarding the infrastructure and their facilities and characteristics (natural - such as flora, fauna, weather, etc.).
- viii. **Spiaggia Liber A tutti (Italy):** a trial project for improving accessibility of seaside resorts ensuring that the p to people with reduced mobility or people with physical disabilities directly reaches both the water and the water's edge.
- ix. **Eco-sustainable beach establishments (Italy):** a project implemented in the Province of Rimini for promoting the use of "clean" solar energy, electricity and water saving, and awareness of ecological issues among tourists and those operating in the tourist industry.

Through the review of the abovementioned standards, awards and best practices, a list of 65 common criteria were identified to apply sustainability principles in the beach management process. The criteria were divided into the following eight categories:

- Bathing water quality covers a range of criteria from the monitoring of the sea water quality, to preventing pollution leakages, to the use of toilet facilities and waste management of the beach.
- Beach area quality covers the cleaning of the beach sand/ pebble, of debris found on the beach, of general man waste and cigarettes buds. In general, it refers to criteria that are keeping the beach area clean.
- Safety: criteria referring to the existence of lifesaving equipment, lifeguards, and first aid equipment, to the appropriate public safety control measures at the beach for protecting the beach users and for the existence of facilities for safe access at the beach. Also, safety measures to protect all people legally and effectively against commercial, sexual, or any other form of exploitation and harassment and to respect the universal human rights
- Information and Education: existence of info points and appropriate signage at the beach for the bathing water quality, the local environment and the local eco-systems, indication of different facilities and services provided on the beach as well as information concerning the cultural heritage and local life. An important aspect of Information and Education is the feedback of the beach users on their experience at the beach (relevant questionnaires).
- Green Facilities: the establishment of eco beach furnishing (sun loungers and beach umbrellas).
- Sustainability: those criteria that are related to the waste disposal bins and the facilities for the separation of recyclable waste materials. Also, criteria for the promotion of sustainable means of transportation (bike renting and facilities for bike parking, support plans to organise traffic and reduce the peak traffic periods, develop pedestrian access), the establishment of green facilities at the beach for reducing water and energy consumption. It also includes criteria for the protection of natural environment, environmental education activities and the promotion of local business with the supply of local food and drinks.

- Accessibility: The Accessibility category refers to the facilities provided for the disabled people for having access to the water and the beach area. For example, provision of wheelchairs, toilets and changing cabins.
- Management: it addresses the management of the beach resources, facilities and operations. Therefore, there are criteria that deal with the operations management of the natural eco-system of the beach, the maintenance and cleaning of the beach facilities and the management of the beach landscape and heritage protection.

The MITOMED+ partnership agreed on the exact definition of each criterion to have comparable data, with the aim to produce a «Green beach» model that can be transferred to other beach destinations and capitalised.

Consultation and testing of the Green Beach Model

The list of the 65 indicators that was distributed in the eight (8) categories was used by the project partners in a consultation phase with their stakeholders. All the 65 criteria that are coming from the above-mentioned standards, awards, best practises were subject to feasibility and importance/ relevance for being a criterion for managing the beaches in a sustainable way.

Also, the partners, gave a weighting/ importance scoring for each criterion from a scale of 5 to 1 as follow:

5= essential for assessing the sustainability of the beach

4 = very important for assessing the sustainability of the beach

3 = average importance for assessing the sustainability of the beach

2 = of little importance for assessing the sustainability of the beach

1= low importance for assessing the sustainability of the beach

As soon as the feedback was received by the stakeholders (partners beach destinations and organisations that are dealt with the managing of the beaches), the list of criteria was further elaborated according to the choice of the stakeholders regarding feasibility and importance of each criterion .

On this basis, a final list of 28 criteria was obtained, which has been the base for the Green Beach model. All these criteria have been extracted from the standards, awards, best practises mentioned in the previous section. The purpose of this shortlisting was to create a Green Beach model that contains the most feasible and important criteria for their implementation by beach managing operators. With this way the Green Beach model can be used as a preliminary step before each managing operator chooses which standards, award to follow. In other words, the Green Beach supports all the above-mentioned standards and awards.

The following sections provides the full list of the «Green Beach» model criteria and their weighting score as well as the steps and actions that are needed for making the beach a green and sustainable.

4. The MITOMED+ «Green Beach» model

4.1 General Description

The «Green Beach» model is divided into 8 categories which all are related with sustainable development and the green agenda. The model can be applied to any recreational beach.

The green beach categories are the following:



The 8 categories are subdivided into sets of criteria/ standards. There are 28 criteria to meet in total. Each criterion has been allocated an individual weighting/ importance score as follow:

- 5= essential to a “green” beach,
- 4 = important to a “green” beach,
- 3 = desirable for a “green” beach,
- 2 = added value for a “green” beach,
- 1 = low importance for the “green” beach.

Considering the diversity of the coastline, it is appropriate to start with a study of the characteristics of the beach, which are the present elements to be enhanced and then which are the most appropriate measures to transform this beach into a green beach.

4.2 Criteria of the “Green beach” model

Each category has an introduction which is describing the relevant sub-criteria and the relevant weighting/ importance scoring. Also, it describes the suggested activities for achieving the criteria. For the weighting/ importance scoring there is a rating attributed to each criterion and the way to measure and monitor it and how the scoring will be carried out. It is important to consider that implementing individual criteria activities in isolation will not achieve the greening of the beach, hence it is recommended that activities across all the criteria should be implemented in the «Green Beach» model. One recommendation is to tackle the categories in a descending order of weighting/ importance score to ensure that the most important criteria are tackled first.

Below there is an example on how the information will be reported for each category, a method that belongs to the Greening Cyprus Beaches best practise (CSTI, 2012) and is the most suitable to be used for presenting the relevant criteria for the Green Beach model.

Category:

This is the overall category (e.g. Bathing Water quality)

Criteria:

The list of the criteria that must be met within the overall category.

Weighting/ Importance Scoring:

This is the weighting score from 5 to 1 that has been calculated for each criterion. This weighting is multiplied by the points accrued to produce the overall score that a beach will achieve.

Measurement and Monitoring:

This indicates how to measure and monitor the individual standards for accessing the progress towards achieving the green beach.

Points:

The points system (10 maximum and 0 minimum) for each measuring the progress of each criterion. This is multiplied with the weighting/ importance scoring to give the final score for each criterion and to see how the beach is progressing towards becoming a green beach.

Bathing Water Quality

Since 1970, the EU placed rules to safeguard clean bathing waters with the Bathing Water directive (2006). It requires that EU member states to monitor and assess the bathing water for at least two parameters of faecal bacteria, that is *Escherichia coli* and *Intestinal Enterococci*. Also, all EU member states must inform the bath users about bathing water quality and beach management using the bathing profiles. These profiles contain all the relevant information about the pollution that exists at the beach as well as the sources that affect the quality of the bathing water and place at the health of the bath users, (for example waste water discharges) (Bathing Water Directive 76/160/EEC and New Bathing Water Directive 2006/7/EC).

Green beaches must also have excellent water quality. Water quality of beaches can vary greatly due to several factors such as lake currents, runoff and the outflow of creeks, changing environmental factors and

waterfowl, the composition and state of the biological life present in the water as well as from animal and man waste. Water quality of beaches is usually poorer in the summer months due to the bacterial growth as well as due to the man waste since we have lot of visitors at the beaches during the summer months. Based on this, it is essential to monitor and assess the water quality of the beach regularly and on a constant basis.

Almost all mentioned standards and awards that we have described above consider the bathing water quality with the Blue Flag to give a special emphasis on this. Also, the Quality Coast and the Greening Cyprus Beaches refer to the quality of bathing waters.

For defining the relevant points of measurement, we have used the international standards (Bathing Water Directive) as well as considered what are the national legislations that lay down on this issue.

Criterion 1: Water quality monitoring

Water quality is essential for public health, the ecosystem as well as for the economy. As coastal populations and development increase, coastal environments become at greater risk for water quality issues. A Green Beach should monitor the quality of the bathing water and must ensure that there is a sampling site where water samples can be collected on a regular basis. This is something that exists as a criterion in the Blue Flag award and is also adopted by the Green beach model.

According to the Blue Flag "a beach must have at least one sampling site that should be located where the concentration of bathers is highest. The samples should be taken 30 cm below the water surface". Also, samples should be also taken from points of the beach that are sources of pollution according to the New Bathing Directive.

Water quality is suggested to be measured at least twice a month during the bathing season and at least

Category: *Bathing Water Quality*

Criterion

Water quality monitoring.

Weighting/ Importance Scoring: 5

Measurement and Monitoring:

Number of Sampling sites and frequency of sampling.

Points:

10 points: In the "excellent" and "good" areas, as well as protected areas, the water sample is taken at least once a month.

8 points: In "sufficient" and "poor" areas, at least one sample site where the concentration of bathers is highest and water sample is taken at least once a month.

6 points: at least one sample site at the beach and water sample is taken in a period of more than one month during the high peak season and in a period of more than one month during the low season of the beach.

4 points: at least one sample site at the beach and water sample is taken in a period of more than one month during the high peak season.

2 points: at least one sample site at the beach and only one water sample is taken during the high peak season.

0 points: no sample site at the beach and no water sample collection.

once a month during the non-bathing season to ensure that there is a regular check on the bathing water quality of the beach.

Criterion 2: Standards and requirements for water quality analysis for parameter Escherichia coli

One of the parameters that must be monitored according to the New Bathing Water Directive is the parameter Escherichia coli. This parameter must also be monitored at the green beach and it must comply according to the values of the New Bathing Water Directive.

This criterion is also an imperative criterion of the Blue Flag that mentions that for collecting the samples a trained person must do. Also, the samples must be sent to an independent laboratory (national or international recognized) for carrying out the microbiological and physical-chemical analysis.

Criterion 3: Standards and requirements for water quality analysis for parameter Intestinal Enterococci

The second parameter that be monitored according to the New Bathing Water Directive is the parameter Intestinal Enterococci. This parameter must also be monitored at the green beach and it must comply according to the values of the New Bathing Water Directive.

This criterion is also an imperative criterion of the Blue Flag that mentions that for collecting the samples a trained person must do. Also, the samples must be sent to an independent laboratory (national or international recognized) for carrying out the microbiological and physical-chemical analysis.

The water quality of the Green Beach must meet the highest standards of New Bathing Water directive, when applicable. The microbiological parameters to be monitored are given below (as they are defined by the New Bathing Water Directive (2006/7/EC):

Parameter	Coastal and transitional waters Excellent Quality	Inland Waters Excellent Quality
Intestinal Enterococci (streptococci)	100 cfu/100 ml	200 cfu/ 100ml
Escherichia coli (Faecal Colibacteria)	250 cfu/100 ml	500 cfu/ 100ml

cfu = colony forming units (of bacteria)

Source: New Bathing Water Directive 2006/7/EC

A monitoring calendar of the bathing water of the beach should be established. As the New Bathing Water Directive says the calendar should be set up before the start of each bathing season. The monitoring should take place no later than four days after the date specified in the monitoring calendar.

Category: *Bathing Water Quality*

Criterion

Standards and requirements for water quality analysis for parameter Escherichia coli

Weighting/ Importance Scoring: 5

Measurement and Monitoring:

Water quality to be measured to identify pollution incidents at the beach.

Points:

10 points: meet standards at least at 95% of sampling points for parameter Escherichia coli

8 points: meet standards at least at 90% of sampling points for parameter Escherichia coli

6 points: meet standards at least at 85% of sampling points for parameter Escherichia coli

4 points: meet standards at least at 80% of sampling points for parameter Escherichia coli

2 points: meet standards at least at 75% of sampling points for parameter Escherichia coli

0 points: meet standards at less than 75% of sampling points for parameter Escherichia coli

Category: *Bathing Water Quality*

Criterion

Standards and requirements for water quality analysis for parameter Intestinal Enterococci

Weighting/ Importance Scoring: 5

Measurement and Monitoring:

Water quality to be measured to identify pollution incidents at the beach.

Points:

10 points: meet standards at least at 95% of sampling points for parameter Intestinal Enterococci

8 points: meet standards at least at 90% of sampling points for parameter Intestinal Enterococci

6 points: meet standards at least at 85% of sampling points for parameter Intestinal Enterococci

4 points: meet standards at least at 80% of sampling points for parameter Intestinal Enterococci

2 points: meet standards at least at 75% of sampling points for parameter Intestinal

Criterion 4: No industrial, waste-water or sewage-related discharges at the beach.

This is a criterion coming from the Blue Flag where it is recommended that there should not be any discharge of industrial, urban wastewater or sewage-related discharges into the beach area or its surrounding area. In the case there is discharge points at the beach then the beach operator must put a warning in order to provide the relevant information to the beach users. The community must collect the relevant discharges and treat them according to the national and international legislation .

Suggested Activities

Here we should mention that the suggested activities are not activities suggested by the Blue Flag or from any of the other best practises mentioned. Water quality should be measured often enough to identify if there are any pollution incidents and not to create huge costs for the relevant departments fighting pollution incidents. Therefore, it is suggested that during the bathing season, as it is recommended by the EU (New Bathing Water Directive), which is all through the year (annual). Therefore, water samples should be taken all year from the beach with the ones during the high (peak) season to be more frequent of at least twice a month and for the low season of at least once a month.

Also, it is encouraged to train and involve beach staff, lifeguards and beach users to improve the beach environment in order to avoid affecting the water quality. For example, to provide them with a basic

Category: *Bathing Water Quality*

Criterion

No industrial, waste-water or sewage-related discharges at the beach.

Weighting/ Importance Scoring: 5

Measurement and Monitoring:

Discharged sites at the beach that must comply with EU Urban Waste Water Treatment Directive (91/271/EEC).

Points:

10 points: No discharged sites at the beach

8 points: discharge site at the beach and meet the standards of EU Urban Waste Treatment Directive and it affects the water quality that meet standards at least at 95% of sampling points.

6 points: discharge site at the beach and meet the standards of EU Urban Waste Treatment Directive and it affects the water quality that meet standards at least at 90% of sampling points.

4 points: discharge site at the beach and meet the standards of EU Urban Waste Treatment Directive and it affects the water quality that meet standards at least at 85% of sampling points.

2 points: discharge site at the beach and meet the standards of EU Urban Waste Treatment Directive and it affects the water quality that meet standards at least at 80% of sampling points. 0 points: discharge site at the beach and meet the standards of EU Urban Waste Treatment Directive and it affects the water quality that meet standards at less than 80% of sampling points.

equipment such as gloves, litter packs and nets for collecting water debris and with this way keeping the water clean.

Beach Area Quality

Beach area quality is one of the most importance aspects of beaches since beach users want a clean beach with no beach litter that affects the natural environment as well as the offshore biodiversity. The sand or pebbles, the beach and surrounding areas, including paths, parking areas and access paths to the beach, must always be clean and well-maintained by the beach operator.

Almost all mentioned standards and awards that we have described above consider the beach area quality to be a very important aspect of beaches. More specifically, the Blue Flag, the Quality Cost, the Q for Quality, the Greening Cyprus Beaches as well as the ISO 13009:2015 have criteria for a clean beach and its surrounding area.

Criterion 5: No cigarette butts at the beach

The beach area must be kept clean and have as less cigarette butts per 1m². It is suggested to provide to beach users cigarette ashtrays and have at the beach large, sand filled bins to be used as ashtrays by the beach users. Another suggestion is the sun beds or umbrellas to have to hold ashtrays. Also, it is possible to create smoking zones at the beach and/or designate smoking and no-smoking areas for sun lounges.

This criterion can be found in the Greening Cyprus Beaches and the Costa Nostrum award.

Category: *Beach Area Quality*

Criterion

No cigarette butts at the beach

Weighting/ Importance Scoring: 5

Measurement and Monitoring:

Measurement once a month

Number of cigarette buds per 1m² to be measured once a month.

Points:

10 points: 0-5 cigarette butts per 1m²

8 points: 6-10 cigarette butts

6 points: 11-15 cigarette butts per 1m²

4 points: 16 – 20 cigarette butts per 1m²

2 points: 20-25 cigarette butts per 1m²

0 points: 26+ cigarette butts per 1m²

Criterion 6: No general waste on the beach

The beach area must be kept clean from any waste, for example glass, plastic, cans, feminine hygiene, human faeces, toilet paper, etc. To accomplish this, it is recommended to have an appropriate and adequate number of waste bins to cover all the waste volume of the beach area. Therefore, when deciding the size and number of the bins you need to consider the capacity as well as the volume of the waste produced at the beach. So, you should estimate the number of waste collections per week. It is also crucial the positioning of the bins. Additionally, it is suggested that the fact to have a waste area does not affect the attractiveness of the beach environment as well as recycle bins for the separation of recyclable waste such as plastic, glass, paper, etc.

This criterion can be found in the Blue Flag, the Greening Cyprus Beaches and the Costa Nostrum award.

Category: *Beach Area Quality*

Criterion

No general waste on beach

Weighting/ Importance Scoring: 5

Measurement and Monitoring:

Measurement once a month

Number of man-made waste items per 100m² to be measured once a month.

Points:

10 points: 0-5 man-made waste items per 100m²

8 points: 6-10 man-made waste items per 100m²

6 points: 11-15 man-made waste items per 100m²

4 points: 16 – 20 man-made waste items per 100m²

2 points: 21-25 man-made waste items per 100m²

0 points: 26+ man-made waste items per 100m²

Safety

The safety aspect at the beach is getting more and more attention. A healthy, safe and secure beach environment is needed to be ensured for the beach users. The beach operator must ensure that there are adequate safety measures in place at the beach and that they comply with the national legislation and crime is prevented at the beach.

The safety aspect is very important for the Blue Flag, the Quality Coast and the ISO 13009:2015.

Criterion 7: Beach Safety with a lifeguard and equipment

Lifeguards play a key role in ensuring a safe environment for swimmers. They are responsible for maintaining the safety of people and they take the responsibility, for a defined area, to make sure that it is safe to use. It is the duty of the lifeguard to prevent incidents, to respond to incidents and to respond to emergency incidents by providing rescue to bath users.

A Green Beach should be guarded by an adequate number of lifeguards according to the national legislations. Also, a lifesaving equipment should be available at the beach even in the case there is no lifeguards at the beach. The beach operator should ensure that there are operational instructions for the lifesaving equipment posted at the beach information board to be visible to all. Also, the equipment should be maintained on a regular basis and be ensured that is operational. At the information board of the beach safety instructions should be posted.

The Blue Flag is the only award that defines very well the safety control measures that should be established at the beach. For the lifeguards it mentions that they must increase according to peak usage, and a minimum of two every 200m is recommended. This measurement has been adopted by the Green Beach model as detailed below.

Category: *Safety*

Criterion

Beach Safety with a lifeguard and equipment

Weighting/ Importance Scoring: 3

Measurement and Monitoring:

Number of lifeguards per 200 meter and existence of life saving equipment¹

Points:

10 points: 2 lifeguards per 200m and existence of a well-maintained life-saving equipment.

8 points: 1 lifeguards per 200m and existence of a well-maintained life-saving equipment.

5 points: no lifeguard but existence of a well-maintained life-saving equipment.

0 points: no lifeguard and no lifesaving equipment at the beach.

¹In the case there is a different national legislation about the number of lifeguards per meter than the above then are changing according to national legislation.

Criterion 8: Safety measures at the beach

A safe and secure environment must be ensured for the beach users. Further, access to the beach must be safe, in terms of adequate facilities for safe access such as paths, car parks, bicycle paths etc. It is also recommended that beach users should be safe from any violations of civil rights and corruption and the beach area has adequate measures to protect legally all beach users.

This is a criterion that also exists in the Blue Flag, the Quality Coast and the ISO 13009:2015

Category: *Safety*

Criterion

Safety measures at the beach

Weighting/ Importance Scoring: 1

Measurement and Monitoring:

Access to the beach must be safe.

Points:

10 points: safe access to the beach, provision of information about safety and guards at the beach.

8 points: safe access to the beach, provision of information about safety and no guards at the beach.

5 points: safe access to the beach no provision of information about safety and no guards at the beach.

0: no safe access to the beach, no provision of information about safety and no guards at the beach.

Accessibility

Respecting accessibility means defining the minimum requirements for the physically challenged persons to be able to directly reach, both, water and the water's edge. Such operations and construction serve to safeguard extensive and overall accessibility to all services, giving adequate security and support to physically challenged persons in seaside resort activities.

Accessibility is a very important element for the Green beaches, as it is also important for the other mentioned standards such as the Blue Flag, the Quality Coast, the Costa Nostrum and the Spiaggia Libber a tutti.

Criterion 9: Access of the physically disabled people in the water and beach area.

Total accessibility ensures that the physically challenged persons directly reaches both the water and the water's edge. This means that there all the relevant infrastructure exists that allow access points from the street until the access to the sea.

Some examples for ensuring that disabled persons can access the water and at the beach is the creation of a path of wood or recycled material with the needed features to allow people in wheelchairs to reach the water and the creation of connecting boarding bridges with services at the beach as well as giving access to the water.

Category: *Accessibility*

Criterion

Access of the physically disabled people in the water and beach area.

Weighting/ Importance Scoring: 4

Measurement and Monitoring:

Site evaluation once a month.

Points:

10 points: existence of facilities that allow physically challenged persons directly reaches both the water and the beach.

5 points: existence of facilities that allow physically challenged persons directly reaches either only water or only the beach

0 points: no facilities to allow physically challenged persons to reach the water and the beach.

Criteria 10: Facilities provided for the disabled people in the water and at the beach.

There are many other facilities that can make the beach reachable to everyone, as well as for the physically disabled people . Beaches can be equipped with dedicated toilets, special wheelchairs to allow people who do not walk, to get in the water and move on the wet, raised loungers and tactile platforms to allow blind people to navigate autonomously, making the beach with this way a welcoming place for all.

There is appropriate equipment that can allow people with limited mobility and disabilities to enjoy and move safely at the beach area and water. For example, the creation of accessible hygiene service, the creation of accessible changing cabin equipped with a flexible seat-shower to facilitate showering, the supply of accessible beach chair, “Polynesian” canoe, beach chaises (appropriately modified and equipped) and the creation of a tactile route and map on a low-based lectern.

Category: *Accessibility*

Criterion

Facilities provided for the physically disabled people in the water and at the beach.

Weighting/ Importance Scoring: 3

Measurement and Monitoring:

Site evaluation once a month.

Points:

2 points are awarded for each facility with a maximum of 10 points.

Green Facilities and Eco-Beach Furnishing

Green facilities and eco-beach furnishing are one of the key aspects and expectations of the tourists. The general public's first impression of coastal environmental quality is based on the initial aesthetic and judgment of the surroundings. Poorly maintained facilities harm the environment and can even create some scale pollution incidents. The aim of the «Eco-beach» is to ensure that the facilities at the beach are as friendlier and aesthetically and physically sensitive to the environment. Attention is also given to the materials that should be greener and friendlier to the environment.

The presence of eco-furnishing built with eco-friendly and sustainable materials is a powerful visual cue to the beach as well as an acceptable behaviour towards the environment. All beach furnishing should be aesthetically sensitive to the natural environment of the beach and ideally to constructed from sustainable material or from recycled plastic.

For making the beach eco-friendlier you can introduce eco-furnishing through a gradual process rather than replacing everything at once. Replacing beach furnishing at once will cause waste therefore is recommended to replace the furnishing once they have reached their end of their life span or if it is possible to improve them to be friendlier to the environment. For example, sun loungers and umbrellas can be replaced by wooden ones while showers can be fitted with water saving heads and housed in wooden cabins and have solar thermal panels and wastewater collection tanks. Also, toilets can be housed in wooden cabins and have a sewage disposal and save water devices.

This criterion is a part of the Greening Cyprus Beaches that refers to eco-beach furnishing for the beaches.

Category: *Green Facilities and Eco-Beach Furnishing*

Criterion

Sun loungers must be sustainably and/or aesthetically sensitive to the natural environment.

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made once a month during the beach season.

Points:

10 points: all sun loungers are made of eco-material (FSC or SFI wood/ recycled materials/ reclaimed materials)

8 points: some sun loungers (at least half) are made from eco-materials.

5 points: sun loungers are not made from eco-materials but are consistent in style with all mats being aesthetically sensitive to the environment (green/brown/beige/ blue).

2 points: sun loungers are not made from eco-materials and mats are not aesthetically sensitive to the environment (red, with stripes) but are consistent in style.

0 points: sun loungers are not made from eco-materials and are inconsistent in color and style.

Criterion 11: Sun loungers must be sustainably and/or aesthetically sensitive to the natural environment.

Sun loungers at the beach must be made from eco-material and aesthetically sensitive to the natural environment.

Criterion 12: Beach umbrellas must be sustainably and/or aesthetically sensitive to the natural environment.

Beach umbrellas must be made from eco material and are aesthetically sensitive to the natural environment.

Category: *Green Facilities and Eco-Beach Furnishing*

Criterion

Beach umbrellas must be sustainably sources and/or aesthetically sensitive to the natural environment

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made once a month during the beach season.

Points:

10 points: all umbrellas are made of eco-material (FSC or SFI wood/ recycled materials/ reclaimed materials, e.g. Natural palm leaf)

7 points: some umbrellas (at least half) area made from eco-materials.

3 points: umbrellas are not made from eco-materials but colors are consistent and sensitive to the natural environment (green/brown/beige/ blue).

0 points: umbrellas are not made from eco-materials and are insensitive to the natural environment (red, with stripes).

Criterion 13: Toilets should be housed with sustainable material for the beach users, have sewage disposal and water saving devices.

Category: *Green Facilities and Eco-Beach Furnishing*

Criterion

Toilets should be housed with sustainable material, have sewage disposal and water saving devices

Weighting/ Importance Scoring: 4

Measurement and Monitoring:

Side Evaluation to be made once a month during the beach season.

Points:

10 points: all toilets are composting toilets housed with sustainable material (FSC or SFI wood units) and have a sewage disposal and water saving devices.

8 points: beach toilets are housed with sustainable material (FSC or SFI wood units), have a sewage disposal and water saving devices.

5 points: beach toilets are not housed with sustainable material (FSC or SFI wood units), there is sewage disposal and water saving devices.

2 points: beach toilets are not housed with sustainable material (FSC or SFI wood units), there is no sewage disposal, but they have water saving devices.

0 points: beach toilets are not housed with sustainable material (FSC or SFI wood units), there is no sewage disposal and no water saving devices.

Criterion 14: Shower facilities must have water saving devices, solar thermal panels or recycle wastewater and are housed in sustainable timber units

Category: *Green Facilities and Eco-Beach Furnishing*

Criterion

Shower facilities must have water saving devices, solar thermal panes, water and tanks to collect and recycle waste water and to be housed in sustainable timber units.

Weighting/ Importance Scoring: 4

Measurement and Monitoring:

Side Evaluation to be made once a month during the beach season.

Points:

10 points: all showers are housed with sustainable material (FSC or SFI wood units), have water saving devices, solar thermal panes and tanks to collect and recycle waste water.

8 points: showers are not housed with sustainable material (FSC or SFI wood units), but they have water saving devices, solar thermal panes and tanks to collect and recycle waste water.

5 points: showers are not housed with sustainable material (FSC or SFI wood units), they don't have water saving devices, but they have solar thermal panes and tanks to collect and recycle waste water.

2 points: showers are not housed with sustainable material (FSC or SFI wood units), they don't have water saving devices and solar thermal panes but have and tanks to collect and recycle waste water.

0 points: showers are not housed with sustainable material (FSC or SFI wood units), they don't have water saving devices, solar thermal panes and no tanks to collect and recycle waste water.

Sustainability

Criterion 15: Adequate number of bins.

All the above-mentioned standards, awards, best practises support the fact that waste bins at the beach must be an adequate number in order to be able to manage the volume of the beach waste. It is recommended to be made of eco-friendly material and to be regularly maintained and emptied on a regular basis. Also, bins for the separation of recyclable materials should be available at the beach (glass, cans, plastic, paper).

Criterion 16: Beaches must respect and support the identity and conformation of the sites, especially in protected areas the endemic and/or indigenous plants, habitats, species, and ecosystems to attract high levels of native biodiversity.

Native vegetation is positive for attracting biodiversity and is best suited to climatic conditions of the area therefore not requiring excessive watering. As such beaches should be seen to be supporting endemic or indigenous plants in order to attract higher levels of native biodiversity. Native vegetation not only helps preserve endemic species but also improves beach user's perception since beach looks more beautiful and more cared and well maintained. Finally, it is recommended that the should effectively addresses and enforced and organize its of natural sites, habitats, species, and ecosystems (including marine and aquatic).

It is recommended before planting any plans to assess the vegetation on the beach to determine what is already growing at the beach and what else native can be plant.

The criterion comes from the Blue Flag that supports the protection of biodiversity as well as planting of endemic plants that use less water and can preserve the biodiversity.

Category: *Sustainability*

Criterion

Adequate number of bins

Weighting/ Importance Scoring: 4

Measurement and Monitoring:

Side Evaluation to be made once a month.

Points:

10 points: adequate and well-maintained bins that allow the separation of recycled materials (cans, papers, plastic, bottles).

8 points: available waste disposal bins at the beach, not in adequate numbers but well maintain that allow the separation of recycled materials (cans, papers, plastic, bottles).

5 points: available waste disposal bins at the beach, in adequate numbers and well maintain for mixed recycled materials.

2 points: available waste disposal bins at the beach, not adequate numbers and not well maintained for mixed recycled materials

0 points: no available waste disposal bins at the beach.

Category: *Sustainability*

Compulsory Criterion

Beaches must respect and support the identity and conformation of the sites, especially in protected areas, the endemic and/or indigenous plants, habitats, species, and ecosystems to attract high levels of native biodiversity.

Weighting/ Importance Scoring: 4

Measurement and Monitoring:

Side Evaluation to be made once a month.

Points:

10 points: the beach is in a protected area, has a significant amount of indigenous/endemic plants and measures to protect the ecosystem.

8 points: the beach has a significant amount of indigenous/endemic plants and measures to protect the ecosystem.

5 points: the beach has some indigenous/endemic plants but no measures to protect the ecosystem

2 points: the beach has a significant amount of general planting

0 points: the beach does not have any planting.

Criterion 17: *Promotion of local food and drinks*

Local food and drinks at the beach have the potential to give to tourists a much richer holiday experience since they can have the opportunity to taste the local specialities. Also, promoting local food and drinks can enhance the tourism expenditure; tourist will be spending money for buying local food and drink and this as a result has positive effects for the local business at the beach. It is recommended that food and drink providers use local, seasonal and fresh ingredients (if possible organic as well) for their recipes as well as to have choices for vegetarians and vegans.

It is also suggested that beach restaurants, bars, coffee shops, etc. can take the opportunity and reduce their negative impacts on environment. Some suggestions use solar panels, led lighting, install motion sensitive light switches, etc that can help reduce the energy consumption.

The promotion of local food and drinks is a criterion that is found in the Greening Cyprus Beaches, the Quality Coast award and the Costa Nostrum award. These 3 standards, awards, best practises promote that beaches must take steps to promote and supply locally produced products and where is possible to have energy consumption saving measures.

Category: *Sustainability*

Criterion

Promotion of local food and drinks.

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made twice a year.

Points:

10 points: the beach is providing a significant amount of local food and drink (at least 75% of menu is local food and drink) and food vendors have energy saving measures.

8 points: the beach is providing an amount of local food and drink (at least 50% of menu is local food and drink) and food vendors have energy saving measures.

6 points: the beach is providing a small amount of local food and drink (at least 25% of menu is local food and drink) and food vendors have energy saving measures.

4 points: the beach is providing a small amount of local food and drink (at least 25% of menu is local food and drink) and food vendors don't have any energy saving measures.

2 points: the beach has at least 1 local dishes and food vendors don't have any energy saving measures.

0 points: the beach has no local dishes and no energy saving measures

Criterion 18: Promotion of sustainable transportation at the beach area

Sustainable transportation refers to any means of transportation that is 'green', in the sense that it has low impact on the environment. Sustainable transportation is also about balancing our current and future needs. Examples of sustainable transportation include walking, cycling, use of public transport and any measure for organizing traffic and reduce the traffic during the peak hours.

It is encouraged that the beach should support and promote sustainable means of transportation. Such a support could be the installation of bike racks at the beach, information about the public transportation timetable and routes, information material and maps, available walking trails and bike routes as well as plans to organise traffic during peak hours.

The Blue Flag, as well as the Greening Cyprus Beaches have this criterion in their award. Special attention is given by the Blue Flag that also refers to actions that can encourages the promotion of alternative means of transportation such as the examples we have mentioned above.

Category: *Sustainability*

Criterion

Promotion of sustainable transportation at the beach area

Weighting/ Importance Scoring: 4

Measurement and Monitoring:

Side Evaluation to be made once year.

Points:

For each of the following 2 points are awarded:

- bike racks at the beach
- bus timetable and routes displayed at the beach
- information material and maps on how to get to the beach
- available walking trails/ bike routes from the town to the beach
- plans to organize traffic and reduce the peak traffic periods

Management

Criterion 19. All relevant regulations should be in place at the beach.

All relevant regulation regulations such as the coastal zone planning, environmental management, waste-water legislation, environmental legislation is something that the beach should have (Blue flag). The management of the beach location, facilities, beach operation and immediate surrounding area must comply with official development plans and planning regulations (Blue Flag).

Category: Management**Criterion**

All relevant regulations should be in place at the beach.

Weighting/ Importance Scoring: 2**Measurement and Monitoring:**

Evaluation of the beach once a year

Points:

10 points: The beach is following all the relevant legislations that affect the location and operation of the beach.

8 points: The beach is following at least the 75% of the relevant legislations that affect the location and operation of the beach and is making efforts to meet all the relevant regulations.

5 points: The beach is following at least the 50% of the relevant legislations that affect the location and operation of the beach and is making efforts to meet all the relevant regulations.

2 points: The beach is following at least the 25% of the relevant legislations that affect the location and operation of the beach and is making efforts to meet all the relevant regulations.

0 points: The beach is not following any relevant legislations that affect the location and operation of the beach.

Criterion 20. Sufficient number of toilet and restroom facilities at the beach.

The toilets and restrooms available at the beach must be enough to cover the total number of beach users capacity of the beach. Toilets can be set up by beach operator at the major access points and should be accessible by everyone. Also, to cover the needs of the beach users the beach operator should count the toilets that exist in the beach shops, restaurants, cafeterias or other establishments that is open to the public. Also, it is recommended that the beach should have toilets for disabled visitors. This criterion is an imperative criterion for the Blue Flag which also gives emphasis on the fact that the toilets and restroom facilities must be safe and well maintained as well as beaches with a high number of daily visitors must have their facilities checked and cleaned every day or even several times a day. It is also recommended by the Blue Flag to use of environmentally friendly cleaning materials, soap and towels. This is also supported by the green beach model.

Category: *Management*

Criterion

Sufficient number of toilet and restroom facilities at the beach.

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made twice a month

Points:

2 points are awarded for each of the following:

- adequate number of toilet and restroom facilities
- toilets are kept always clean
- toilets and restrooms for disabled persons
- toilet and restroom facilities can be easily located with a proper signage
- Use of environmentally friendly cleaning materials like soap and towels.

Criterion 21: No camping, driving and dumping at the beach.

According to the Blue Flag, camping, driving and dumping must be prohibited at the beach. Vehicles are allowed at the beach only at the parking areas and designated space. Exception is given to vehicles for safety and cleaning reasons. Also, dumping of any kind of litter and waste at the beach is strictly prohibited. Beach users should use the available bins of the beach. This Blue Flag criterion is also adopted by the Green Beach.

Category: *Management*

Criterion

No camping, driving and dumping at the beach.

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made once a month.

Points:

2 points are awarded for each of the following:

- Unauthorized camping is prohibited on the beach
 - Driving is prohibited on the beach
 - Dumping is prohibited on the beach
 - Areas for driving are designated at the beach
 - Parking areas and car-free zones are designated at the beach.
-

Criterion 22: The beach must have limited noise pollution

Noise pollution at the beach can affect marine species, impact land-based biodiversity and it can disturb the beach users since noise can affect their enjoyment. Therefore, any music or any other recreational noisy activities should be kept at the limited point. There should be restrictions to the music systems in the beach bars and restaurants, so they do not exceed the national noise limits. Also, concerning the noise of water sports it is recommended to check the relevant legislation for water sports zoning and the speeds levels at the beach zone. An option for target noise pollution could be the purchase of eco-friendly watercrafts. Eco-jet skis are new to the market and have environmental benefits since they are solar powered, they don't produce any CO2 emissions and have no noise.

This criterion is coming from the Quality Coast award and the Greening Cyprus Beaches that take into account the noise pollution at the beach.

Category: *Management*

Criterion

The beach must have limited noise pollution.

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made once a month in the peak season.

Points:

2 points are awarded for each of the following:

- restrictions to the music systems at the beach bars and restaurants so they do not exceed the 65 decibels.
- restrictions to personal music systems so they do not exceed the 65 decibels.
- restrictions to speed and proximity of water sports
- water sports zoning at the beach
- use of eco-friendly watercrafts.

Criterion 23: *Management of different users and uses of the beach*

A Green Beach since it is a beach that supports multiple activities then it must have management plan in place in order to avoid any accidents for the beach users. The bath users should be protected from the water sports therefore it is necessary to have different zones at the beach. The zone should be according to the national legislation. In the case it does not exist then is recommended to follow the Blue Flag criterion on the beach management which describes very well the management of the different users and uses of the beach to prevent conflicts and accidents.

Category: *Management*

Criterion

Management of different users and uses of the beach.

Weighting/ Importance Scoring: 1

Measurement and Monitoring:

Side Evaluation to be made once a year.

Points:

2 points are awarded for each of the following:

- the beach has management plans to prevent accidents and conflicts
 - the beach is managed without negatively impacting the natural environment protecting sensitive species and habitats.
 - different activities on the beach are clearly marked and zoned (include zoning for swimmers, surfers, wind surfers and motor craft).
 - zoning of the different recreational areas in the water.
 - zoning of the beach is clearly indicated on the information board of the beach.
-

Criterion 24: Community participation and stakeholder involvement in the beach management

The beach management takes measures to encourage community participation and stakeholder involvement in the beach management. Such measures should encourage stakeholder's contribution and inhabitants involved in the planning policies, the involvement of citizens, enterprises, relevant stakeholders in discussions about the opportunities, challenges for sustainable tourism development as well as the satisfaction with tourism development and destination management. Relevant stakeholders could be the local authority representative, the hotel manager, the beach/ restaurant managers, the lifeguard, educational representative, the local NGO, etc.

The beach management should take measures to encourage sustainable relationships in the immediate environment and to fulfil its commitment to perform better on social fields. Some examples are the following:

- Promotes good relations of residents / stakeholders and is working on a long-term relationship with them (free facilities, organizing free events, provides an annual gift to compensate for any inconvenience)
- Works with other local organizations such as local associations, nature organisations
- Is actively involved in a charity or conservation organization
- Distributes sustainable gifts and/or sale items

- Sponsors a social/community organisation or is committed to a social purpose.

Category: *Management*

Criterion

Community participation and stakeholder involvement in the beach management

Weighting/ Importance Scoring: 1

Measurement and Monitoring:

Side Evaluation to be made once a year.

Points:

10 points: >5 different measures are implemented for encouraging community participation and stakeholder involvement in the beach management.

8 points: 5 different measures are implemented for encouraging community participation and stakeholder involvement in the beach management.

6 points: 4 different measures are implemented for encouraging community participation and stakeholder involvement in the beach management.

4 points: 3 different measures are implemented for encouraging community participation and stakeholder involvement in the beach management.

2 points: 1-2 measures are implemented for encouraging community participation and stakeholder involvement in the beach management.

0 points: no measures are implemented for encouraging community participation and stakeholder involvement in the beach management

The community participation and stakeholder involvement are a criterion that is coming from the Blue Flag which emphasises the fact that the beach management committee should consist of all relevant stakeholders at the local level. Also, the Quality Coast, the ISO 13009:2015 and the Costa Nostrum awards are having the criterion of community participation and stakeholder involvement in the beach management and development.

Criterion 25: No domestic animals at the beach.

As it is supported by the Blue Flag the dogs and any other pets are not allowed at the beach area. However, they are permitted in the parking areas, on walkways and promenades in the back-beach area. In the case national, regional or local legislation exists that allows the dogs and pets to be permitted at the beach area than this should be put in force. In the case there is stray animals at the beach then the beach operator should establish measures in order to prevent the entry of stray animals at the beach area.

Category: *Management***Criterion**

No domestic animals at the beach.

Weighting/ Importance Scoring: 1**Measurement and Monitoring:**

Side Evaluation to be made once a year.

Points:

10 points: the beach has measures for controlling the access of dogs and other domestic animals, has a dog free zone has measures to prevent access of stray animals at the beach.

7 points: the beach has measures for controlling the access of dogs and other domestic animals, has a dog free zone but no measures to prevent access of stray animals at the beach.

3 points: the beach has measures for controlling the access of dogs and other domestic animals, does not have a dog free zone and no measures to prevent access of stray animals at the beach.

0 points: the beach has no measures for controlling the access of dogs and other domestic animals, has not a dog free zone and no measures to prevent access of stray animals at the beach.

Information and Education

Public information will improve the environmental awareness of the beach users and would improve their behaviour at the beach thereby making it friendlier to the environment. A beach that is awarded as a Green Beach it is compulsory to use the Green Beach Flag at the beach and the logo at the information board of the beach. For long beaches, it is recommended to install more than one Green Beach Flag and more than one information board (approximately one every 500 meters). It is highly recommended that information board at the beach should be aesthetically and materially sensitive to the natural environment, from sustainable materials and well maintained.

Criterion 26. Information board at the beach and relevant information displayed

The Blue Flag gives a very good description in its award on what kind of information should be displayed on the information boards of the beach. The Green beach mode is adopting this kind of description in this criterion.

At the information board of the beach, a small description of the Green Beach Programme must be displayed, as well as the logo of the Green Beach. This information could be also posted at other locations for example at major access points, at the lifeguard stations, in parking areas or any other locations. In beaches where we have international users is recommended that the information be provided in relevant languages, at least in English.

The beach map (as it is described by the Blue Flag) should show the boundaries of the Green Beach area and the location of key facilities and services. The map should be of good quality, easy to read and properly orientated.

The required map elements are the following:

- lifeguards and or lifesaving equipment
- the area patrolled (for beaches with lifeguards)
- first aid equipment
- telephones
- toilets (including toilets for disabled people)
- car and bicycle parking areas
- authorised camping sites at/near the beach
- recycling facilities
- location of water sampling point(s)
- access points and access for disabled persons
- zoning (swimming, surfing, sailing, boating, etc.) where applicable
- nearby public transport
- footpaths
- location of other information boards
- local landmarks (where applicable)
- nearby natural sensitive areas, etc.
- direction (North)
- scale bar
- Information relating to local eco-systems and environment
- use of signage that is sensitive to natural environment.

Category: *Information and Education*

Criterion

Information board at the beach and relevant information displayed

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made once a year.

Points:

2 points are given for each of the following:

- Green Beach logo must be used in any information boards at the beach
 - Green Beach Flag at the beach
 - small description of what is a Green Beach and what is the Green Beach model
 - information board at the beach with a map showing the boundaries of the Green Beach area and the location of key facilities
 - information of the Green beach Programme posted at other locations, e.g. at major access points, lifeguard stations, other beach facilities, or in parking areas.
-

Criterion 27: Bathing water quality measurements should be displayed at the beach

The bathing water quality information is something that is given emphasis by the Blue Flag that gives specific recommendations on how it should be displayed at the beach. The Green Beach is adopting this recommendation in a criterion. Therefore, at the Green beach the bathing water quality measurements from the different samplings must be displayed at the information board of the beach so that beach users are aware for the bathing water quality. The results of the sampling should be updated regularly, and all the relevant measurement data should be available upon request by anybody.

The information must be given according to the following table. At the first row the measurement limits (New Bathing Water Directive) are given for information for the beach users. At the second row the measurement of the sample of the beach and the recording of where the beach stands at this point.

Coastal and transitional waters

Parameter	Excellent quality	Good Quality	Sufficient
Intestinal Enterococci (streptococci) cfu/100ml) measurements limits	200	400	330
Intestinal Enterococci (streptococci) cfu/100ml)			
Escherichia coli (Faecal Colibacteria) measurement limits	500	1000	900
Escherichia coli (Faecal Colibacteria)			

Source: New Bathing Water Directive

Category: *Information and Education*

Criterion

Bathing water quality measurements should be displayed at the beach

Weighting/ Importance Scoring: 2

Measurement and Monitoring:

Side Evaluation to be made once a month.

Points:

10 points: water quality information is displayed at the beach and they are updated no later than one month after the sampling date.

5 points: water quality information is displayed at the beach but they are not updated on a basis of one month after the sampling date.

0 points: no water quality information is displayed at the beach

Criterion 28: Satisfaction: The beach is caring a feedback survey on the satisfaction of the beach users on the level of services and the general performance of the green beach

Satisfaction has always been a central focus and a leading indicator of destination performance and a key point of differentiation. Green Beaches must pay even greater attention to beach users satisfaction in order the beach to be a good host, that is caring for is users and the level of services that are provided as well as to ensure sustainability at the beach. Ensuring satisfaction is critical to the long-term success of the beach and brings benefits for key stakeholders including the industry, the visitors, and the local communities.

Each green beach should contact a survey at least once a month during the peak season to get the opinions of beach users about issues such as the quality of facilities, the water and sand quality, the safety at the beach, the information that are displayed at the beach, the sustainability issues, the quality of facilities of the beach as well as the accessibility and management of the beach. The objective is to collect opinions and recommendations from beach users for improving the green beach.

Category: *Information and Education*

Criterion

Satisfaction: The beach is carrying a feedback survey on the satisfaction of the beach users on the level of services and the general performance of the green beach

Weighting/ Importance Scoring: 3

Measurement and Monitoring:

A survey to be contacted once during the high peak season.

Points:

10 points: A survey is contacted once during the peak season

5 points: A survey is contacted once during the year.

0 points: no survey is contacted

Below there is the full list of the «Green beach» model categories as well as the list of the criteria and their weighting importance/ scoring.

Category	Green Beach Criterion	Weighting/ Importance	Available Points	Total Score (Weighting x Points)
Bathing Water Quality	Water quality monitoring	5	10	50
	Standards and requirements for water quality analysis for parameter Escherichia coli	5	10	50
	Standards and requirements for water quality analysis for parameter Intestinal Enterococci	5	10	50
	No industrial, wastewater or sewage-related discharges at the beach.	5	10	50
Beach Area Quality	No cigarette butts at the beach	5	10	50
	No general waste on the beach	5	10	50
Safety	Beach Safety with a lifeguard and equipment	3	10	30
	Safety measures at the beach	1	10	10
Accessibility	Access of the physically disabled people in the water and beach area	4	10	40
	Facilities provided for the physically disabled people in the water and at the beach	3	10	30
Green Facilities and Eco- furnishing	Sun loungers must be sustainably and/or aesthetically sensitive to the natural environment	2	10	20
	Beach umbrellas must be sustainably sources and/or aesthetically sensitive to the natural environment.	2	10	20
	Toilets should be housed with sustainable material, must be in adequate number for the beach users and have sewage disposal and water saving devices	4	10	40
	Shower facilities must have water saving devices and solar thermal panes to heat shower water and tanks to collect and recycle wastewater.	4	10	40
Sustainability	Adequate number of bins	4	10	40
	Beaches must respect and support the identity and conformation of the sites, especially in protected areas the protecting endemic and/or indigenous plants to attract high levels of native biodiversity	4	10	40
	Promotion of local food and drinks.	2	10	20
	Promotion of sustainable transportation at the beach area	4	10	40
Management	All relevant regulations should be in place at the beach	2	10	20
	Sufficient number of toilet and restroom facilities at the beach	2	10	20

	No camping, driving and dumping at the beach	2	10	20
	The beach must have limited noise pollution	2	10	20
	Management of different users and uses of the beach	1	10	10
	Community participation and stakeholder involvement in the beach management	1	10	10
	No domestic animals at the beach	1	10	10
Information and Education	Information board at the beach and relevant information displayed	2	10	20
	Bathing water quality measurements should be displayed at the beach	2	10	20
	Satisfaction: The beach is carrying a feedback survey on the satisfaction of the beach users on the level of services and the general performance of the green beach	3	10	30
TOTAL				850

4.3 Steps to Implement the «Green beach» model

The implementation of the «Green beach» model centres on the set of the 8 categories/ standards which all are related to sustainable development and the green agenda and can be applied to any recreational beach.

The green beach categories are the following:

- Bathing Water quality
- Beach Area quality
- Safety
- Information
- Sustainability
- Green Facilities
- Accessibility
- Management

Before each beach starts to implement the «Green beach» model and the relevant activities should make an audit to see the status of the beach and to prioritize which activities needs to be done in order the beach to become a green beach. It is recommended that activities across all criterions are incorporated into any Green Beach Work Plan.

For getting started you should make first an audit of your beach to highlight what you are already doing and if you can improve it and see what other aspects you are not doing and what can you do to improve your beach to become a green beach.

Make sure that you have an action plan and timeline for the coming months detailing the activities you intend to implement, the relevant budget and who will be responsible and which stakeholders you need to involve in the “greening” process of the beach. It is the responsibility of the local authority to implement the activities and monitor the implementation of the action plan as well as to record changes and improvements that have been made.

For keeping a track on your greening beaches process, it is necessary to keep a track of the implemented activities and to fill in every month the audit sheet and keep a record of any supporting images.

The «Green beach» model has a total scoring of 850 points. For your beach to be assign as Green Beach it needs to collect at least 550 points when the audits are made. If during an audit the beach scores less than 550 the beach has three months to make the necessary activities to score in the next audit more than 550 points. In the case it fails is no longer a Green Beach and must remove all green beach logo, flag, etc from the beach.

The clear weighting scoring allows the classification of the beaches. A beach that has a scoring of 850 - >800 points it is characterized as a Gold Green Beach, a beach that has a scoring of between 800 - >700 points is characterized as a Silver Green Beach and a beach that has a scoring of 700 - >600 points is characterized as a Bronze Green Beach.

References

Blue Flag, 2017: Blue Flag Beach Criteria and Explanatory Notes.

Costa Nostrum, 2016: Certification Standard for the Sustainable Management and Development of the Mediterranean Beaches.

CSTI 2012: The Handbook – Greening Cyprus Beaches.

Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 Concerning the Management of Bathing Water Quality and Repealing Directive 76/160/EEC.

ISO 13009:2015: Tourism and related services — Requirements and recommendations for beach operation.

ICTE Central, 2010: La Q de Calidad Turista (in Spanish).

Quality Coast, 2007: Green Destinations GSTC-Recognised Standard & Reporting System.

Province of Rimini, 2008: Spiaggia Liber A tutti: A wholly accessible and eco-sustainable beach.

Province of Rimini, 2007: Eco-sustainable beach establishments (in Italian).